Gold Hydrogen

Replacement Prospectus

Gold Hydrogen Limited
ACN 647 468 899

Initial Public Offer of up to 40,000,000 fully paid ordinary shares at an issue price of $0.50 per share to raise approximately $20,000,000 (before costs and expenses)

This Prospectus is an important document and should be read in its entirety before making any investment decision. If you do not understand any part of this Prospectus, or you are in doubt as to how to deal with it, you should consult your accountant, stockbroker, solicitor or other professional adviser.

Contents

Important Notices

The Offer

This Prospectus is issued by Gold Hydrogen Limited ACN 647 468 899 (**Gold Hydrogen**) for the purposes of Chapter 6D of the Corporations Act. The Offer contained in this Prospectus is an initial public offering to acquire fully paid ordinary shares in Gold Hydrogen (**Shares**). Refer to Section 7 for further information on the Offer.

Lodgement and Listing

This Prospectus is dated 29 November 2022 (**Prospectus Date**) and was lodged with the Australian Securities and Investments Commission (**ASIC**) on that date. This Prospectus is a replacement prospectus which replaces the original prospectus dated 15 November 2022 (**Original Prospectus**) in its entirety.

Gold Hydrogen will apply to the Australian Securities Exchange (**ASX**) within seven days after the Prospectus Date, for admission of Gold Hydrogen to the Official List and quotation of its Shares on ASX. None of ASIC, ASX or any of their respective officers takes any responsibility for the contents of this Prospectus or for the merits of the investment in Gold Hydrogen to which this Prospectus relates.

Replacement Prospectus – overview of material changes from Original Prospectus

This Prospectus is a replacement prospectus which has been lodged with ASIC to make the following changes to the Original Prospectus:

- The Original Prospectus contained independent financial forecast estimates of the potential per kilogram cost of producing Natural Hydrogen from Gold Hydrogen's granted tenement, PEL 687. Gold Hydrogen wishes to formally retract these statements as they were calculated based on the quantities of Natural Hydrogen in the Prospective Resource estimates in the Technical Expert Report, which, given the undiscovered nature of the Natural Hydrogen the subject of the Prospective Resource estimates, Gold Hydrogen considers is unlikely to provide reasonable grounds for a statement about future matters (in accordance with ASIC Regulatory Guide 170). Further, any potential investor who has accessed Gold Hydrogen's website, or received a copy of Gold Hydrogen's presentation on or about the date of the Original Prospectus, is advised not to rely on any financial forecast estimates of the potential per kilogram cost of producing Natural Hydrogen from Gold Hydrogen's granted tenement, PEL 687, as these statements are also retracted.
- Gold Hydrogen wishes to make further disclosures regarding carbon emissions which may result from Gold Hydrogen's future operations (see Section 3.5).
- Gold Hydrogen wishes to remove the reference to its contract with All Land Solutions from Section 3.5 as this contract has now come to an end.

Expiry Date

This Prospectus expires on the date which is 13 months after the Prospectus Date (**Expiry Date**). No Shares will be issued on the basis of this Prospectus after the Expiry Date.

No investment advice

The information contained in this Prospectus is not investment or financial product advice and has been prepared as general information only, without consideration for your particular investment objectives, financial situation or particular needs.

It is important that you read this Prospectus carefully and in full before deciding whether to invest in Gold Hydrogen.

In particular, you should consider the assumptions underlying the pro forma historical financial information (see Section 4) and the risk factors that could affect the business, financial condition and financial performance of Gold Hydrogen. You should carefully consider these risks in light of your investment objectives, financial situation and particular needs (including financial and taxation issues) and seek professional advice from your accountant, financial adviser, stockbroker, lawyer or other professional adviser before deciding whether to invest in Shares. Some of the key risk factors that should be considered by prospective investors are set out in Section 5 of the Prospectus. There may be risk factors in addition to these that should be considered in light of your personal circumstances.

Except as required by law, and only to the extent required, no person named in this Prospectus, nor any other person, warrants or guarantees the performance of Gold Hydrogen, the repayment of capital by Gold Hydrogen or any return on investment in Shares made pursuant to this Prospectus.

No person is authorised to give any information or to make any representation in connection with the Offer which is not contained in this Prospectus. Any information or representation not so contained may not be relied on as having been authorised by Gold Hydrogen, the Directors, the Lead Manager or any other person in connection with the Offer. You should rely only on information in this Prospectus.

Exposure Period

The Original Prospectus was subject to an exposure period of seven days from the date of lodgement of the Original Prospectus with ASIC (**Exposure Period**). The Exposure Period was subsequently extended by ASIC for a further period of seven days. The Corporations Act prohibits Gold Hydrogen from processing Applications during the Exposure Period. The purpose of the Exposure Period is to enable this Prospectus to be examined by ASIC and market participants prior to the raising of funds under the Offer.

Applications received during the Exposure Period will not be processed until after the expiry of the Exposure Period. No preference will be conferred on Applications received during the Exposure Period.

No Cooling-Off Rights

Cooling-off rights do not apply to an investment in Shares issued under this Prospectus. This means that, in most circumstances, you cannot withdraw your Application once it has been accepted.

Obtaining a copy of this Prospectus

During the Exposure Period, an electronic version of this Prospectus (without an Application Form) will be available on Gold Hydrogen's website at www.goldhydrogen.com.au to persons who are Australian residents only. Application Forms will not be made available until after the Exposure Period has expired.

During the Offer Period, this Prospectus is available in electronic form on Gold Hydrogen's website at www.goldhydrogen.com.au. The Offer constituted by this Prospectus in electronic form on Gold Hydrogen's website at www.goldhydrogen.com.au is available only to persons within Australia. The Prospectus is not available to persons in other jurisdictions (including the United States) in which it may not be lawful to make such an invitation or offer. If you access the electronic version of this Prospectus, you should ensure that you download and read the Prospectus in its entirety.

You may, before the Offer Period expires, obtain a paper copy of this Prospectus (free of charge) by telephoning the Gold Hydrogen IPO Offer Information Line on 1800 500 095 (within Australia) from 8:30am to 5:30pm (Brisbane Time), Monday to Friday. If you are eligible to participate in the Offer and are calling from outside Australia, you should call +61 1800 500 095 from 8:30am to 5.30pm (Brisbane Time), Monday to Friday.

Applications for Shares may only be made during the Offer Period on an Application Form attached to or accompanying this Prospectus. The Corporations Act prohibits any person from passing the Application Form on to another person unless it is attached to a paper copy of the Prospectus or the complete and unaltered electronic version of this Prospectus.

No Offer where Offer would be Illegal

This Prospectus does not constitute an offer or invitation to apply for Shares in any place in which, or to any person to whom, it would not be lawful to make such an offer or invitation. No action has been taken to register or qualify the Shares or the Offer, or to otherwise permit a public offering of Shares, in any jurisdiction outside Australia. The distribution of this Prospectus outside Australia (including electronically) may be restricted by law and persons who come into possession of this Prospectus outside Australia should seek advice on and observe any such restrictions. Any failure to comply with such restrictions may constitute a violation of applicable securities laws.

Notice to United States Residents

This Prospectus may not be distributed to, or relied upon by, persons in the United States. The Shares being offered pursuant to this Prospectus have not been, and will not be, registered under the United States Securities Act of 1933, as amended (**US Securities Act**) or the securities laws of any state or other jurisdiction of the United States and may not be offered, sold, pledged or transferred directly or indirectly, in the United States unless the Shares have been registered under the US Securities Act or an exemption from the registration requirements of the US Securities Act and any other applicable US state securities laws is available.

See Section 7 for more detail on selling restrictions that apply to the Offer in jurisdictions outside Australia.

Financial Information

Section 4 sets out in detail the financial information referred to in this Prospectus and the basis of preparation of that information.

The historical financial information is presented on both a statutory and pro forma basis (as described in Section 4) and has been prepared and presented in accordance with the recognition and measurement principles of AAS (including the Australian Accounting Interpretations) issued by the AASB, which are consistent with IFRS and interpretations issued by the IASB except where otherwise stated.

Investors should note that certain financial data included in the Prospectus is not recognised under the Australian Accounting Standards, and is classified as 'non-IFRS financial information' under Regulatory Guide 230 'Disclosing non-IFRS financial information' published by ASIC. Gold Hydrogen believes that this non-IFRS financial information provides useful information to users in measuring the financial performance and condition of Gold Hydrogen. The non-IFRS financial measures do not have standardised meanings under the Australian Accounting Standards, and therefore may not be comparable with similarly titled measures presented by other entities, nor should these be interpreted as an alternative to other financial measures determined in accordance with the Australian Accounting Standards. Investors are cautioned not to place undue reliance on any non-IFRS financial information, ratios and metrics included in this Prospectus.

The financial information should be read in conjunction with, and qualified by reference to, the information contained in Sections 4 and 5.

All financial amounts contained in this Prospectus are expressed in Australian dollars, unless otherwise stated. Any discrepancies between totals and sums of components in tables, figures and components contained in this Prospectus are due to rounding.

Statements of past performance

This Prospectus includes information regarding the past performance of Gold Hydrogen. Investors should be aware that past performance should not be relied upon as being indicative of future performance.

Forward looking statements

This Prospectus contains forward looking statements, which may be identified by words such as "anticipates", "may", "should", "could", "likely", "believes", "estimates", "expects", "targets", "predicts", "projects", "forecasts", "intends", "guidance", "plan" and other similar words that involve risks and uncertainties.

These forward looking statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, at the date of the Prospectus, are expected to take place. Gold Hydrogen does not undertake to, and does not intend to, update or revise any forward looking statements, or publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this Prospectus, except where required by law.

Any forward looking statements are subject to various risks that could cause Gold Hydrogen's actual results to differ materially from the results expressed or anticipated in these statements. Forward looking statements should be read in conjunction with, and are qualified by reference to, the risk factors as set out in Section 5, the assumptions contained in the financial information as set out in Section 4 and other information in this Prospectus. Such forward looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are outside the control of Gold Hydrogen, the Directors and Gold Hydrogen's management. Gold Hydrogen, the Directors, Gold Hydrogen's management and the Lead Manager cannot and do not give any assurance that the results, performance or achievements expressed or implied by the forward looking statements contained in this Prospectus will actually occur and investors are cautioned not to place undue reliance on these forward looking statements.

Industry and market data

This Prospectus, including the Industry Overview in Section 2 and the Company Overview in Section 3, contains statistics, data and other information pertaining to Gold Hydrogen's business and operations.

Gold Hydrogen has obtained significant portions of this information from market research prepared by third parties.

Investors should note that industry and market data and statistics are inherently predictive and subject to uncertainty and not necessarily reflective of actual industry or market conditions. There is no assurance that any of the estimates or projections in this Prospectus will be achieved. Gold Hydrogen has not independently verified, and cannot give any assurances to the accuracy or completeness of, this market and industry data or the underlying assumptions used in generating this market and industry data.

Estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed in the risk factors set out in Section 5.

Privacy

By completing an Application Form to apply for Shares, you are providing personal information to Gold Hydrogen through the Share Registry, which is contracted by Gold Hydrogen to manage Applications. Gold Hydrogen and the Share Registry on behalf of Gold Hydrogen and the Lead Manager, may collect, hold and use that personal information in order to process your Application, service your needs as a Shareholder, provide facilities and services that you request and carry out appropriate administration. Some of this personal information is collected as required or authorised by certain laws including the *Income Tax Assessment Act 1997* (Cth) and the Corporations Act.

If you do not provide the information requested in the Application Form, Gold Hydrogen and the Share Registry may not be able to process or accept your Application.

Your personal information may also be used from time to time to inform you about other products and services offered by Gold Hydrogen, which it considers may be of interest to you.

Your personal information may also be provided to Gold Hydrogen's members, agents and service providers on the basis that they deal with such information in accordance with Gold Hydrogen's Privacy Policy and applicable laws. The members, agents and service providers of Gold Hydrogen may be located outside Australia, where your personal information may not receive the same level of protection as that afforded under Australian law. The types of agents and service providers that may be provided with your personal information and the circumstances in which your personal information may be shared are:

- the Share Registry for ongoing administration of the Shareholder register;
- printers and other companies for the purpose of preparation and distribution of statements and for handling mail;
- market research companies for the purpose of analysing the Shareholder base and for product development and planning; and
- legal and accounting firms, auditors, contractors, consultants and other advisers for the purpose of administering, and advising on, the Shares and for associated actions.

If an Applicant becomes a Shareholder, the Corporations Act requires Gold Hydrogen to include information about the Shareholder (including name, address and details of the Shares held) in its public Shareholder register. The information contained in the Shareholder register must remain there even if that person ceases to be a Shareholder. Information contained in the Shareholder register is also used to facilitate dividend payments and corporate communications (including Gold Hydrogen's financial results, annual reports and other information that Gold Hydrogen may wish to communicate to its Shareholders) and compliance by Gold Hydrogen with legal and regulatory requirements.

An Applicant has a right to gain access to the information that Gold Hydrogen and the Share Registry hold about that person, subject to certain exemptions under law. A fee may be charged for access. Access requests must be made in writing or by telephone call to Gold Hydrogen's registered office or the Share Registry's office, details of which are disclosed in the Corporate Directory on the inside back cover of this Prospectus. Applicants can obtain a copy of Gold Hydrogen's Privacy Policy by visiting Gold Hydrogen's website at www.goldhydrogen.com.au. You may request access to your personal information held by or on behalf of Gold Hydrogen and you may correct the personal information held by or on behalf of Gold Hydrogen about you. You may be required to pay a reasonable charge to the Share Registry in order to access your personal information.

You can request access to your personal information by writing to or telephoning the Share Registry as follows:

Email: registrars@linkmarketservices.com.au

Telephone: 1800 500 095 (within Australia)
+61 1800 500 095 (outside Australia)

Photographs and diagrams

Photographs and diagrams used in this Prospectus that do not have descriptions are for illustration only and should not be interpreted to mean that any person shown in them endorses this Prospectus or its contents or that the assets shown in them are owned by Gold Hydrogen.

Diagrams and maps used in this Prospectus are illustrative only and may not be drawn to scale. Unless otherwise stated, all data contained in charts, graphs and tables is based on information available at the Prospectus Date.

Company website

Any references to documents included on Gold Hydrogen's website at www.goldhydrogen.com.au are for convenience only, and none of the documents or other information available on Gold Hydrogen's website is incorporated into this Prospectus by reference.

Disclaimer

Except as required by law, and only to the extent so required, none of Gold Hydrogen, the Directors, Gold Hydrogen's management, the Lead Manager or any other person warrants or guarantees the future performance of Gold Hydrogen, or any return on any investment made pursuant to this Prospectus.

It is expected that trading of the Shares on ASX will commence on or about 13 January 2023. Gold Hydrogen, the Share Registry and the Lead Manager disclaim all liability, whether in negligence or otherwise, to persons who trade Shares before receiving a holding statement, even if such person received confirmation of allocation from the Gold Hydrogen IPO Offer Information Line or confirmed their firm allocation through a Broker.

The Lead Manager has acted as lead manager to the Offer and has not authorised, permitted or caused the issue or lodgement, submission, dispatch or provision of this Prospectus and there is no statement in this Prospectus which is based on any statement made by the Lead Manager or by any of its affiliates, officers or employees. To the maximum extent permitted by law, the Lead Manager and its affiliates, officers, employees and advisers expressly disclaim all liabilities in respect of, make no representations regarding, and take no responsibility for, any part of this Prospectus other than references to its name and makes no representation or warranty as to the currency, accuracy, reliability or completeness of this Prospectus.

The Lead Manager is a full service securities firm and it, along with its affiliates, is engaged in various activities, including securities trading, investment management, research and brokerage activities and financial planning, benefits counselling for both companies and individuals and other financial and non-financial activities and services including for which it has received or may receive customary fees and expenses or other transaction consideration. In the course of these activities, the Lead Manager and its affiliates may at any time for their own account and for the accounts of their clients make or hold investments in equity securities or other financial products of Gold Hydrogen or its affiliates, and receive customary fees and expenses or other transaction consideration in respect of such activities. The Lead Manager has acted as lead manager and underwriter to the Offer for which it has received or expects to receive fees and reimbursement of expenses.

Investigating Accountant's Report

The provider of the Investigating Accountant's Report is required to provide Australian retail investors with a financial services guide in relation to its independent review under the Corporations Act. The Investigating Accountant's Report is provided in Section 8.

Definitions and Abbreviations

Defined terms and abbreviations used in this Prospectus have the meanings defined in the Glossary (Section 10) or are defined in the context in which they appear.

Time

All references to time in this Prospectus refer to Australian Eastern Standard Time (**AEST**) unless stated otherwise.

Questions

Instructions on how to apply for securities are set out in Section 7.3 and 7.4 of this Prospectus and on the back of the provided Application Form.

If you have any questions about how to apply for Shares, please call the Gold Hydrogen IPO Offer Information Line on 1800 500 095 (within Australia) or +61 1800 500 095 (outside Australia) from 8.30am to 5.30pm (Brisbane time), Monday to Friday (Business Days only).

If you have any questions about whether to invest in Gold Hydrogen, you should seek professional advice from your accountant, financial adviser, stockbroker, lawyer or other professional adviser before deciding whether to invest in Shares.

Important Information

Key Dates

Lodgement of Original Prospectus with ASIC	15 November 2022
Lodgement of Replacement Prospectus with ASIC	29 November 2022
Offer Opening Date	1 December 2022
Offer Closing Date	9 December 2022
Settlement	6 January 2023
Issue and allotment of Shares	9 January 2023
Expected dispatch of holding statements	10 January 2023
Expected commencement of ASX trading on a normal settlement basis	13 January 2023

Dates May Change

The above timetable is indicative only and may be subject to change without notice. Unless otherwise indicated, all times are stated in AEST. Gold Hydrogen, in consultation with the Lead Manager, reserves the right to vary any and all of the above dates and times without notice (including, subject to the ASX Listing Rules and the Corporations Act, to close the Offer early, to extend the date the Offer closes, or to accept late applications, either generally or in particular cases, or to cancel or withdraw the Offer before settlement of the Offer, in each case without notification) If the Offer is cancelled or withdrawn before the Settlement of the Offer, then all application monies will be refunded in full (without interest) as soon as possible in accordance with the requirements of the Corporations Act. Investors are encouraged to submit their applications as soon as possible after the Offer opens.

Key Offer Statistics

Offer Price	$0.50 per Share
Cash as at the Prospectus Date	$1,700,000
Gross proceeds to be received under the Offer	$20,000,000
Number of Shares held by Existing Shareholders as at the Prospectus Date	79,076,977 Shares
Total number of Shares offered under this Prospectus	40,000,000 Shares
Number of Shares held by Existing Shareholders at Completion	100,000,000 Shares
Total number of Shares on issue immediately after Completion[1]	140,000,000 Shares
Indicative market capitalisation based on the Offer Price[2]	$70,000,000

1. The number of Shares on Completion includes Shares that are subject to escrow arrangements as described in Section 7.5.
2. Market capitalisation at the Offer Price is defined as the Offer Price multiplied by the total number of Shares on Completion.

How to invest

Applications for Shares can only be made by completing and lodging the Application Form attached to, or accompanying, this Prospectus. Instructions on how to apply for Shares are set out in Section 7 of this Prospectus and on the back of the Application Form.

Questions

Please call the Gold Hydrogen IPO Information Line on 1800 500 095 (within Australia) from 8:30am to 5:30pm (Brisbane time) Monday to Friday (excluding public holidays). If you are eligible to participate in the Offer and are calling from outside Australia, you should call +61 1800 500 095 from 8:30am to 5:30pm (Brisbane time), Monday to Friday (excluding public holidays).

If you have any questions about whether to invest in Gold Hydrogen you should seek professional advice from your accountant, financial adviser, stockbroker, lawyer or other professional adviser before deciding whether to invest in Gold Hydrogen.

Chairman's Letter

Dear investor,

On behalf of the Board of Directors, it is my pleasure to invite you to become a Shareholder in Gold Hydrogen Limited (**Company** or **Gold Hydrogen**).

Gold Hydrogen is progressing the exploration of a potentially large scale, naturally occurring hydrogen prospective resource in Australia. Gold Hydrogen currently holds one granted Petroleum Exploration Licence in South Australia (PEL 687) that covers approximately 7,820 km^2 on the Yorke Peninsula and Kangaroo Island in South Australia. On PEL 687, Gold Hydrogen is planning to confirm historic occurrences of natural hydrogen of up to 89% purity, at its flagship Ramsay Project. Gold Hydrogen also has seven other tenements in application before the South Australian Government, across a further approximately 67,512 km^2. This is the largest tenure position over naturally occurring hydrogen prospective acreage in Australia.

An independent expert estimate has shown that PEL 687 potentially holds significant quantities of natural hydrogen, and Gold Hydrogen considers it is well placed to pursue future commercialisation endeavours[1].

World-leading experts are engaged on PEL 687, including Schlumberger on exploration drilling assessment and project development of the prospective natural hydrogen resources and CSIRO for technical reports on geoscience.

Potential options for the monetisation of our hydrogen include onsite electricity generation, pure hydrogen generation and distribution, distribution to local ammonia plants, hydrogen transportation via pipelines or truck, and storage applications.

Modelling for the Australian Renewable Energy Agency has forecast Australian hydrogen exports could contribute $1.7 billion and 2,800 jobs to the national economy by 2030. Numerous countries, including Australia, have national hydrogen strategies in place. Demand for hydrogen is rapidly increasing as motor vehicle, aircraft and boat manufacturers are in various stages of trials while fuel cells come increasingly into focus. South Australia has been the quickest moving territory in Australia on hydrogen, with plans in place to build its own hydrogen storage and energy plant. All of this is happening with a virtually exclusive focus on man-made hydrogen, predominantly from wind or solar. But Australia could be sitting on vast quantities of naturally occurring hydrogen gas. Gold Hydrogen intends to be the first to develop this potential resource.

1. See the Technical Expert Report as set out in Annexure A of this Prospectus for more details

> **Gold Hydrogen is focused on validating historical hydrogen occurrences, proving the hydrogen is available in commercial quantities.**

Gold Hydrogen is focused on validating historical hydrogen occurrences, proving the hydrogen is available in commercial quantities and bringing it to market for the benefit of shareholders and the climate. To this end, the Company is seeking to raise a total of $20,000,000 (before costs) pursuant to the Offer detailed in this Prospectus. The proceeds of the Offer will allow Gold Hydrogen to commence exploratory drilling by Q3 2023. Soil testing, airborne surveys and seismic processing will all be completed before drilling. The proceeds of the Offer will also allow completion of technical studies, regulatory requirements as required before drilling, plus concept development for extraction and end use.

The Board of Directors and senior management team of Gold Hydrogen are experienced in the development and operation of complex exploration projects in the Asia-Pacific region. They have the skills to maximise this exciting exploration opportunity.

The listing of Gold Hydrogen on the ASX will also provide Gold Hydrogen with greater access to the equity capital markets to pursue other potential exploration, generation development and acquisition opportunities that exist across Australia.

Information about Gold Hydrogen and the Offer is set out in this Prospectus. Before making an investment decision, you should consider the risks that affect Gold Hydrogen and the industry in which it operates. A detailed summary of key risks is set out in Section 5 of this Prospectus.

On behalf of the Board of Directors, I look forward to welcoming you as a Shareholder.

Yours sincerely

The Hon Alexander Downer
Non-executive Chairman

1. Investment Overview

1. Investment Overview

1.1 Introduction

Topic	Summary	For more information
Who is Gold Hydrogen?	Gold Hydrogen is an Australian unlisted public company, incorporated on 28 January 2021 for the purposes of identifying prospective tenements for Natural Hydrogen exploration and development. Gold Hydrogen currently holds one granted PEL in South Australia (PEL 687) that covers approximately 7,820 km^2 on the Yorke Peninsula and Kangaroo Island in South Australia. Gold Hydrogen, either directly or through its subsidiaries which it will 100% own on Completion, also has exclusive rights in respect of an additional seven (7) PELAs and four (4) GSELAs in South Australia and are considered prospective for Natural Hydrogen exploration and storage.	Section 3.1
What industry does Gold Hydrogen operate in?	Gold Hydrogen operates in the Australian Hydrogen industry, which is still in the early stages. The demand for a hydrogen market is largely underpinned by the push from governments and investors to decarbonise industries and economies. Tougher regulations and national emission reduction targets are prompting the exploration of alternatives to fossil fuels for power or heat, supporting a more favourable policy for the hydrogen industry. Demand for hydrogen grew 50% between 2000 and 2020, and in the net zero emissions by 2050 scenario, is forecast to grow from 90 Mt in 2020 to over 200 Mt by 2030 and close to 530 Mt by 2050. Global annual investment in hydrogen and its derivatives is projected to grow to $629 billion by 2050. Natural Hydrogen, in particular, as a low/zero carbon emitting source that can be supplied at a very low price point, presents a very attractive opportunity to facilitate decarbonisation.	Section 2
What is the Offer?	An initial public offering of Shares by Gold Hydrogen. Gold Hydrogen will issue approximately 40,000,000 Shares, raising proceeds of approximately $20,000,000 at the Offer Price of $0.50 per Share.	Section 7.1
What is the purpose of the Offer?	The Offer is being conducted to: • enable Gold Hydrogen to continue its activities of exploration and appraisal, focussing initially on PEL 687; • provide a liquid market for its Shares through listing on the ASX; • provide Gold Hydrogen with additional financial flexibility to pursue growth opportunities and improved access to capital markets; • provide Gold Hydrogen with the benefits of an increased profile that arises from being a listed company; and • pay the costs of the Offer. The Directors believe that on Completion, Gold Hydrogen will have sufficient working capital at the time of admission to carry out its stated business objectives and sufficient working capital for at least the next two years.	Section 7.1(b)
What is current capital structure and proposed capital structure of Gold Hydrogen on Completion?	The capital structure of Gold Hydrogen as at Prospectus Date, and on admission to the ASX, is summarised in the table in Section 7.1(c).	Section 7.1(c)

1.2 Key features of Gold Hydrogen and the Ramsay Project

Topic	Summary	For more information
What are Gold Hydrogen's assets and where are they located?	Gold Hydrogen's granted tenement, PEL 687, in South Australia, covers approximately 7,820 km^2 on the Yorke Peninsula and Kangaroo Island. This is the site of its flagship 'Ramsay Project'. Gold Hydrogen, either directly or through subsidiaries which it will 100% own on Completion, also has exclusive rights in respect of an additional seven (7) PELAs which have a total area size of approximately 67,512 km² and four (4) GSELAs in South Australia which have a total area size of approximately 8,107 km² and are considered prospective for Natural Hydrogen exploration and storage.	Section 3.3
What is the Ramsay Project?	Ramsay Project (PEL 687) is the Gold Hydrogen's flagship project with the following attributes: • 100% owned by Gold Hydrogen. • Covers a significant land area of approximately 7,820km^2 on the Yorke Peninsula and Kangaroo Island in South Australia. • Host to a significant, independently estimated Prospective Resource for Natural Hydrogen with an Unrisked[1] Prospective Best Estimate Resource of 1.3 billion kilograms of potentially recoverable Natural Hydrogen (**NOTE** – the estimated quantities of Natural Hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable Natural Hydrogen). • Historical drilling identified Natural Hydrogen occurrences confirmed in two Wells, American Beach Oil 1 Bore drilled in 1921 and the Ramsay Oil Bore 1 (also known as the Minlaton 1 Bore) drilled in 1931, encountering >80%[2] Non-air corrected Natural Hydrogen gas composition at depths of circa 500m at Ramsay Oil Bore 1. • Potential for deeper Natural Hydrogen sources and Reservoirs in the untested depths from >500m to 4500m. • Enabling engagements in place with leading global hydrogen experts Schlumberger, CSIRO, Total Seismic and Xcalibur to undertake the work program on the Ramsay Project through to potential production. • Aligned to the South Australia and National Hydrogen Action Plan. • Close to existing and planned infrastructure including the $750 million Hydrogen Project at Port Pirie.	Section 3.4
What is Gold Hydrogen's plan for the Ramsay Project?	Gold Hydrogen's business is focused on its granted tenement, PEL 687, and the exploration and development of that tenement. Gold Hydrogen's project plan follows a typical traditional path for the maturation of an exploration play through the following stages: 1) Undertake exploration and appraisal activities to confirm the existence of the resource and demonstrate the commercial viability of the project; 2) Project development which involves drilling of production Wells and installation of surface facilities for delivery to market; 3) The production of Natural Hydrogen and sale to various market consumers.	Section 3.4

[1] *'Unrisked' means that no risk factors have been applied to allow for risks associated with the chance of geological discovery, the chance of development, and the chance of commerciality. A detailed summary of key risks is set out in Section 5 of this Prospectus.*
[2] *See Table 6 of Annexure A for more detail on this value.*

Topic	Summary	For more information
What work has been completed by Gold Hydrogen to date?	Considerable technical and non-technical workflows have been progressed and completed in preparation for the IPO since May 2022. These include: • Wellbore-1 concept selection – completed Aug 2022 • Stage 1 digital subsurface database modelling – to be completed in Dec 2022 • Reprocessing 2D Seismic relevant to prospect areas – to be completed in Nov 2022 • Generation of environmental and social constraint maps – to be completed in Nov 2022 • Commence multiple surface production scenarios and market analysis – in progress • Progressing approvals for airborne survey – to be completed in Dec 2022 • Commence workflows for permitting and approvals Stage 1 soil survey – in progress • Commence workflows for DEM permitting and approvals required for wellbore-1 – in progress	Section 3.4
What are the upcoming key milestones for the Ramsay Project?	The objectives of the Ramsay Project are to progress the Natural Hydrogen Prospective Resources to Contingent Resources and/or Reserves and mature portions of the granted title PEL 687 to production licence areas. Key Milestones for drilling the first Well in the Ramsay Project, include but are not limited to: • Complete basis-of-design (**BoD**) for exploration Well-1 – Q1 CY23 • Complete procurement for exploration Well-1 – Q2 CY23 • Exploration Well-1 Well pad and SPUD – Q3 CY23 • Exploration Well-1 testing – Q3 CY23 • Resource Update – Q4 CY23 • Commence workflows exploration Wells-2 and -3 – Q1 CY24	Section 3.4
Are there any royalties payable?	Royalties payable to the South Australian government do not occur until production commences. Gold Hydrogen's activities on PEL 687 over the next two to four years are principally exploration and appraisal. So, production royalties will not be payable for some years. Gold Hydrogen currently has no agreements with other parties involving royalties.	Section 3.9
How does Gold Hydrogen expect to fund its operations?	Gold Hydrogen expects to fund its initial operations through proceeds raised from the IPO. The Directors believe the Company will have sufficient working capital at the time of Admission to carry out its stated objectives and sufficient working capital for at least the next two years. Gold Hydrogen is likely to require further equity or debt funding before it can progress to the production stage.	Section 3.6

Topic	Summary	For more information
How does Natural Hydrogen differ from hydrocarbons and petroleum?	Hydrogen is not a hydrocarbon (and therefore not petroleum), however it has energy content and ability for use as a fuel, energy source or feedstock in a similar way to hydrocarbons, though with less greenhouse gas emissions. The SPE and the OGRC have acknowledged the principles of the PRMS are beginning to be applied to substances other than hydrocarbons, including to hydrogen. The OGRC believes that there is a reasonable foundation for the application of PRMS principles to naturally occurring hydrogen. SPE/OGRC does not object to the application of the PRMS to these situations that result in the extraction of non-hydrocarbon resources, as long as it is made clear that while such application is outside the scope of the PRMS, PRMS principles have been followed, while involving other subject matter expert parties as appropriate, and applied as though the extracted resources were considered as petroleum. Refer to: *https://www.spe.org/en/industry/reserves/non-hydrocarbons/*	
Why are occurrences of Natural Hydrogen in historic Wells not considered discoveries?	The term 'discovered' is defined by SPE and used in industry. The SPE definition is made with respect to petroleum, however, in the context of Gold Hydrogen and as noted above, in the definition the term petroleum can be replaced by Natural Hydrogen, and the SPE definition for 'discovered' (refer PRMS) is: A petroleum accumulation where one or several exploratory wells through testing, sampling, and/or logging have demonstrated the existence of a significant quantity of potentially recoverable hydrocarbons and thus have established a known accumulation. In this context, "significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place volume demonstrated by the well(s) and for evaluating the potential for commercial recovery. In the context of this definition of 'discovered', the occurrences of Natural Hydrogen in historic wells do not meet these requirements.	

1.3 Key financial information

<table>
<tr><th>Topic</th><th>Summary</th><th>For more information</th></tr>
<tr><td>What is Gold Hydrogen's key financial information?</td><td>
For the period from 28 January 2021 to 30 June 2022, per its audited accounts, Gold Hydrogen's profit and loss statement reflected the following expenditures:
<table>
<tr><th></th><th>AUD 000's</th></tr>
<tr><td>Audit fees</td><td>41</td></tr>
<tr><td>Legal fees</td><td>92</td></tr>
<tr><td>Funding related costs</td><td>552</td></tr>
<tr><td>IR / PR costs</td><td>62</td></tr>
<tr><td>Licence fees</td><td>30</td></tr>
<tr><td>General corporate</td><td>418</td></tr>
<tr><td>Total</td><td>1,194</td></tr>
</table>
Financial information in this Investment Overview is a summary only. A detailed description of Gold Hydrogen's financial information is included in Section 4.
The financial position of the Company as at 30 June 2022 and the pro-forma financial position assuming Completion of the Offer is set out below:
<table>
<tr><th></th><th>As at 30 June 2022 AUD 000's</th><th>Pro-Forma at Completion AUD 000's</th></tr>
<tr><td>Cash</td><td>4,259</td><td>20,119</td></tr>
<tr><td>Current Assets</td><td>4,405</td><td>20,266</td></tr>
<tr><td>Non-Current Assets</td><td>656</td><td>4,368</td></tr>
<tr><td>Total Assets</td><td>5,061</td><td>24,633</td></tr>
<tr><td>Current Liabilities</td><td>6,255</td><td>476</td></tr>
<tr><td>Non-Current Liabilities</td><td>-</td><td>-</td></tr>
<tr><td>Total Liabilities</td><td>6,255</td><td>476</td></tr>
<tr><td>Net Assets</td><td>(1,194)</td><td>24,158</td></tr>
</table>
A detailed description of the pro forma adjustments applied to the Statement of Financial Position at 30 June 2022 is included in Section 4.
</td><td>Section 4</td></tr>
<tr><td>What is Gold Hydrogen's historical financial performance?</td><td>For the period from incorporation to 30 June 2022, Gold Hydrogen incurred $1,194,017 in losses and invested approximately $625,000 on non-current assets (including capitalised exploration) related to the business.</td><td>Section 4.2</td></tr>
<tr><td>Are there any forecasts of future earnings?</td><td>Gold Hydrogen has considered whether a reasonable basis exists for the provision of forecast financial information in relation to this Prospectus. Due to the early stage of development and the significant uncertainties associated with this, Gold Hydrogen is not in a position to provide forecasts to future earnings.</td><td></td></tr>
<tr><td>Will Gold Hydrogen have sufficient funds for its stated objectives?</td><td>Gold Hydrogen believes it will have sufficient working capital at the time of admission to carry out its stated objectives and sufficient working capital for at least the next two years.</td><td>Section 7.1(b)</td></tr>
<tr><td>Dividend policy</td><td>Gold Hydrogen does not expect to pay dividends in the near future as its focus will primarily be on growing the existing business. Any future determination as to the payment of dividends by Gold Hydrogen will be at the discretion of the Directors and will depend upon matters such as the availability of distributable earnings, the operating results and financial condition of Gold Hydrogen, future capital requirements, general business and other factors considered relevant by the Directors. No assurances are given in relation to the payment of dividends or that any dividends may attach franking credits.</td><td>Section 4.6</td></tr>
</table>

1.4 Key strengths and investment highlights

Topic	Summary	For more information
What are the key strengths and competitive advantages of Gold Hydrogen?	There are a number of key strengths and competitive advantages including, but not limited to: • **Granted Natural Hydrogen exploration permit:** Gold Hydrogen currently holds one granted PEL in South Australia (PEL 687) that covers approximately 7,820 km^2 on the Yorke Peninsula and Kangaroo Island. • **Significant Prospective Resource:** PEL 687 is host to a significant, independently estimated Prospective Resource for Natural Hydrogen in Australia with an Unrisked[3] Prospective Resource Best Estimate of 1.3 billion kilograms of potentially recoverable Natural Hydrogen[4]. Gold Hydrogen is undertaking a work program to convert the Prospective Resource to a Reserve in a commercial success case thereby demonstrating Natural Hydrogen gas can be extracted in sufficient volume to be commercially viable. • **Ramsay Project as the near-term priority:** Gold Hydrogen is undertaking the 'Ramsay Project' on PEL 687. The first key milestone is the drilling of the first exploration Well which is expected to commence on the Yorke Peninsula as early as Q3 CY23. • **Enabling engagements in place:** Gold Hydrogen currently has agreements with leading global hydrogen experts, including Schlumberger, CSIRO, Total Seismic and Xcalibur to undertake the work program on the Ramsay Project through to potential production. • **Historic basis for discovery:** Historic drilling of Wells within PEL 687 in the 1920s and 1930s encountered ~80%[5] Natural Hydrogen gas at depths of ~500m. Gold Hydrogen believes potential for deeper Natural Hydrogen sources and Reservoirs exist at untested depths. • **Upside and expansion potential:** The Group also has exclusive rights in respect of an additional seven (7) PELAs and four (4) GSELAs in South Australia.	Section 3.1

[3] *'Unrisked' means that no risk factors have been applied to allow for risks associated with the chance of geological discovery, the chance of development, and the chance of commerciality. A detailed summary of key risks is set out in Section 5 of this Prospectus.*
[4] *This estimate of Natural Hydrogen Prospective Resources must be read in conjunction with the cautionary statement on page 11 that the estimated quantities of Natural Hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable Natural Hydrogen.*
[5] See Table 6 of Annexure A for more detail on this value.

1.5 Key risks

Topic	Summary	For more information
General	An investment in Gold Hydrogen is subject to risk factors specific to Gold Hydrogen and its business activities and those of a more general nature including general risks associated with investing in Shares. Any, or a combination, of these risk factors may have a material adverse effect on Gold Hydrogen's business, financial condition, operating and financial performance, growth, and/or the value of its Shares. Many of the circumstances giving rise to these risks and the occurrence of consequences associated with each risk are partially or completely outside the control of Gold Hydrogen, its Directors and senior management team.	Section 5.1
Exploration, technological and operational risk	The current and future operations of Gold Hydrogen, including exploration, appraisal, development and possible production activities, may be adversely affected by a range of geological, technical and operational factors.	Section 5.2(a)
Land access risk	Immediate access to the land the subject of the licences in which Gold Hydrogen has an interest cannot always be guaranteed. Gold Hydrogen may be required to seek the consent of the relevant landholder or other person (including government) or groups with an interest in the land the subject of the tenements, and compensation may be required to be paid to such persons to carry out Gold Hydrogen's activities. As at the Prospectus Date, Gold Hydrogen has entered into one land access agreement in relation to a portion of the land the subject of PEL 687, but it does not yet have access to all areas of the land the subject of PEL 687 to which it will require access in order to drill its exploration wells and otherwise expend its funds in accordance with the expenditure program in Section 7.1(b) of this Prospectus. Gold Hydrogen intends to commence negotiations with relevant landholders to procure such access following listing; but it cannot guarantee that such access will be granted by the relevant landholders.	Section 5.2(b)
Native title and heritage risk	The NTA recognises certain rights of indigenous Australians over lands where those rights have not been extinguished. These rights, where they exist, have the ability to significantly delay the grant and exploitation of tenements.	Section 5.2(c)
Resource and reserve estimate risk	Gold Hydrogen is engaged in Natural Hydrogen exploration, appraisal and development which is inherently highly speculative and involves a significant degree of risk. Estimating Prospective Resources, Contingent Resources and Reserves is subject to significant assumptions, risks and uncertainties associated with technical data and the interpretation of that data, the application of technology to access and recover the resources, future commodity prices and future development and operating costs. Reduction in Prospective Resources, Contingent Resources and Reserves estimates may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.	Section 5.2(d)
Tenement risk	PEL 687 has been granted, but the Application Tenements are at various stages of application. There can be no assurance that the Application Tenements that are currently pending will be granted. There can be no assurance that when an Application Tenement is granted, it will be granted in its entirety. Additionally, some of the tenement areas applied for may be excluded. Petroleum and exploration tenements are subject to periodic renewal. The renewal of the term of granted tenements is subject to compliance with the application legislation and regulations and the discretion of the relevant regulatory authority.	Section 5.2(e)

Topic	Summary	For more information
Regulatory risk	Changes to the legislation and regulations applicable to Gold Hydrogen in the future may provide for more onerous conditions with which Gold Hydrogen must comply, which may also impact Gold Hydrogen's operational and financial performance.	Section 5.2(f)
Gas price and exchange rate risk	Gas prices fluctuate, at times significantly, and a material decline in the price of gas may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally. Gold Hydrogen's accounts are expressed in Australian dollars, however, income may be earned and expended incurred in the future in currencies other than Australian dollars, which may expose Gold Hydrogen to fluctuations and volatility based on the exchange rate between the Australian dollar and those other currencies.	Section 5.2(g)
Government policy change risk	Shifts in government policy could have varying degrees of impact on Gold Hydrogen's operations and its profitability. Such changes could have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.	Section 5.2(h)
Climate change risk	Climate change is a risk Gold Hydrogen has considered, particularly related to its operations in the hydrogen industry. The climate change risks particularly attributable to Gold Hydrogen are set out in Section 5.2(i).	Section 5.2(i)
Environmental risk	Despite its best efforts, Gold Hydrogen's operations may cause harm to the environment due to an unexpected occurrence. Depending on the circumstances, Gold Hydrogen may suffer reputational damage, may have an obligation to remediate the damage and may also have its tenements suspended or revoked, all of which may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.	Section 5.2(j)
Future funding risk	At the Prospectus Date, Gold Hydrogen has no income producing assets and will generate losses for the foreseeable future. Until it is able to develop a project and generate appropriate cashflow, it is dependent upon being able to obtain future equity or debt funding to support long term exploration, after the expenditure of the net proceeds raised under the Offer. Gold Hydrogen is likely to require further equity or debt funding before it can progress to the production stage. Neither Gold Hydrogen nor any of the Directors nor any other party can provide any guarantee or assurance that if further funding is required, such funding can be raised on terms acceptable to Gold Hydrogen.	Section 5.2(k)
Limited operating history risk	Gold Hydrogen was incorporated on 28 January 2021 and since that time, it has incurred operating losses only. This means that investors will not have a performance history or track record to use to make an assessment of the ability of Gold Hydrogen to achieve its objectives.	Section 5.2(l)
Insurance risk	Companies within the gas industry are exposed to various operating hazards. Although Gold Hydrogen intends to procure appropriate insurance to cover its activities, no assurance can be given that such insurance will be available on commercially reasonable terms or that any cover will be adequate and able to cover all potential claims.	Section 5.2(m)
Personnel risk	Gold Hydrogen's future value will depend in part on the performance of its senior management and other key personnel. There is a risk that Gold Hydrogen may not be able to retain or hire all personnel necessary for the development and operation of its business, which may have a material adverse effect on Gold Hydrogen and its business.	Section 5.2(n)

Topic	Summary	For more information
Industry risk	There is projected to be significant investment in hydrogen projects around the world over the coming years. The effects of this investment are currently unknown – it may completely change the hydrogen industry and the market in which Gold Hydrogen intends to operate from where it is at the Prospectus Date, which could have a significantly positive, or a significantly negative, effect on Gold Hydrogen's operations and achievement of its intended business objectives.	Section 5.2(o)
General investment risks	Once Gold Hydrogen becomes a publicly listed company on the ASX, it will become subject to general market risk that is inherent for all entities whose securities are listed on a securities exchange. This may result in fluctuations in the Share price that are not explained by the fundamental operations and activities of Gold Hydrogen. The price of Shares quoted on ASX may rise or fall and the Shares may trade below or above the Offer Price due to a number of factors. These include, but are not limited to, the following: • the number of potential buyers or sellers of Shares on the ASX at any given time; • fluctuations in the domestic and international market for listed stocks; • general economic conditions including the unemployment rate, interest rates, inflation rates, exchange rates, commodity and oil prices, and changes to government fiscal, monetary or regulatory policies, legislation or regulation; • recommendations by brokers or analysts; • inclusion in, or removal from, market indices; • global hostilities, tensions, and acts of terrorism; • the nature of the markets in which Gold Hydrogen operates; and • general operational and business risks. These factors may cause the Shares to trade at prices below the price at which the Shares are being offered under this Prospectus. There is no assurance that the price of the Shares will increase following quotation on the ASX, even if Gold Hydrogen's earnings increase. Gold Hydrogen will also be subject to various other general investments risks, examples of which are set out in further detail in Section 5.3.	Section 5.3

1.6 Gold Hydrogen Directors and senior management

Topic	Summary	For more information
Who are the Directors?	• Alexander John Gosse Downer (Non-Executive Chairman) • Neil John McDonald (Managing Director and CEO) • John Luke Titus (Executive Director and COO) • Roger Hamilton Cressey (Executive Director, Commercial & Operations) • Katherine Elizabeth Barnet (Non-Executive Director)	Section 6.1
Who comprises the senior management team of Gold Hydrogen?	• Neil John McDonald (Managing Director and CEO) • John Luke Titus (Executive Director and COO) • Roger Hamilton Cressey (Executive Director, Commercial & Operations) • Karl Mathew Schlobohm (Company Secretary and CFO)	Section 6.2

1.7 Significant interests of key people and related party transactions

Topic	Summary	For more information
Who are the advisers to Gold Hydrogen in connection with the Offer and what benefits are payable to them and what interests do they hold?	Gadens has acted as Australian legal adviser in respect of the Offer. In aggregate, Gold Hydrogen has paid or agreed to pay approximately \$120,000 (plus GST and disbursements) for these services to the date of this Prospectus. Further amounts may be paid to Gadens in accordance with its normal time based charges. The Lead Manager has acted as the lead manager and underwriter in relation to the Offer. Gold Hydrogen has agreed to pay the fees described in Section 7.6 of this Prospectus. BDO has acted as the Investigating Accountant and Auditor in respect of the Offer and has performed work in relation to the Investigating Accountant's Report. In aggregate, Gold Hydrogen has paid or agreed to pay approximately \$55,000 (plus GST and disbursements) for these services to the date of this Prospectus. Further amounts may be paid to BDO in accordance with its normal time based charges. Teof Rodrigues & Associates Pty Ltd has acted as the Technical Expert in respect of the Offer and has performed work in relation to the Technical Expert Report. In aggregate, Gold Hydrogen has paid or agreed to pay approximately \$72,000 (plus GST and disbursements) for these services to the date of this Prospectus. Frost and Sullivan Australia Pty Ltd has acted as the Industry Expert in respect of the Offer and has performed work in relation to the Industry Expert Report. In aggregate, Gold Hydrogen has paid or agreed to pay approximately \$25,000 (plus GST and disbursements) for these services to the date of this Prospectus.	Section 6.3
What benefits are payable to Directors and senior management and what interests do they hold?	Each Director and senior manager has entered into an agreement with Gold Hydrogen pursuant to which they have been engaged to provide services to Gold Hydrogen. The remuneration and other benefits payable to each Director and senior manager under those agreements are set out in Section 6.3(b). The interests in Shares and Director and Manager Options in Gold Hydrogen held by the Directors and senior management team as at the Prospectus Date and on admission to the ASX are set out in Section 6.3(c).	Section 6.3(b) and 6.3(c)
Will any Shares be subject to restrictions on disposal following Completion?	Yes. See Section 7.5 for details.	Section 7.5
Are there any other related party arrangements in place?	Yes. On admission, Gold Hydrogen will be party to the following related party agreements: • Deeds of access and indemnity with each of the Directors. • Escrow agreements with each Director and senior manager that holds restricted securities. • Executive service contracts with each senior manager. • Letter of appointment with each Non-Executive Director. • Share Sale Agreement in respect of shares in WH and Byrock with NFM and MS. • Option deeds with each Director and senior manager in relation to the Director and Manager Options. • Deeds of assignment of intellectual property with Neil McDonald and Luke Titus.	Sections 6.3 and 6.4
What corporate governance policies does Gold Hydrogen have in place?	A summary of the corporate governance policies adopted by Gold Hydrogen is set out in Section 6.5.	Section 6.5.

1.8 Details of the Offer

Topic	Summary	For more information
Who is the issuer of the Prospectus?	Gold Hydrogen Limited ACN 647 468 899	Section 3.1
What is the Offer?	The Offer is an IPO under which Gold Hydrogen is offering to issue 40,000,000 Shares at the Offer Price of $0.50 per Share (raising proceeds of approximately $20,000,000). The Shares being offered under the Offer will represent approximately 28.6% of the Shares on issue at Completion of the Offer. Each Share issued and transferred under this Prospectus will, from the time they are issued and transferred, rank equally with all other Shares on issue.	Section 7.1
What is the price of Shares under the Offer?	The Offer Price is $0.50 per Share.	Section 7.1
What is the proposed use of funds received in connection with the Offer?	The funds will be applied by Gold Hydrogen as set out in Sections 3.6 and 7.1(b).	Section 3.6 and 7.1(b)
How is the Offer structured / who is eligible to participate?	The Offer comprises: • the **Broker Firm Offer**, which consists of an offer to Australian resident retail clients of participating Brokers who have a registered address in Australia and who received an invitation from a Broker to acquire Shares under this Prospectus and are not in the United States or are not a US Person; and • the **Institutional Offer**, which consists of an invitation to bid for Shares made to certain Institutional Investors in Australia and certain other eligible jurisdictions outside the United States.	Section 7.3 and 7.4
Will the Shares be listed?	Gold Hydrogen will apply to the ASX within seven days of the Prospectus Date for admission to the Official List and quotation of Shares on the ASX (under the code "GHY"). If approval is not given within three months after such application is made (or any longer period permitted by law), the Offer will be withdrawn and all Application Monies received will be refunded without interest as soon as practicable in accordance with the requirements of the Corporations Act.	Section 7.8
Is the Offer underwritten?	Yes. Details are provided in Section 7.6.	Section 7.6
Who is the Lead Manager on the Offer?	The Lead Manager is Morgans Corporate Limited ACN 010 539 607 (AFSL 235 407).	Section 7.2
What is the allocation policy?	The allocation of Shares between the Broker Firm Offer and Institutional Offer was determined by the Lead Manager after consultation with Gold Hydrogen having regard to the allocation policies outlined in Sections 7.3(d) and 7.4(b). • **Broker Firm Offer:** With respect to the Broker Firm Offer, it is a matter for the Brokers how they allocate Shares among their retail clients and they (and not Gold Hydrogen or the Lead Manager) will be responsible for ensuring that eligible retail clients who have received an allocation from them receive the relevant Shares. • **Institutional Offer:** The allocation of Shares among Applicants in the Institutional Offer was determined by agreement between the Lead Manager after consultation with Gold Hydrogen.	Sections 7.3(d) and 7.4(b)

Topic	Summary	For more information
Is there any brokerage, commission or stamp duty payable by Applicants?	No brokerage, commission or stamp duty is payable by Applicants on acquisition of Shares under the Offer. See Section 7.6 for details of various fees payable by Gold Hydrogen to the Lead Manager.	Sections 7.2 and 7.6
What are the tax implications of investing in the Shares?	The tax consequences of any investment in Shares will depend upon an investor's particular circumstances. Applicants should obtain their own tax advice prior to deciding whether to invest.	Section 9.8
When will I receive confirmation that my application has been successful?	It is expected that initial holding statements will be dispatched on or about 10 January 2023.	Section 7.8(b)
What is the minimum and maximum Application size under the Offer?	**Broker Firm Offer** The minimum Application size under the Broker Firm Offer is 4,000 Shares, the number of Shares to the value of $2,000 at the Offer Price, and Applicants must apply in multiples of 1,000 Shares. There is no maximum value of Shares that may be applied for under the Broker Firm Offer. **Institutional Offer** There is no minimum or maximum value of Shares that may be applied for under the Institutional Offer.	Sections 7.3(b) and 7.4(b)
How can I apply?	**Broker Firm Offer** If you have received an invitation to apply for Shares from your Broker and wish to apply for those Shares under the Broker Firm Offer, you should contact your Broker for information about how to submit your Broker Firm Offer Application Form and for payment instructions. **Institutional Offer** The allocation of Shares among Applicants in the Institutional Offer was determined the Lead Manager after consultation with Gold Hydrogen.	Sections 7.3(b) and 7.4(b)
When can I sell my Shares on the ASX?	It is expected that trading of the Shares on ASX will commence on or about 13 January 2023. Gold Hydrogen, the Share Registry and the Lead Manager disclaim all liability, whether in negligence or otherwise, to persons who trade Shares before receiving a holding statement, even if such person received confirmation of allocation from the Gold Hydrogen IPO Offer Information Line or confirmed their firm allocation through a Broker.	Section 7.8(b)
Can the Offer be withdrawn?	Gold Hydrogen may withdraw the Offer at any time before the issue of Shares to Successful Applicants under the Offer. If the Offer, or any part of it, does not proceed, all relevant Application Monies will be refunded. No interest will be paid on any Application Monies refunded as a result of the withdrawal of the Offer.	Section 7.10
Where can I find out more information about this Prospectus or the Offer?	All enquiries in relation to this Prospectus should be directed to the Gold Hydrogen IPO Offer Information Line on: • within Australia: 1800 500 095; or • outside Australia +61 1800 500 095, from 8:30am to 5:30pm (Brisbane Time), Monday to Friday (Business Days only). If you have any questions about whether to invest in Gold Hydrogen, you should seek professional advice from your accountant, financial adviser, stockbroker, lawyer or other professional adviser before deciding whether to invest.	Section 7.2

2. Industry Overview

2. Industry Overview

The market report contained in this section was commissioned by Gold Hydrogen and prepared by the Industry Expert for the purposes of including it in this Prospectus.

Frost & Sullivan is a business consulting firm involved in industry research and analysis, growth strategy consulting, and corporate training across multiple industries. It is headquartered in San Antonio, Texas, and serves Fortune 1000 companies, governments, and investors across 45 offices on six continents.

Independent Market Report

Global Market for Hydrogen

November 2022

This report describes the global market for hydrogen, and has been commissioned from Frost & Sullivan by **Gold Hydrogen Pty. Ltd.** (or the Company) to support its initial public offering (**IPO**) process.

1. Introduction and Background

1.1 Introduction

Gold Hydrogen has secured tenure over Australia's only known certified Prospective Resource (at 7,820 km2) for natural hydrogen in South Australia, with an estimated 1.3 billion kilograms of natural hydrogen. The Company is currently working to prove and develop this hydrogen resource.[1]

Tougher environmental-social-governance (**ESG**) regulations and national emission reduction targets are prompting the exploration of alternatives to fossil fuels for power or heat. Hydrogen is of special interest because of its clean combustion and high energy density when compared to traditional fossil fuels. However, for hydrogen to be able to fully contribute to decarbonisation, it is essential that hydrogen production processes also have low or zero emissions.

1.2 Definitions

Conventionally, hydrogen is derived from fossil fuels such as coal and natural gas. However, current research is focused on developing cost efficient and low carbon emission hydrogen production from other renewable resources such as biomass, wastewater or seawater (grey, blue, and green hydrogen).

However, gold (natural) hydrogen (i.e. naturally occurring hydrogen) – extracted from underground rock – presents the opportunity to eliminate thermal processes in hydrogen production and arrive at carbon-neutral hydrogen supply. Since natural hydrogen can be continuously generated in the Earth's crust (through a variety of chemical reaction pathways such as oxidation, radiolysis, etc.), it represents an abundant source of clean energy without the carbon intensity of conventional production pathways.

Initially drilled in 1987, for water, the Bougou-1 well in Mali, is documented as the first major discovery of natural hydrogen (which has since been extracted to produce electricity to power part of the village of Bourakebougou in which it is located).[2]

[1] Gold Hydrogen
[2] Hydroma Inc, https://hydroma.ca/en/

Whilst naturally occurring hydrogen has been found in other locations globally, including in Russia, USA, and Brazil, a 2021 global study analysing the land depressions[3] created by hydrogen emanating from below surface suggests that Australia could be one of the most promising areas for hydrogen exploration.[4] In addition, Geoscience Australia's study of around 1,000 natural gas samples from 470 wells in both sedimentary and non-sedimentary basins with reservoir rocks in Australia found a natural hydrogen onshore resource potential of ~1.6 to ~58 million cubic metres (MMm3) per year down to a depth of 1 km.[5] This large untapped potential presents a significant opportunity to help address growing energy, heat and feedstock needs both domestically and for export markets.

The table below highlights the various types of hydrogen – based on production approach:

Table 1: Types of Hydrogen by Source and Production Pathway

Type of Hydrogen	Source	Production Process	Commercialisation	Emissions
Gold (Natural)	Naturally occurring hydrogen found in underground rock that can be extracted	Drilling into subsurface	Emerging	Carbon-neutral
Black	Black Coal (Bituminous)	Gasification	Established	Very high
Brown	Brown Coal (Lignite)	Gasification	Established	Very high
Grey	Natural Gas	Steam Methane Reforming	Established	High
Blue	Natural Gas or Coal	Carbon emitted by black or grey hydrogen production is captured, stored, and reused for other industrial uses through carbon capture and storage systems (CCS)	Established	Low
Turquoise	Natural Gas	Pyrolysis	Emerging	Low
Purple	Nuclear electricity and heat, water	Thermolysis and electrolysis	Emerging	Near zero
Pink	Nuclear electricity and water	Electrolysis	Emerging	Near zero
Red	Nuclear heat and water	Thermolysis	Emerging	Near zero
Green	Renewable electricity, water and/or steam	Electrolysis	Established	Carbon-neutral
	Biomass or Biogas	Reforming / Gasification with or without CCS	Established	Low
Yellow	Grid electricity (may include solar) and water	Electrolysis	Emerging	Moderate and fluctuating

Source: Frost & Sullivan

[3] Referred to as fairy circles
[4] Hydrogen emanations in intracratonic areas: new guidelines for early exploration basin screening, Moretti et al., Geosciences 2021, https://www.mdpi.com/2076-3263/11/3/145, accessed 26 Jul 2022
[5] Hydrogen in Australian natural gas: occurrences, sources and resources, Geoscience Australia (Boreham et al.), The APPEA Journal, 2 July 2021

1.3 Challenges with Black, Brown, Grey, Blue and Green Hydrogen

The hydrogen industry's objective of facilitating decarbonisation means that low/no-carbon hydrogen production technologies are likely to supersede carbon-intensive technologies (such as black, brown and grey hydrogen).

Grey and blue hydrogen production economics are vulnerable to fossil fuel price volatility and supply disruptions (as observed with the record high gas, coal, and oil prices and supply constraints following the start of Russia's war in Ukraine in early 2022). In addition, blue hydrogen's use of carbon capture and storage (**CCS**) brings with it concerns around long term storage and uncertainties around capture rates, as well as the costs associated with the CCS process itself.

The three main challenges currently associated with green hydrogen technologies are the high electrolyser cost related to components containing platinum group metals,[6] high sensitivity for water purity requiring cost-intensive water treatment, and hydrogen-oxygen gas intermixing issues with some technologies.[7]

1.4 Methodology

In writing this report, Frost & Sullivan has used existing published data sources from government statistics, journals, articles, analyst reports and company reports and presentations, which are considered reliable. All currency refers to Australian dollars (**$**) unless stated otherwise. The exchange rates used are $1 = USD0.7, $1 = €0.67, and $1 = JPY93.[8]

2. Hydrogen Value Chain and Applications Overview

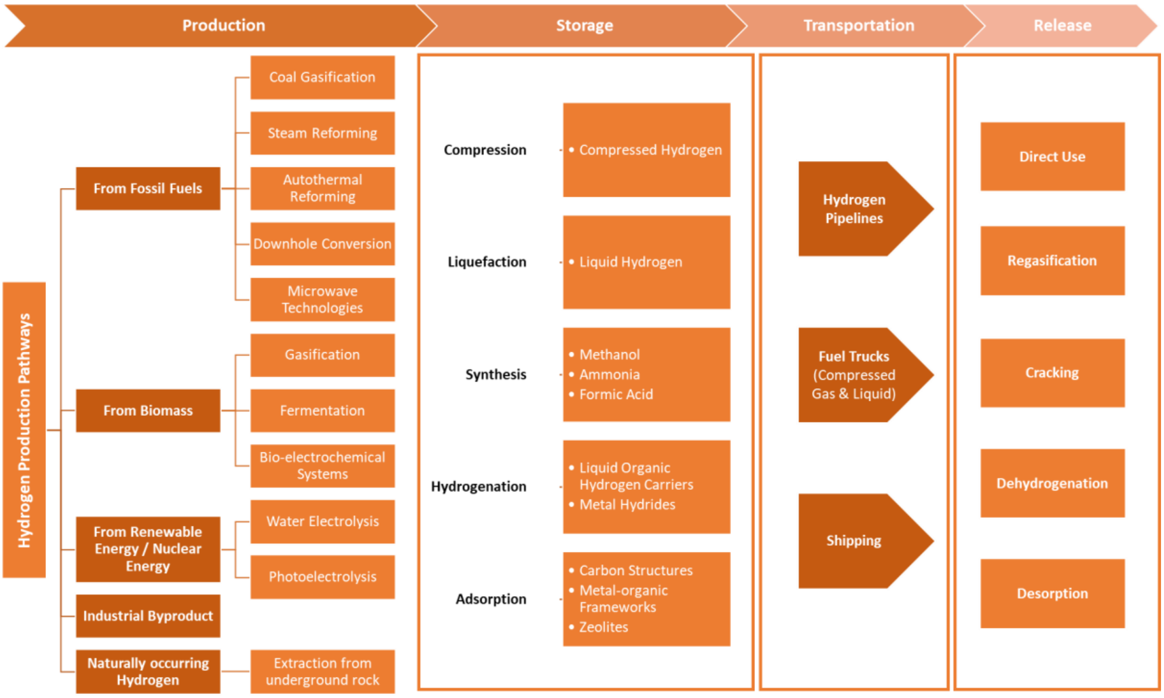
The figure below outlines the hydrogen value chain.

[6] Platinum, palladium, rhodium, ruthenium, iridium, and osmium used as catalyst in the electrolyser for the hydrogen reaction

[7] Frost Radar Hydrogen Production Technologies, Frost & Sullivan, May 2021

[8] https://www.xe.com/

Figure 1: Hydrogen Production, Storage, and Transportation Value Chain



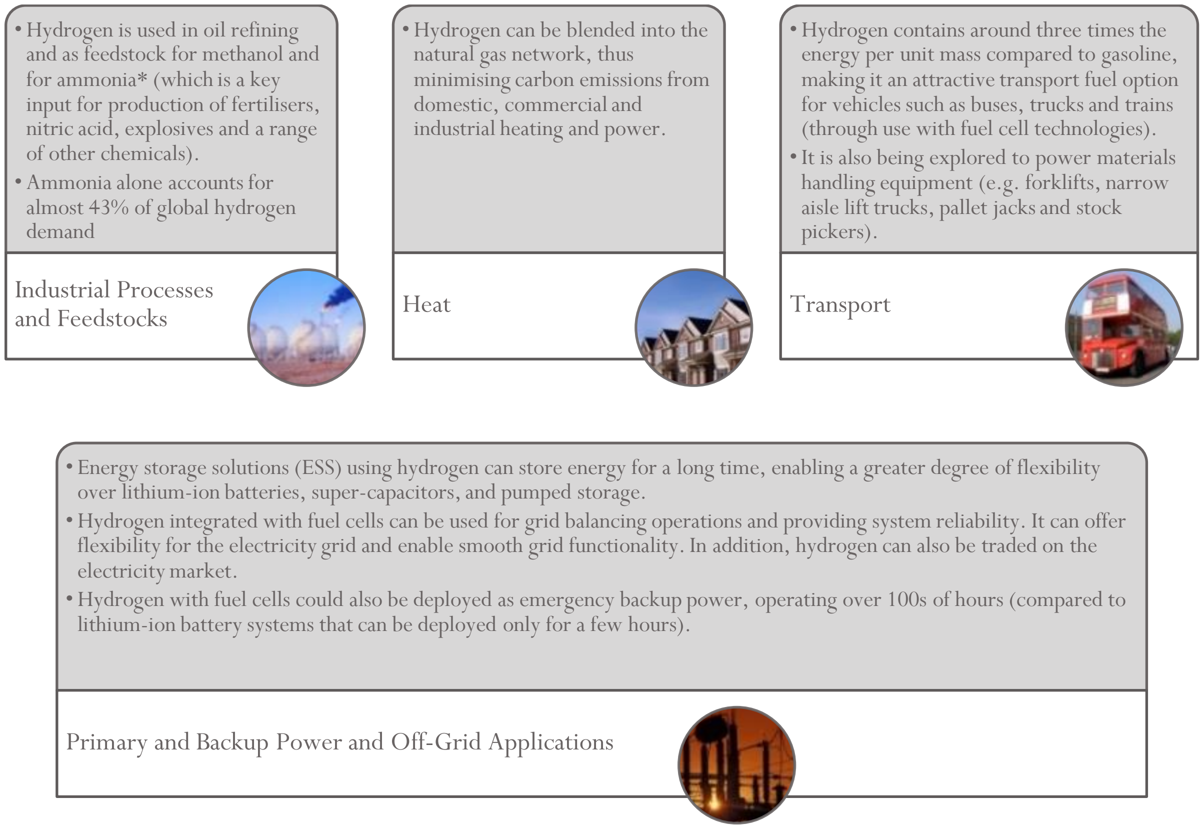
Source: Disruptive Innovations in Production, Storage and Transportation of Hydrogen. Frost & Sullivan, Jun 2020

Currently, electrolysis and steam reforming of natural gas are the most established technologies for the production of green hydrogen. Other options, i.e. pyrolysis and fermentation, anaerobic digestion and thermochemical water splitting methods, are still under prototype or in pilot and demonstration projects.[9]

The figure below highlights the current applications (industrial feedstocks) and emerging applications (heat, transport, primary and backup power and off-grid applications) of hydrogen.

[9] Advances in Green Hydrogen Create Opportunity across the Global Power Sector, Frost & Sullivan, Nov 2020

Figure 2: Key Applications of Hydrogen



Sources: Embracing clean hydrogen for Australia, PwC, Mar 2020; The Future of Hydrogen, International Energy Agency (IEA), 2019; National Hydrogen Roadmap, CSIRO, 2018; and Advances in Green Hydrogen Create Opportunity across the Global Power Sector, Frost & Sullivan, Nov 2020

** Green ammonia is produced via the Haber-Bosch process by using hydrogen and nitrogen sourced from carbon-neutral production processes. It has several applications, including as a zero-carbon source for:*

- *Long duration storage of hydrogen*
- *Fuel for power generation*
- *Fuel for maritime, aviation, and fuel cell vehicles*[10]
- *Feedstock as green fertiliser*
- *Industrial feedstock*

Green ammonia will become a cost-effective means of transporting renewable energy from regions of high production to those of low renewables production. This will create opportunities for the international trading of hydrogen and is likely to benefit Australia (as it has the advantage of abundant renewable energy sources).

3. Market Drivers

The key trends driving demand for hydrogen include the following:

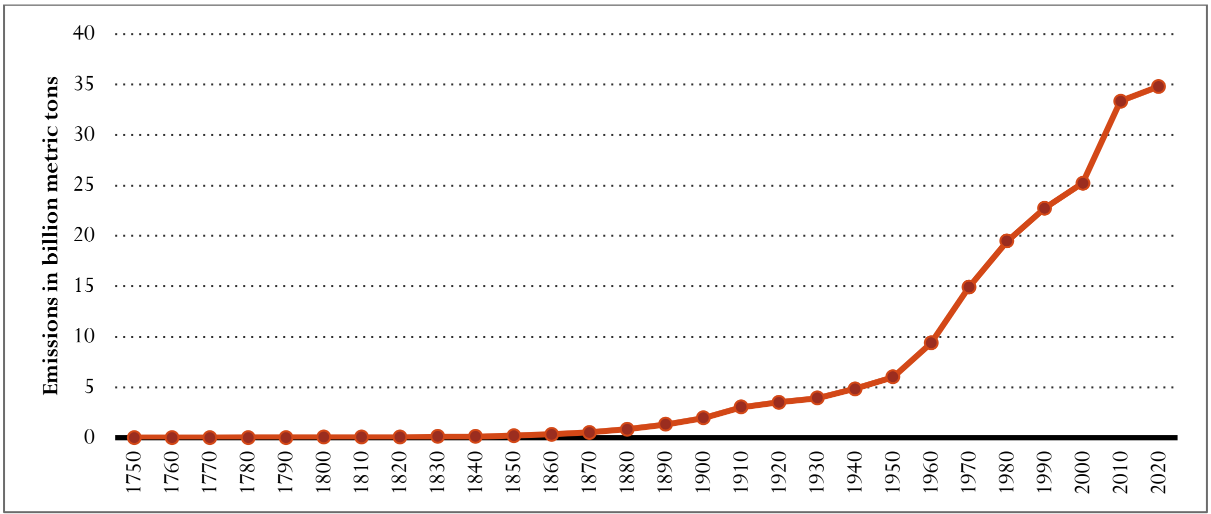
3.1 The ESG-driven push to decarbonise

The World Economic Forum's Global Risks Report 2022 shows that environmental risks are perceived to be the five most critical long-term (over a 10-year horizon) threats to the world as

[10] Fuel cells convert the chemical energy of fuels, such as hydrogen, natural gas, methanol, and other hydrocarbons, to electric power and usable heat.

well as the most potentially damaging to people and planet, with “climate action failure”, “extreme weather”, and “biodiversity loss” ranking as the top three most severe risks.[11] In addition, research estimates suggest that children born in 2020 will experience a twofold to sevenfold increase in extreme events, particularly heat waves, compared with people born in 1960, under current climate policy pledges.[12]

Figure 3: Historical Carbon dioxide Emissions from Fossil Fuel Combustion and Industrial Processes, Global, 1750 to 2020



Source: Global Carbon Project; Expert(s) (Friedlingstein, et al.)

The 1972 United Nations Conference on the Human Environment in Stockholm resulted in the setting up of the United Nations Environment Programme (**UNEP**). The 1987 Montreal Protocol focused on the phase out of ozone-depleting substances. The 1992 United Nations conference in Rio de Janeiro resulted in the United Nations Framework Convention on Climate Change (**UNFCCC**) with a commitment to reduce greenhouse gases. In 1997, 150 countries adopted the Kyoto Protocol which set emission reduction targets. However, the 2015 Paris Agreement was the first ever globally binding climate agreement to limit the global temperature increase in this century to 2 degrees celsius while pursuing efforts to limit the increase even further to 1.5 degrees. Later, at the Climate Action Summit in 2019, 65 countries and major sub-national economies committed to cut greenhouse gas emissions to net zero by 2050.[13]

Most recently, the 2021 United Nations Climate Change Conference (**COP26**) in Glasgow, the United Kingdom has helped in updating and strengthening nationally determined contributions (**NDCs**), drive climate adaptation finance efforts, and continue climate funding towards global net zero.

Against this backdrop, the total decarbonisation of certain sectors, such as transport and industry, cannot be achieved solely by electrification driven primarily by battery storage technologies. To meet the Paris Agreement targets, hydrogen would need to meet around 15% of world energy demand by mid-century.[14] With zero-carbon credentials, natural hydrogen has excellent potential to become a major catalyst in accelerating the transition toward a sustainable green economy, reducing carbon emissions in the medium to long term, and helping countries achieve their carbon neutrality status.

[11] The Global Risks Report 2022, 17th Edition, World Economic Forum
[12] Intergenerational inequities in exposure to climate extremes, Thiery et al, Science, 26 Sep 2021, Vol 374, Issue 65
[13] UN, https://www.un.org/
[14] Hydrogen Forecast to 2050, DNV

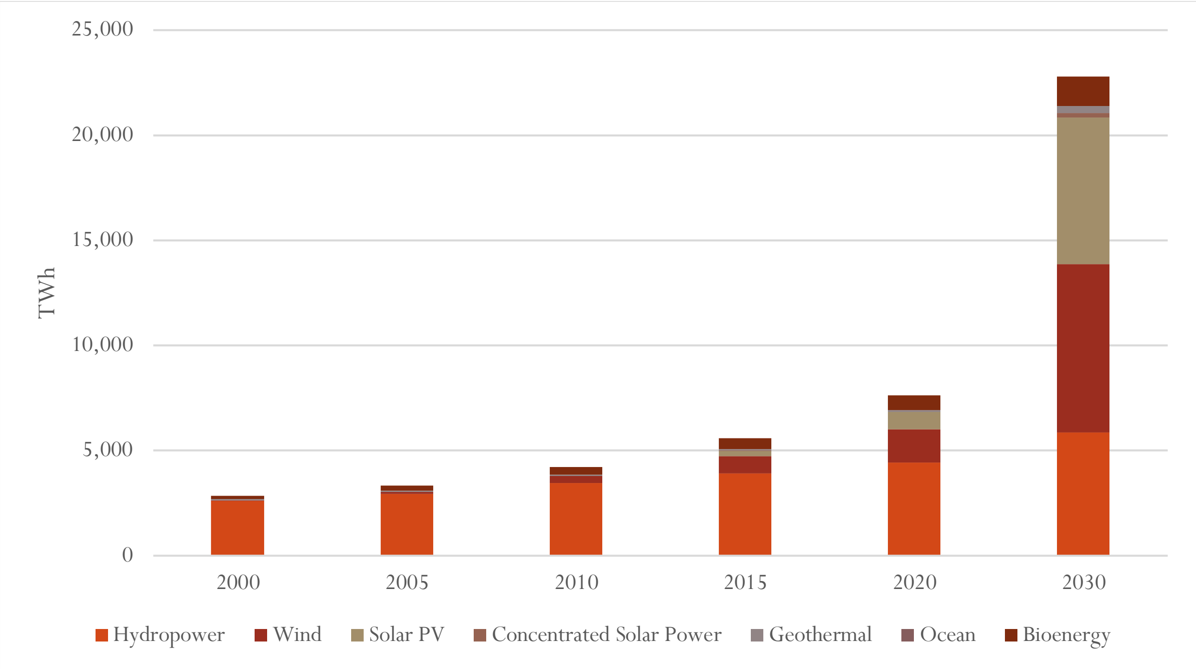
3.2 Technological advances making production, storage, transport and use feasible

Technological innovations across materials science, nanotechnology, equipment design and additive manufacturing will be vital in bringing down the costs associated with hydrogen production, storage and transport. This will enable increased penetration of hydrogen into the energy mix. In addition, technological innovation in expanding hydrogen use cases will play a significant role in growing the market, for example, innovations in hydrogen propulsion systems/generator units. Similarly, innovations in shipping bulk hydrogen will help facilitate global trade of hydrogen. This is being progressed through successful pilots, trials and demonstration projects. For example, Kawasaki Heavy Industries' liquefied hydrogen carrier, the 'Suiso Frontier' was built to transport liquefied hydrogen (with its first shipment completed in early 2022 from the Port of Hastings, Victoria, to Kobe, Japan - the first ever bulk liquified hydrogen shipment on the seas).[15]

3.3 Uptake of hydrogen to enhance flexibility of grids

Accelerating the growth in renewable energy sources (**RES**), wind and solar will add pressure to the electric grid due to the intermittency of wind and solar.

Figure 4: Global Renewable Power Generation by Technology, Historic and in the Net Zero Scenario, 2000, 2005, 2010, 2015, 2020 and 2030



Source: IEA, Tracking Report, Nov 2021

In 2021, renewable sources accounted for 32.5% of Australia's electricity total generation (up from 27.7% in 2020).[16] Hydrogen can be leveraged as a "smart tool" to increase the flexibility of the power system by playing a role in enabling power-to-X (**PtX**) i.e. the process of

[15] New horizons for hydrogen trade: Transporting clean energy overseas, Hydrogen Council, 16 Mar 2022, H2 View, https://www.h2-view.com/story/exclusive-hydrogen-council-column-new-horizons-for-hydrogen-trade-transporting-clean-energy-overseas/, accessed 20 Jul 2022

[16] Clean Energy Australia Report 2022, Clean Energy Council

converting electricity generated from renewables into liquid or gaseous energy carriers. The biggest advantage of PtX technology is that it enables sector coupling, which means that renewable energy can be converted into other forms and consumed across other energy-consuming sectors, thereby decarbonising them. A typical use case would be hydrogen production facilities installed near wind and solar farms to store and transport excess energy produced (which would reduce curtailment[17] rates).

In addition, hydrogen has promising potential as an energy storage medium[18] (energy storage systems (**ESS**) using hydrogen can store energy for a long time, enabling a greater degree of flexibility over lithium-ion batteries, super-capacitors, and pumped storage) to compete/work in tandem[19] with battery storage systems. Also, the use of hydrogen is being explored in combined heat and power (**CHP**) fuel cells for industrial and commercial applications. However, across both grid flexibility and energy storage applications, significant work remains to progress demonstration projects towards wider commercialisation and put in place supportive regulatory measures.

3.4 Uptake of hydrogen as alternative transport fuel source

Whilst CO2 emissions from transport fell in 2020 (because of pandemic-driven movement restrictions and lockdowns), it is likely to rebound with the normalisation of transport activities. Hydrogen used in fuel cells produces no direct emissions and so has the potential to improve overall emissions from transport and air quality. In addition, for many countries, the risk from reliance on oil product imports can be partially mitigated through domestically produced hydrogen to improve fuel security.

Road: Over 20 countries offer specific purchase subsidies for fuel cell electric vehicles (**FCEVs**),[20] at least 20 countries have tax benefits, and at least 17 have specific company tax benefits to support FCEV uptake in professional fleets.[21] China also launched an FCEV pilot cities programme in 2020 to encourage city clusters to deploy FCEVs and put in place FCEV infrastructure.[22] Fuel cell trucks are marginally lighter than diesel trucks and about 3.4 tons lighter than battery electric trucks, making them highly suitable for payload-dense operations, with the added benefit of longer range and faster refuelling.[23] In the passenger vehicle segment, larger vehicles are the focus. For example, BMW is commencing mass production of a hydrogen powered sport utility vehicle (**SUV**) (co-developed with Toyota) by 2025.[24]

Aviation: Deploying hydrogen as fuel cells, direct burn in thermal engines, or as synthetic liquid fuels will play an essential role in powering aircraft. Currently, feasibility studies are underway around gravimetric energy density,[25] storage tank structure, and impact on airframe

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[17] Curtailment is the action of reducing energy generation to maintain supply-demand balance and so avoid the risk of blackouts
[18] The energy density of hydrogen makes it a suitable candidate for primary and backup power applications.
[19] Hydrogen with fuel cells could also be deployed as emergency backup power, operating over hundreds of hours (compared to lithium-ion battery systems that can be deployed only for a few hours).
[20] FCEVs are powered by a fuel cell that generates electricity from a fuel such as hydrogen, either to charge a battery (for cold start) or to drive a motor to power the wheels through a drivetrain.
[21] Global Hydrogen Review 2021, IEA, Oct 2021
[22] Ibid
[23] Global Fuel Cell Trucks Growth Opportunities, Frost & Sullivan, Jul 2021
[24] Hydrogen BMW developed with Toyota to enter production in 2025 – report, Drive, 15 Aug 2022, https://www.drive.com.au/news/hydrogen-bmw-developed-to-enter-production-in-2025/, accessed 16 Aug 2022
[25] The available energy per unit mass of a substance

structure, as well as airport infrastructure for hydrogen supply and redundancy operation. Wider uptake is only expected in the decade 2030-40.[26]

Maritime: The use of hydrogen derivatives - methanol or ammonia - as fuel for maritime transport is being researched. Whilst ammonia is expected to outpace methanol in terms of uptake as fuel for shipping, challenges around safety of use and cost competitiveness remain to be resolved. The IEA's estimate of global demand for hydrogen (under the scenario that the global energy sector achieves net zero CO2 emissions by 2050) assumes that hydrogen-based fuels will provide over 60% of total fuel consumption in shipping by that year.[27]

3.5 Uptake of hydrogen as industrial feedstock

Whilst energy use of hydrogen is projected to be the largest application in the future, current use is primarily focused on its role as an industrial feedstock for oil refining (consuming around 37 Mt of hydrogen in 2020), ammonia production (33 Mt of hydrogen per year), methanol production (around 13 Mt per year), and steel production (around 5 Mt per year).[28]

Oil Refining: Hydrogen is used to reduce the sulphur content of diesel oil and upgrade heavy residual oils to higher value products. Since sulphur content in diesel impacts emissions and air quality, reduction in sulphur content is a key focus of governments and regulatory bodies. In 2021, global refinery crude throughput increased 4.9 million barrels per day (bpd) to reach 80.2 million bpd.[29] Whilst this is the largest current use of hydrogen, it is expected to decline as a proportion of total use over the long term as energy use of hydrogen ramps up.

Ammonia: Global ammonia production was approximately 185 million tonnes in 2020 (accounting for close to a third of total emissions from the chemical and petrochemical sector, higher than any other industrial chemical).[30] With ammonia production expected to reach 230 million tonnes in 2050,[31] (as population growth increases food demand which in turn drives fertiliser uptake), this is expected to remain a key end-market for hydrogen. Australia's ammonia production is estimated at over 2 mtpa per year and there is potential to require over 350 ktpa of hydrogen as a feedstock for this domestic production.[32]

Methanol: Hydrogen is used to produce methanol which (apart from its use as a fuel) is used to produce formaldehyde (with special plastics and coatings being the main end products). Global production of methanol totalled 106.9 million metric tons in 2021.[33]

Steel: Hydrogen is also used in steel production as part of the direct reduction of iron (**DRI**)[34] process. Global crude steel production totalled 1,951 million tonnes in 2021 (up 27% over the ten years from 2011).[35]

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[26] Global Hydrogen-powered Aircraft Growth Opportunities, Frost & Sullivan, Oct 2021
[27] Net Zero by 2050 - A Roadmap for the Global Energy Sector, IEA, October 2021
[28] Hydrogen Forecast to 2050, DNV
[29] IEA, quoted in 'Global refinery closures outweigh new capacity in 2021: IEA', 19 Jan 2022, S&P Global Commodity Insights
[30] Ammonia Technology Roadmap, IEA, Oct 2021
[31] Ibid
[32] Australian and Global Hydrogen Demand Growth Scenario Analysis, COAG Energy Council – National Hydrogen Strategy Taskforce, November 2019
[33] Methanol Institute, https://www.methanol.org/methanol-price-supply-demand/, accessed 16 Aug 2022
[34] The removal of oxygen from iron ore or other iron bearing materials in the solid state, i.e without melting
[35] 2022 World Steel in Figures, World Steel Association, Apr 2022

3.6 Uptake of hydrogen as heat source

Natural gas addresses 35% of global energy demand for heating.[36] As of January 2022, there was a total of almost 925,000 kms of operational gas pipelines globally.[37] Blending low/zero carbon hydrogen in natural gas can help towards decarbonisation of heating. Whilst pure hydrogen can negatively impact steel toughness, fatigue life and ductility (known as hydrogen embrittlement), this is only a risk in high pressure transmission pipeline networks (where steel is the material of choice for pipelines). Distribution pipelines (typically made of cast iron) are low pressure networks. Between 10% and 20% hydrogen blending in gas is possible without major changes to current gas distribution pipelines.[38] At the same time, replacement of cast-iron pipes in low pressure distribution networks across parts of Australia with 'hydrogen ready' high density polyethylene (**HDPE**) pipes has commenced. Since the cost to repurpose natural gas pipelines is expected to be 10-35% of new construction costs, over 50% of hydrogen pipelines globally are expected to be repurposed from natural gas pipelines by 2050.[39] For heating, design modifications for using hydrogen enriched natural gas in residential appliances are easier than for commercial & industrial (**C&I**) equipment (although pilots are underway in this use case as well).

3.7 Country/regional policy developments supporting expansion of the hydrogen economy

By 2020, over 20% of global greenhouse gas (**GHG**) emissions were covered by carbon taxes or emissions trading systems and there were 'direct' climate laws focused primarily on GHG reductions in 56 countries covering 53% of global emissions.[40]

With hydrogen elevated to a crucial component in the transformation to a zero-emission society, governments around the world are beginning to implement policies to develop the required infrastructure. The number of governments with formal hydrogen strategies has grown from only three in 2019 to 17 by 2020.[41]

[36] Global Hydrogen Review 2021, IEA, Oct 2021
[37] Global Gas Infrastructure Tracker, Global Energy Monitor, January 2022
[38] Embracing clean hydrogen for Australia, PwC, Mar 2020
[39] Hydrogen Forecast to 2050, DNV
[40] Climate Change 2022 - Mitigation of Climate Change, UN Intergovernmental Panel on Climate Change (IPCC)
[41] Global Hydrogen Review 2021, IEA, Oct 2021

Table 2: Governments with Adopted National Hydrogen Strategies

Country	Announced Hydrogen Strategy
Australia	National Hydrogen Strategy, 2019
Canada	Hydrogen Strategy for Canada, 2020
Chile	National Green Hydrogen Strategy, 2020
Colombia	Colombian National Hydrogen Strategy, 2021
Czech Republic	Hydrogen Strategy, 2021
European Union	EU Hydrogen Strategy, 2020
France	Hydrogen Deployment Plan, 2018 National Strategy for Decarbonised Hydrogen Development, 2020
Germany	National Hydrogen Strategy, 2020
Hungary	National Hydrogen Strategy, 2021
Italy	National Hydrogen Strategy Preliminary Guidelines, 2020
Japan	Strategic Roadmap for Hydrogen and Fuel Cells, 2019 Green Growth Strategy, 2020, 2021 (revised)
Korea	Hydrogen Economy Roadmap, 2019
Netherlands	National Climate Agreement, 2019 Government Strategy on Hydrogen, 2020
Norway	Government Hydrogen Strategy, 2020 Hydrogen Roadmap, 2021
Poland	2030 Polish Hydrogen Strategy, 2021
Portugal	National Hydrogen Strategy, 2020
Russia	Hydrogen Roadmap 2020
Spain	National Hydrogen Roadmap, 2020
United Kingdom	UK Hydrogen Strategy, 2021

Source: IEA, Hydrogen Central, European Commission

In July 2022, in what is considered a world first, the United Kingdom announced a national clean-hydrogen subsidy scheme to help fund an initial 1GW of green hydrogen and 1GW of blue hydrogen projects as it aims to reach 10GW of low-carbon hydrogen by 2030.[42]

Within Australia, state and territory governments have also articulated their own hydrogen roadmaps.

Table 3: State/Territory Governments with Adopted Hydrogen Strategies, Australia

State/Territory	Hydrogen-related Strategy / Roadmap	Release Date
New South Wales	NSW Hydrogen Strategy	October 2021
Victoria	Renewable Hydrogen Industry Development Plan	February 2021
Queensland	Queensland Hydrogen Industry Strategy 2019–2024	May 2019
Western Australia	Western Australian Renewable Hydrogen Strategy	July 2019
South Australia	Hydrogen Roadmap	September 2017
Tasmania	Tasmanian Renewable Hydrogen Action Plan	March 2020
Australian Capital Territory	Transition to Zero Emissions Vehicles Action Plan 2018–21 ACT Climate Change Strategy 2019–25	April 2018 September 2019
Northern Territory	Renewable Hydrogen Strategy, July 2020	

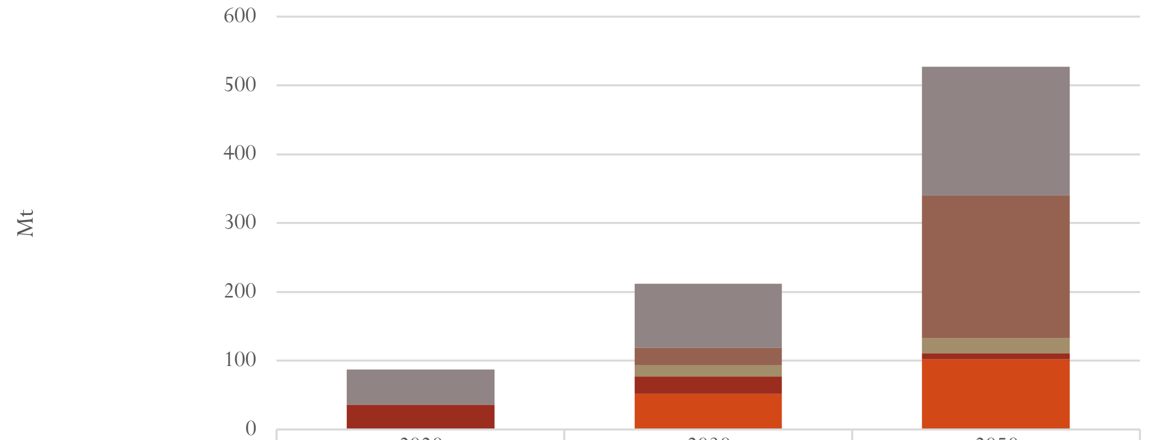
Source: State of Hydrogen 2021, Australian Government Department of Industry, Science, Energy and Resources

[42] UK opens world's first national clean-hydrogen subsidy scheme as it aims for 10GW by 2030, Recharge, 20 July 2022, https://www.rechargenews.com/energy-transition/uk-opens-world-s-first-national-clean-hydrogen-subsidy-scheme-as-it-aims-for-10gw-by-2030/2-1-1263576, accessed 17 Aug 2022

4. Global Hydrogen Forecast

The global demand for hydrogen grew by 50% between 2000 and 2020, and in the net zero emissions by 2050 scenario (**NZE**)[43] is forecast to grow from 90 Mt in 2020 to over 200 Mt by 2030. [44] This forecast assumes that by 2030, the average global blend of hydrogen with natural gas in gas networks is expected to be 15% of hydrogen in volumetric terms, thus reducing CO2 emissions from gas consumption by around 6%.[45] Also, by 2030, over 15 million hydrogen FCEVs are on the road.[46] By 2050, the forecast for global hydrogen consumption reaches close to 530 Mt.[47] This 2050 estimate assumes that hydrogen-based fuels will provide over 60% of total fuel consumption in shipping by that year.[48]

Figure 5: Global Hydrogen Demand by Sector in the Net Zero Emissions Scenario, 2020, 2030, and 2050



	2020	2030	2050
Industry	51	93	187
Transport	0	25	207
Buildings and Agriculture	0	17	23
Refineries	36	25	8
Electricity	0	52	102

Source: International Energy Agency, Oct 2021

An estimated 75% of global hydrogen production currently comes from natural gas; other sources include biomass, water, or a mix of both. Most of the produced hydrogen is used by oil refineries and in the production of methanol, ammonia, and steel. Other applications include grid injection (blending hydrogen into natural gas pipelines), power generation, and transportation.[49]

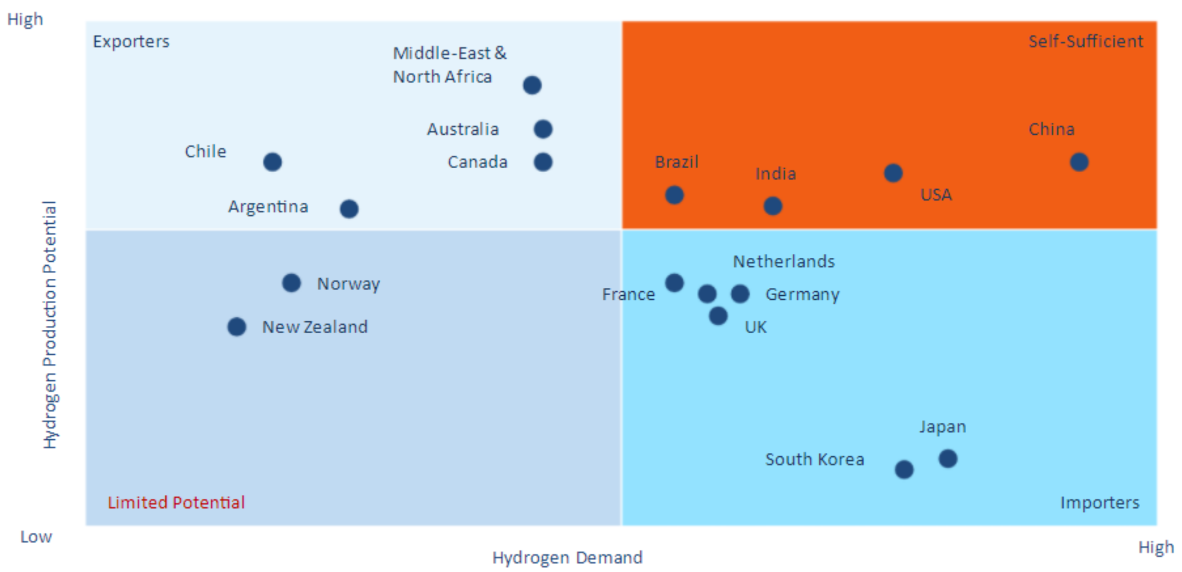
Global annual investment in hydrogen and its derivatives is projected to grow from $184 billion (USD 129 billion) by 2030 to $629 billion (USD 440 billion) by 2050; with overall global spend

[43] The IEA scenario that shows a pathway for the global energy sector to achieve net zero CO2 emissions by 2050
[44] Global Hydrogen Review 2021, IEA, Oct 2021
[45] Net Zero by 2050 - A Roadmap for the Global Energy Sector, IEA, October 2021
[46] Ibid
[47] Ibid
[48] Ibid
[49] Frost Radar Hydrogen Production Technologies, Frost & Sullivan, May 2021

on producing hydrogen for energy use from now until 2050 estimated at $9.7 trillion (USD 6.8 trillion).[50]

The figure below plots green hydrogen regions on a matrix of hydrogen production potential and demand. Australia, which scores high on production potential, is well placed to meet in-country demand, as well as to realise significant export revenues.

Figure 6: Green Hydrogen Hotspots, 2021



Source: Advances in Green Hydrogen Create Opportunity across the Global Power Sector, Frost & Sullivan, Nov 2020

5. Regional Trends

5.1 Australia

Energy Sector Trends: In June 2022, the Australian Government committed to reducing greenhouse gas emissions by 43% below 2005 levels by 2030, which is 15% more than Australia's previous 2030 target; and reaffirmed the country's commitment to net zero emissions by 2050.[51] In addition, the country's state and territory governments, capital cities and local governments, as well as some Australian businesses, are setting various net zero emissions targets. Renewables will play an increasingly important role in achieving these targets. In addition, in mid-2022, the resilience of the power grid came into focus as outages at ageing coal-fired power plants (with many to be shut down soon), weather conditions and the global energy price/supply volatility as a result of the Russia-Ukraine war, combined to create significant power supply constraints which forced the energy market operator to temporarily suspend the wholesale market. This crisis has renewed debate around power

[50] Hydrogen Forecast to 2050, DNV

[51] Australia submits new emissions target to UNFCCC, Department of Industry Science and Resources, Jun 2022, https://www.industry.gov.au/news/australia-submits-new-emissions-target-to-unfccc#:~:text=commits%20Australia%20to%20a%20more%20ambitious%202030%20target.,net%20zero%20emissions%20by%202050, accessed 18 Jul 2022

supply adequacy and reliability. The Australian Energy Market Operator (**AEMO**)'s 2022 Integrated System Plan (**ISP**) forecasts annual electricity consumption from the grid to double by 2050, as transport, heating, cooking and industrial processes are electrified and 60% of current coal generation is terminated by 2030.[52] This presents the hydrogen industry with a significant opportunity to contribute to power security, reliability, flexibility and affordability.

Hydrogen Industry Status: According to the State of Hydrogen 2021 report, direct Australian Government support for the hydrogen industry exceeds $1.2 billion.[53] As of June 2021, Australia had the world's largest pipeline of announced hydrogen projects. The country is also developing ammonia and liquefied hydrogen supply chain projects.

In the area of hydrogen use, specific developments include:

- **Transparency for Customers:** The National Hydrogen Strategy recommendation of creating a 'Guarantee of Origin' scheme for hydrogen (to provide customers visibility on the energy source, production technology and associated carbon emissions).[54]
- **Infrastructure Assessment:** The Australian Government's ongoing 'National Hydrogen Infrastructure Assessment' (to assess infrastructure needs and availability/gaps in hydrogen supply chains). [55]
- **Hydrogen blended into Gas Networks:** Trials involving blending hydrogen into gas networks (e.g. Australian Gas Infrastructure Group (**AGIG**)'s Hydrogen Park South Australia trial in Adelaide has involved supplying 700 houses with 5% blended hydrogen since May 2021),[56] as well as national gas regulatory reform to facilitate blending in of hydrogen.
- **Integration into Electricity Networks:** Integration of hydrogen into electricity networks (e.g. ATCO's Clean Energy Innovation Hub that injects hydrogen into a micro-grid as a blended fuel).[57]
- **Hydrogen-ready Turbines:** Demonstration projects of hydrogen-ready turbines (e.g. EnergyAustralia's 316 MW Tallawarra B dual fuel capable power station, currently under development in New South Wales).[58]
- **Hydrogen-powered Commercial Vehicles Manufacture and Refuelling Infrastructure:** Manufacturing and assembly of hydrogen-powered commercial vehicles (trucks, prime movers, coaches, etc.) and commercial scale hydrogen refuelling depots (e.g. Hyzon Motors in Melbourne).[59]

[52] 2022 Integrated System Plan, AEMO, June 2022
[53] State of Hydrogen 2021, Australian Government Department of Industry, Science, Energy and Resources
[54] Ibid
[55] Ibid
[56] AGIG, https://www.agig.com.au/hydrogen-park-south-australia, accessed 20 Jul 2022
[57] ATCO, https://www.atco.com/en-au/projects/hydrogen.html, accessed 20 Jul 2022
[58] EnergyAustralia, https://www.energyaustralia.com.au/about-us/energy-generation/energy-projects/tallawarra-b-project, accessed 20 Jul 2022
[59] Hyzon Motors, 31 Jan 2022 and 20 Apr 2022, https://www.hyzonmotors.com/in-the-news/hyzon-motors-to-establish-australian-headquarters and https://www.hyzonmotors.com/in-the-news/hyzon-australia-home-to-green-hydrogen-refuelling-depot, accessed 20 Jul 2022

- **Hydrogen-powered Public Transport:** e.g. Kelsian Group's upcoming supply of hydrogen fuel cell buses to be operational in Melbourne in 2023 and a hydrogen-powered ferry to operate in Gladstone.[60]
- **Hydrogen-powered Mining Vehicles:** Integration of hydrogen fuel cell powertrains into mining haul trucks (e.g. Fortescue Metals Group's Fortescue Future Industries (FFI) and Williams Advanced Engineering's agreement with Liebherr to have operational hydrogen powered mining haul trucks at Fortescue mines in Australia by 2025).[61]
- **Hydrogen via Downstream Fuel Distributors:** Both Ampol[62] and Viva Energy[63] plan to include hydrogen into their future fuel mix at retail forecourts and refuelling stations for commercial customers.
- **Hydrogen for Industry and Green Ammonia:** e.g. the Orica and Origin partnership at Hunter Valley Hydrogen Hub for use of hydrogen by heavy industry and conversion into green ammonia,[64] and the Incitec Pivot partnership with FFI for industrial scale manufacturing of green ammonia at the Gibson Island fertiliser manufacturing facility.[65]

5.2 Asia

Given the Australian hydrogen industry's stated aim to grow export opportunities, trends in key Asian markets play a significant role in underpinning those opportunities. In Asia, Japan and South Korea are expected to drive the region in adopting hydrogen as an energy source over the near term.[66]

Japan: One of the most advanced countries in establishing hydrogen projects, Japan introduced its first Hydrogen Strategy Plan in the 1990s, primarily on account of limited domestic energy resources (particularly its lack of renewable energy potential) and strong support from the government and public to decarbonise the energy mix. The government has a stated ambition to become a leader in fuel cell technology for applications across industries, mobility, and power generation. The country aims to procure approximately 300,000 tons of hydrogen annually at about $0.32 (JPY30)/Nm3 by 2030 and $0.21 (JPY20)/Nm3 by 2040.[67] Many Japanese companies are involved in partnerships relating to hydrogen supply chain projects with other countries, including Australia, Saudi Arabia, Malaysia, the United Arab Emirates, and the United States.

[60] Kelsian Group, 06 June and 01 June 2022, https://www.kelsian.com/news/transit-systems-brings-extensive-hydrogen-experience-to-victorias-zero-emission-bus-trial and https://www.kelsian.com/news/queenslands-boat-building-industry-buoyed-by-sealinks-23m-investment, accessed 20 Jul 2022
[61] FFI, 15 June 2022, https://ffi.com.au/news/partnership-with-liebherr-to-supply-green-mining-haul-trucks-incorporating-fortescues-proprietary-owned-zero-emission-power-system/, accessed 20 Jul 2022
[62] Ampol - Future Energy and Decarbonisation Strategy, May 2021
[63] Viva Energy Australia, 13 Jul 2022, https://www.vivaenergy.com.au/media/news/2022/viva-energy-hydrogen-service-station-on-track-for-2023-delivery, accessed 20 Jul 2022
[64] Orica, 28 Feb 2022, https://www.orica.com/news-media/2022/orica-and-origin-to-partner-on-hunter-valley-hydrogen-hub#.YteA-nZBw2w, accessed 20 Jul 2022
[65] Incitec Pivot, 11 Oct 2021, https://www.incitecpivot.com.au/about-us/about-incitec-pivot-limited/media/Incitec%20Pivot%20partners%20with%20Fortescue%20Future%20Industries%20on%20green%20ammonia%20study#:~:text=Incitec%20Pivot%20Limited%20(IPL)%20will,Gibson%20Island%20fertiliser%20manufacturing%20facility., accessed 20 Jul 2022
[66] Global Liquefied Natural Gas Growth Opportunities, Frost & Sullivan, Jun 2022
[67] Global Hydrogen Regulatory Frameworks and Growth Opportunities, Frost & Sullivan, Jul 2022

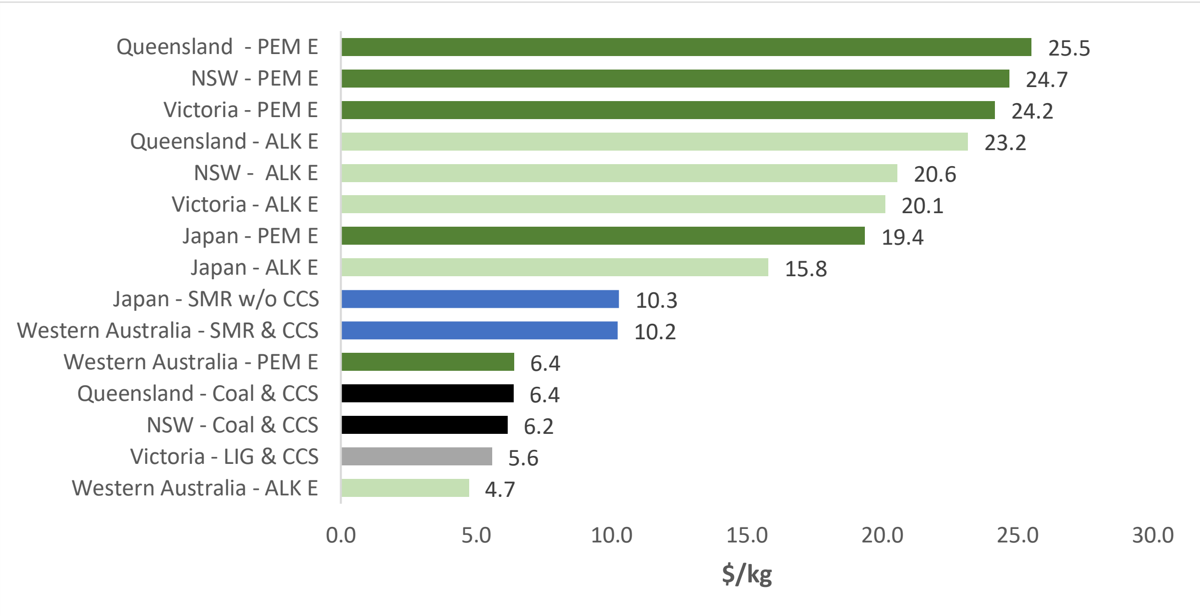
South Korea: The South Korean hydrogen roadmap mainly focuses on hydrogen vehicles, fuel cells, and infrastructure development for hydrogen storage and distribution. After Germany and Japan, South Korea has the third-largest public investment in the hydrogen economy. The country is one of the biggest importers of hydrogen, and is developing infrastructure for hydrogen storage and distribution. South Korea has a mature hydrogen market, and most investments and growth will be in mobility and power generation applications until 2050. The country plans to become a global leader in producing and deploying FCEVs and large-scale stationary fuel cells for power generation (targetting 15 GW fuel cells by 2040).[68]

6. Production Cost and Price Trends

6.1 Production Costs

The production cost (month average cost-of-production including capex) comparison across types of hydrogen technology used and location within Australia and in a key export market i.e. Japan are shown below:

Figure 7: Production Cost Comparison for Hydrogen by Technology and Location, Australian States and Japan, July 2022



Frost & Sullivan has converted from USD to Australian dollar

Source: S&P Global Platts hydrogen assessments, https://www.spglobal.com/commodityinsights/PlattsContent/_assets/_files/en/specialreports/energy-transition/platts-hydrogen-price-wall/index.html, accessed 05 September 2022

Price refers to month average cost-of-production assessments, including capex

SMR: Steam methane reforming; CCS: Carbon capture and storage; ALK E: Alkaline Electrolysis; PEM E: Polymer electrolyte membrane electrolysis; LIG: Lignite gasification

[68] Ibid

Green hydrogen costs continue to be challenged by the capital cost of electrolysers and system efficiency. Whilst there is a considerable amount of R&D in progress to address these issues, and help reduce green hydrogen production costs, the significantly lower find and development cost of natural hydrogen can make it a highly attractive alternative (once natural reserves are confirmed and large-scale commercial supply is implemented).

6.2 Delivered Price

Apart from the production cost, the final delivered price of hydrogen is impacted by conversion[69] efficiencies, storage, transportation and distribution costs, as well as any relevant taxes/excise and producer margins. Currently, in the absence of an established hydrogen market and market reference price/index, offtake contracts are priced on the basis of either fixed prices or fixed and variable cost price formulas.[70] Key influencing factors are the price of traditional fuels that hydrogen is seeking to replace and the end-use sectors.

- An Australian study in 2022 arrived at a final target price estimate of $8.88 per kg of hydrogen (to replace diesel in long haul transportation).[71]
- Australian industry estimates in 2022 suggest a final price of green hydrogen from $9-15 per kg (with government estimates indicating that to reach parity with diesel, it would need to reach a delivered price of $4-6 per kg).[72]
- Industry estimates in 2021 indicated actual hydrogen sale prices of US$13.50 ($19.30) per kg at the pump in the United States and the United Kingdom and a range of US$9-14 ($12.85-$20.00) per kg in Germany.[73]
- A European study in 2022 suggests that for industrial buyers, a hydrogen offtake price of around €3 ($4.50) per kg would be required to incentivise hydrogen production over power generation (from an electrolyser that is connected to renewable energy assets and the grid).[74]
- In March 2022, a long-term offtake agreement of 4,000 tons of green hydrogen between Swedish green hydrogen producer, Plagazi AB and German fuel supplier, WIRTZ Energie + Mineralöl GmbH was finalised at the indicative hydrogen price of €7 ($10.5) per kg.[75]

Against the actual and target delivered prices mentioned above, the production cost estimates in Fig 8 suggest that most conventional production pathways for hydrogen currently will find it difficult to be cost competitive against fuels they seek to replace.

[69] To convert hydrogen into more suitable forms (through liquefaction or compression or use of a hydrogen carrier such as ammonia) for transportation and reconversion back to hydrogen at point of use
[70] Putting a price on hydrogen, Allens Linklaters, 9 August 2022, https://www.allens.com.au/insights-news/insights/2022/08/putting-a-price-on-hydrogen/, accessed 16 Aug 2022
[71] Pathway to Green Hydrogen Production becoming clearer through Stage One Solar Energy, Green Hydrogen Study, Frontier Energy Limited, 14 June 2022
[72] Push for eastern seaboard truck corridor to go green with hydrogen, 25 March 2022, Sydney Morning Herald, https://www.smh.com.au/politics/nsw/push-for-eastern-seaboard-truck-corridor-to-go-green-with-hydrogen-20220324-p5a7l5.html, accessed 16 Aug 2022
[73] Verdant Earth Technologies Limited Prospectus, 18 October 2021
[74] Shades of green (hydrogen) – part 2: in pursuit of 2 EUR/kg, Aurora Energy Research, 23 February 2022; assuming a power price of €55/MWh
[75] Project Havelstoff Secures the Sale of 4,000 Tons of Green Hydrogen Per Year, Fuel Cell Works, 15 March 2022, https://fuelcellsworks.com/news/project-havelstoff-secures-the-sale-of-4000-tons-of-green-hydrogen-per-year/, accessed 17 Aug 2022

7. Competitive Landscape

7.1 Relevant Australian Developments and Projects

Given the fact that Australia is still at an early stage in hydrogen production testing and scale-up, the key developments in the market are related to strategy/roadmap and standards developments, as well as pilot projects and some commercial-scale projects.

The tables below highlight the hydrogen-specific projects completed (5), operating (8), under construction (11), under advanced development[76] (9), or under development[77] (63) in Australia.

Table 4: Hydrogen Large-scale, Demonstration and Pilot Projects - Completed, Australia, 2021

Project Title	Proponents	Location	Main end-use classifications
Grange Resources Renewable Hydrogen Study	Grange Resources (Tasmania) Pty Ltd	Tasmania	Industrial process heating
Green Hydrogen for City of Cockburn	City of Cockburn	Western Australia	Hydrogen mobility, power use
Hydrogen Energy Supply Chain - Pilot Project	Kawasaki Industries, J-Power, Iwatani, Marubeni and Sumitomo Corporations, AGL	Victoria	Export potential - liquefied hydrogen
Preparing the Dampier to Bunbury Natural Gas Pipeline for Hydrogen	Dampier Bunbury Pipeline	Western Australia	Hydrogen in gas networks
Renewable Hydrogen Transport Hub in the City of Mandurah	Hazer Group	Western Australia	Hydrogen mobility

Source: Hydrogen large-scale, demonstration and pilot projects, CSIRO HyResource, https://research.csiro.au/hyresource/projects/facilities/, accessed 19 Jul 2022

Table 5: Hydrogen Large-scale, Demonstration and Pilot Projects - Operating, Australia, 2021

Project Title	Proponents	Location	Main end-use classifications
ActewAGL Hydrogen Refuelling Station	ActewAGL, ACT Government, Neoen Australia, Hyundai, sgfleet	Australian Capital Territory	Hydrogen mobility
Clean Energy Innovation Hub	ATCO	Western Australia	Microgrid applications - natural gas blending, power use
Hazer Commercial Demonstration Plant	Hazer Group	Western Australia	Demonstration and testing purposes - self power use
Hydrogen Park South Australia	Australian Gas Networks	South Australia	Hydrogen in gas networks, industrial use, mobility
Hydrogen Test Facility- ACT Gas Network	Evoenergy, Canberra Institute of Technology	Australian Capital Territory	Hydrogen in gas networks
Sir Samuel Griffith Centre	Griffith University	Queensland	Microgrid applications - power use
Toyota Ecopark Hydrogen Demonstration (Toyota Hydrogen Centre)	Toyota Motor Corporation Australia	Victoria	Hydrogen mobility, power use

[76] Advanced development: A project that has a high likelihood of reaching the Final Investment Decision (FID) point by the end of 2022

[77] Under development: Project that is carrying out pre-feasibility studies, detailed feasibility study or front-end engineering design (FEED)

Project Title	Proponents	Location	Main end-use classifications
Western Sydney Green Gas Project	Jemena	New South Wales	Hydrogen in gas networks, power, mobility and industrial uses

Source: Hydrogen large-scale, demonstration and pilot projects, CSIRO HyResource, https://research.csiro.au/hyresource/projects/facilities/, accessed 19 Jul 2022

Table 6: Hydrogen Large-scale, Demonstration and Pilot Projects - Under Construction, Australia, 2021

Project Title	Proponents	Location	Main end-use classifications
APA Renewable Methane Demonstration Project	APA Group	Queensland	Hydrogen in gas networks - via conversion to methane
Christmas Creek Renewable Hydrogen Mobility Project	Fortescue Metals Group	Western Australia	Hydrogen mobility
Denham Hydrogen Demonstration Plant	Horizon Power	Western Australia	Microgrid - power use
Hydrogen Fuels Australia Truganina HRS	Hydrogen Fuels Australia	Victoria	Hydrogen mobility, microgrid applications
Hydrogen Refueller Station Project	ATCO, Fortescue Metals Group	Western Australia	Hydrogen mobility
Kogan Creek Renewable Hydrogen Demonstration Plant	CS Energy	Queensland	Hydrogen mobility, power use
Port Kembla Hydrogen Refuelling Facility	Coregas	New South Wales	Hydrogen mobility
Renewable Hydrogen Production and Refuelling Project	BOC	Queensland	Industrial uses, mobility
SunHQ Hydrogen Hub	Ark Energy Corporation Pty Ltd	Queensland	Hydrogen mobility
Swinburne University of Technology Victorian Hydrogen Hub – CSIRO Hydrogen Refuelling Station	CSIRO, Swinburne University of Technology	Victoria	Hydrogen mobility
Tallawarra B Dual Fuel Capable Gas/Hydrogen Power Plant	EnergyAustralia	New South Wales	Electricity generation

Source: Hydrogen large-scale, demonstration and pilot projects, CSIRO HyResource, https://research.csiro.au/hyresource/projects/facilities/, accessed 19 Jul 2022

Table 7: Hydrogen Large-scale, Demonstration and Pilot Projects - Advanced Development, Australia, 2021

Project Title	Proponents	Location	Main end-use classifications
ATCO Hydrogen Blending Project	ATCO Gas Australia Pty Ltd	Western Australia	Hydrogen in gas networks
Clean Energy Innovation Park	ATCO, AGIG	Western Australia	Hydrogen in gas networks, mobility
Desert Bloom Hydrogen	Aqua Aerem	Northern Territory	Export potential, domestic use
Geelong New Energies Service Station Project	Viva Energy Australia	Victoria	Hydrogen mobility
Hydrogen Park Murray Valley	Australian Gas Networks, ENGIE	Victoria	Hydrogen in gas networks
Manilla Solar and Renewable Energy Storage Project	Manilla Community Renewable Energy, Providence Asset Group	New South Wales	Microgrid / regional applications
Spicers Retreats Scenic Rim Trail Ecotourism Demonstration using Low Pressure Hydrogen	Jilrift Pty Ltd	Queensland	Microgrid – power use

Project Title	Proponents	Location	Main end-use classifications
Sumitomo Green Hydrogen Production Plant	Sumitomo Corporation	Queensland	Industrial process -refining, mobility
Yara-ENGIE Pilbara Renewable Ammonia	Yara Pilbara Fertilisers, ENGIE Renewables	Western Australia	Industrial process - ammonia production

Source: Hydrogen large-scale, demonstration and pilot projects, CSIRO HyResource, https://research.csiro.au/hyresource/projects/facilities/, accessed 19 Jul 2022

Table 8: Hydrogen Large-scale, Demonstration and Pilot Projects - Under Development, Australia, 2021

Project Title	Proponents	Location	Main end-use classifications
ABEL Energy Bell Bay Powerfuels Project	ABEL Energy	Tasmania	Export potential: industrial process – methanol production, as well as domestic use
Arrowsmith Hydrogen Project Stage 1	Infinite Blue Energy Ltd	Western Australia	Hydrogen mobility, power use
Asian Renewable Energy Hub	NW Interconnected Power Pty Ltd: company shareholders include bp (Operator), Intercontinental Energy, CWP Global, and Macquarie Capital and Macquarie's Green Investment Group	Western Australia	Export potential - hydrogen derivatives, Local potential - electricity & hydrogen
Australian Hydrogen Centre	Australian Gas Networks - lead, all project partners are shown in the description	South Australia/ Victoria	Hydrogen in gas networks
Bio-Hydrogen Demonstration Plant	Southern Oil Refining	Queensland	Industrial process - refining
Central Queensland Hydrogen Project	Stanwell Corporation Limited, Iwatani Corporation, Kawasaki Heavy Industries, Marubeni Corporation, Kansai Electric Power Company, APA Group	Queensland	Export potential
Collie Battery and Hydrogen Industrial Hub Project	Sunshot Energy	Western Australia	Industrial process - ammonia production
Daintree Microgrid Project	Daintree Renewable Energy	Queensland	Microgrid/ regional applications
Development of Altona Renewable Hydrogen Plant	Air Liquide Australia Solutions Pty Ltd	Victoria	Focus on mobility and industrial applications
Dyno Nobel Renewable Hydrogen Project	Dyno Nobel	Queensland	Industrial process - ammonia production
Early Production System: MEG-HP1	Infinite Blue Energy Ltd	Western Australia	Hydrogen mobility
Edify Green Hydrogen Project	Edify Energy	Queensland	Export potential, domestic use
Emerald Coaches Green Hydrogen Mobility Project	Emerald Coaches	Queensland	Hydrogen mobility
Energys Renewable Hydrogen Production Facility	Energys Australia Pty Ltd	Victoria	Hydrogen mobility, power use
Eyre Peninsula Gateway Project - Demonstrator Stage	The Hydrogen Utility	South Australia	Industrial process - ammonia production
Feasibility of Renewable Hydrogen to Decarbonise the Esperance Region in WA	Horizon Power	Western Australia	Microgrid - power use
Fortescue Green Hydrogen and Ammonia Plant	Fortescue Future Industries	Tasmania	Industrial process – ammonia production
Future Energy and Hydrogen Precinct	CleanCo	Queensland	Power use

Project Title	Proponents	Location	Main end-use classifications
Geelong Hydrogen Hub	GeelongPort, CAC-H2	Victoria	Export potential, domestic use
Geraldton Export-Scale Renewable Investment	bp Australia	Western Australia	Industrial process - ammonia production
Gibson Island Green Ammonia Feasibility	Fortescue Future Industries, Incitec Pivot Ltd	Queensland	Ammonia production, export potential, domestic use
Goondiwindi Hydrogen	Goondiwindi Regional Council	Queensland	Under evaluation
Green Liquid Hydrogen Export Project	Origin Energy, Kawasaki Heavy Industries	Queensland	Export potential, domestic supply
H2-HubTM Gladstone	The Hydrogen Utility	Queensland	Industrial process - ammonia production
H2Kwinana	bp Australia, Macquarie Capital	Western Australia	Industrial uses
H2Perth	Woodside Energy Ltd	Western Australia	Export potential, domestic use
H2TAS Project	Woodside Energy Ltd, Marubeni Corporation, IHI Corporation	Tasmania	Ammonia production, export potential, renewable hydrogen - domestic use
Hay Point Hydrogen Export	Dalrymple Bay Infrastructure Ltd, North Queensland Bulk Ports Corporation, Brookfield Group, ITOCHU Corporation	Queensland	Export potential
HIF Carbon Neutral eFuels Manufacturing Facility	HIF Global	Tasmania	Synthetic eFuels (methanol-based)
Hunter Hydrogen Hub	NSW Government facilitating discussions	New South Wales	Under evaluation
Hunter Valley Hydrogen Hub	Origin Energy, Orica	New South Wales	Under evaluation
Hybrid PV-Battery-Hydrogen System for Microgrids	Murdoch University	Western Australia	Microgrid / regional applications
Hydrogen Brighton Project	Countrywide Hydrogen Pty Ltd	Tasmania	Hydrogen in gas networks main use, mobility and industrial uses also under evaluation
Hydrogen Energy Supply Chain - Feasibility Study Phase	Kawasaki Industries, J-Power, Iwatani, Marubeni and Sumitomo Corporations, AGL	Victoria	Export potential - liquefied hydrogen
Hydrogen Hubs Powering Remote Communities (H2H)	Ergon Energy Corporation Ltd	Queensland	Microgrid – power use
Hydrogen Park Gladstone	Australian Gas Networks	Queensland	Hydrogen in gas networks
Hydrogen Portland Project	Countrywide Hydrogen Pty Ltd, AusNet Services, Glenelg Shire Council, Port of Portland	Victoria	Domestic use initially
Hydrogen Powered Trains Feasibility Study	Aurizon, Anglo American	Queensland	Hydrogen mobility
Hydrogen Tasmania	Countrywide Hydrogen Pty Ltd	Tasmania	Domestic use
HyEnergy Project	Total Eren, Province Resources Ltd	Western Australia	Domestic and export potential
Hyer Penetration - EDL Hydrogen Enabled Hybrid Renewables	EDL	Western Australia	Microgrid - power use
Joint Feasibility Study for Creation of a Supply Chain of Low Carbon Ammonia in Western Australia	Mitsui E&P Australia Pty Ltd	Western Australia	Ammonia production, export potential

Project Title	Proponents	Location	Main end-use classifications
Manufacturing and Commercialisation of Hydrogen Buses	Volgren Australia Pty Ltd	Victoria	Hydrogen mobility
Melbourne Hydrogen Hub	Countrywide Hydrogen Pty Ltd	Victoria	Hydrogen mobility, gas networks
Methanol Synthesis Utilising Renewable Hydrogen	HAMR Energy, Bingo Industries	Victoria	Methanol production
Murchison Hydrogen Renewables Project	Murchison Hydrogen Renewables Pty Ltd	Western Australia	Industrial process – ammonia production
Neoen Australia Hydrogen Superhub (Crystal Brook Energy Park)	Neoen Australia	South Australia	Export potential
Ord Hydrogen	Pacific Hydro Australia Developments	Western Australia	Under evaluation (general uses/ammonia production)
Origin Green Hydrogen and Ammonia Plant	Origin Energy	Tasmania	Industrial process – ammonia production
Parmelia Gas Pipeline	APA Group, Wesfarmers	Western Australia	Hydrogen in gas networks
Port Kembla Hydrogen Hub	NSW Government facilitating discussions	New South Wales	Under evaluation -early mobility project announced
Port of Newcastle Hydrogen Hub	Macquarie Green Investment Group, Port of Newcastle	New South Wales	Domestic use
Port Pirie Green Hydrogen Project	Trafigura Group Pte. Ltd	South Australia	Export potential - ammonia, domestic use
Project Haber	Strike Energy	Western Australia	Industrial process - ammonia production
Queensland Nitrates Renewable Hydrogen and Ammonia Project	Queensland Nitrates	Queensland	Industrial process - ammonia production
Queensland Solar Hydrogen Facility	Austrom Hydrogen	Queensland	Export potential
Rio Tinto Pacific Operations Hydrogen Program	Rio Tinto	Queensland	Industrial process- refining
SeaLink Hydrogen Ferry	SeaLink Gladstone	Queensland	Mobility
The Julia Creek Project	QEM Limited	Queensland	Under evaluation
Tiwi H2	Provaris Energy Ltd	Northern Territory	Export potential
Torrens Island Green Hydrogen Hub	AGL Energy Limited (AGL: consortium lead - see description for full listing)	South Australia	Under evaluation
Utilitas Recarbon Organic Waste to Green Hydrogen Technology	Utilitas Group, ReCarbon Inc., Bundaberg Regional Council	Queensland	Hydrogen mobility
Western Green Energy Hub	InterContinental Energy, CWP Global, Mining Green Energy Limited	Western Australia	Domestic and export markets

Source: Hydrogen large-scale, demonstration and pilot projects, CSIRO HyResource, https://research.csiro.au/hyresource/projects/facilities/, accessed 19 Jul 2022

7.2 Hydrogen Ecosystem in Australia

Apart from Gold Hydrogen, other entities active in hydrogen projects in Australia include global multinational and Australian energy, resource and technology firms, Australian utilities, project developers/owners, investors, universities and government bodies.

Competitive Tools

The key competitive tools providing competitive advantage for hydrogen include:

- Intellectual property (**IP**) in relation to hydrogen production/extraction, storage and transportation;
- Ensuring minimal GHG emissions in the production of hydrogen;
- Ensuring hydrogen output at the highest possible purity levels;
- Adopting a process that translates into low production costs;
- Ability to identify suitable locations and design projects with effective choices around storage, pipeline/transport options, etc.;
- Ability to scale up from pilot scale projects to commercial volumes;
- Ability to obtain offtake/power purchase agreements with domestic customers; and
- Partners and networks in global markets that can help facilitate exports.

7.3 Australia's Export Opportunity

Australia's Competitive Advantage: There are several factors that suggest that Australia has the potential to emerge as a global leader in hydrogen production and export. These include:

- A formal national strategy, as well as ambitious goals in state/territory government roadmaps for hydrogen;
- Presence of large operating ports with existing LNG handling infrastructure, which can help facilitate Australian hydrogen exports;
- Strong trade relationships with Asian destinations (e.g. Japan and South Korea) which have significant import demand for hydrogen;
- Geographical access to key market (e.g. Korea, Japan);
- Presence of extensive pipeline infrastructure (Australia has more than 39,000 kilometres of natural gas transmission pipelines),[78] which presents the near-term opportunity to commence hydrogen blending at small proportions of total natural gas volume;
- High levels of activity in trials/demonstration projects/pilots within the country to validate and progress hydrogen use across various end sectors;
- Land availability and abundant energy resources;
- Strong existing capabilities in ammonia production; and
- Significant onshore potential for natural hydrogen.

International Partnerships: Recognising the importance of encouraging demand from overseas, the Australian Government has undertaken several initiatives to stimulate hydrogen exports.

[78] Australian Pipelines and Gas Association, https://www.apga.org.au/pipeline-facts-and-figures, accessed 19 Jul 2022

Table 9: International Partnerships to Stimulate Hydrogen Exports from Australia

Country	Partnership
Germany	Declaration of Intent between the Government of Australia and the Government of Germany on the Australia-Germany Hydrogen Accord; June 2021[79] • Establishing the German-Australian Hydrogen Innovation and Technology Incubator (HyGATE) to support real-world pilot, trial, demonstration and research projects along the hydrogen supply chain. Australia and Germany have respectively committed up to $50 million and $74.2 million (€50 million) to establish HyGATE. • Facilitating industry-to-industry cooperation on demonstration projects in Australian hydrogen hubs. • Exploring options to facilitate the trade of hydrogen and its derivatives produced from renewables (such as ammonia) from Australia to Germany, including through Germany's H2Global Initiative, which supports long-term supply agreements with German industry.
Japan	Japan–Australia Partnership on Decarbonisation through Technology; June 2021 • Joint focus on lower emissions LNG production, transport and use; clean fuel ammonia, clean hydrogen and derivatives produced from renewable energy or from fossil fuels with substantial carbon capture, utilisation and storage; carbon capture utilisation and storage; carbon recycling; and low emissions steel and iron ore.[80]
Korea	Joint work on increased adoption of low and zero emissions technologies and research on hydrogen supply chains.[81]
Singapore	$30 million partnership to accelerate the deployment of low emissions fuels and technologies like clean hydrogen to reduce emissions in maritime and port operations.[82]
United Kingdom	Collaborating on research and development across technologies crucial to decarbonising the global economy, including clean hydrogen.[83]

Sources: Various, as cited

It has been estimated that by 2050, if Australia achieves the same global market share that it currently has for Liquefied Natural Gas (**LNG**), then the hydrogen sector could produce an increase to Australian Gross Domestic Product (**GDP**) of up to $26 billion[84] on a Net Present Value (**NPV**) basis and 16,900 jobs.[85]

8. Conclusions

In the net zero emissions by 2050 scenario (**NZE**) global hydrogen demand is forecast to grow from 90 Mt in 2020 to over 200 Mt by 2030. [86] This is figure expected to reach almost 530 Mt by 2050.[87]

Underpinning this demand for a hydrogen market is the ESG-driven push to decarbonise industries and economies. In this effort, advances in technology for production, storage, transportation and use are helping take hydrogen mainstream. Natural hydrogen, in particular,

[79] Australia and Germany partner on hydrogen initiatives, 13 June 2021, https://www.minister.industry.gov.au/ministers/taylor/media-releases/australia-and-germany-partner-hydrogen-initiatives, accessed 11 July 2022
[80] Japan-Australia partnership on decarbonisation through technology, 13 June 2021, https://www.minister.industry.gov.au/ministers/taylor/media-releases/japan-australia-partnership-decarbonisation-through-technology, accessed 19 Jul 2022
[81] State of Hydrogen 2021, Australian Government Department of Industry, Science, Energy and Resources
[82] Australia partners with Singapore on hydrogen in maritime sector, 10 June 2021, https://www.minister.industry.gov.au/ministers/taylor/media-releases/australia-partners-singapore-hydrogen-maritime-sector, accessed 11 July 2022
[83] Ibid
[84] Original data is in US$ and has been converted to $
[85] Australian and Global Hydrogen Demand Growth Scenario Analysis, COAG Energy Council – National Hydrogen Strategy Taskforce, November 2019
[86] Global Hydrogen Review 2021, IEA, Oct 2021
[87] Net Zero by 2050 - A Roadmap for the Global Energy Sector, IEA, October 2021

as a low/zero carbon emitting source that can be supplied at a very low price point, presents a very attractive opportunity to facilitate decarbonisation.

The Australian Government's enhanced decarbonisation target announced in 2022 (committing to reducing greenhouse gas emissions by 43% below 2005 levels by 2030) is expected to underpin the finalisation of more favourable policy support for the hydrogen industry (both in terms of sourcing/production and use). In addition, further work to qualify and confirm the extent of natural hydrogen, as well as the demonstrations, trials and pilot projects in terms of end-use will help in the commercialisation process of natural hydrogen in the country.

Australia enjoys significant advantages that can support hydrogen production for in-country uses, as well as a large export opportunity (particularly to the large Asian end markets of Korea and Japan). Its successful track record in building and growing its LNG export opportunity has many learnings that can be applied to the hydrogen export opportunity.

In terms of production type, by eliminating thermal processes in hydrogen production, natural hydrogen presents an abundant supply of carbon-neutral hydrogen at a cost that is significantly lower than other production pathways.

9. Disclosure

This is an independent report prepared by Frost & Sullivan. Save for the preparation of this report and services rendered in connection with this report for which normal professional fees will be received, Frost & Sullivan has no interest in Gold Hydrogen Pty. Ltd. and no interest in the outcome of the IPO. Payment of these fees to Frost & Sullivan is not contingent on the outcome of the IPO. Frost & Sullivan has not and will not receive any other benefits (including any commissions) and there are no factors which may reasonably be assumed to have influenced the contents of this report nor which may be assumed to have provided bias or influence. Frost & Sullivan consents to the inclusion of this report in the Prospectus in the form and context in which it is included. As at the date of this report, this consent has not been withdrawn. Frost & Sullivan does not hold a dealer's license or Financial Services License. This report does not constitute advice in respect of the IPO.

3. Company and Project Overview

3. Company and Project Overview

3.1 Introduction

Gold Hydrogen is progressing the exploration of a Natural Hydrogen Prospective Resource in Australia. In the search for potential Natural Hydrogen gas across Australia and South America, geologist Mr Luke Titus and his business partner Mr Neil McDonald located historic Natural Hydrogen occurrences in old South Australian Government drilling records from the 1920s and 1930s. Gold Hydrogen was formed to further mature this finding, and the current status of the project is outlined below:

Granted natural hydrogen exploration permit: Gold Hydrogen currently holds one granted PEL in South Australia (PEL 687) that covers approximately 7,820 km^2 on the Yorke Peninsula and Kangaroo Island in South Australia (highlighted in Figure 1).

Significant Prospective Resource: PEL 687 is host to Australia's only known independently estimated Prospective Resource for Natural Hydrogen with an Unrisked[6] Prospective Resource Best Estimate of 1.3 billion kilograms of potentially recoverable Natural Hydrogen[7]. Gold Hydrogen is undertaking a work program to convert the Prospective Resource to a Reserve in a commercial success case thereby demonstrating Natural Hydrogen gas can be extracted in sufficient volume to be commercially viable.

Ramsay Project as the near-term priority: Gold Hydrogen is undertaking the 'Ramsay Project' on PEL 687. The first key milestone is the drilling of the first exploration Well which is expected to commence on the Yorke Peninsula as early as Q3 CY23.

Enabling engagements in place: Gold Hydrogen currently has agreements with leading global hydrogen experts, including Schlumberger, CSIRO, Total Seismic and Xcalibur to undertake the work program on the Ramsay Project through to potential production.

Historic basis for natural occurring hydrogen: Historic drilling of Wells within PEL 687 in the 1920s and 1930s encountered ~80%[8] Natural Hydrogen gas at depths of ~500m. Gold Hydrogen believes potential for deeper Natural Hydrogen sources and Reservoirs exist at untested depths.

Upside and expansion potential: The Group also has exclusive rights in respect of an additional seven (7) PELAs and four (4) GSELAs in South Australia (highlighted in Figure 1).

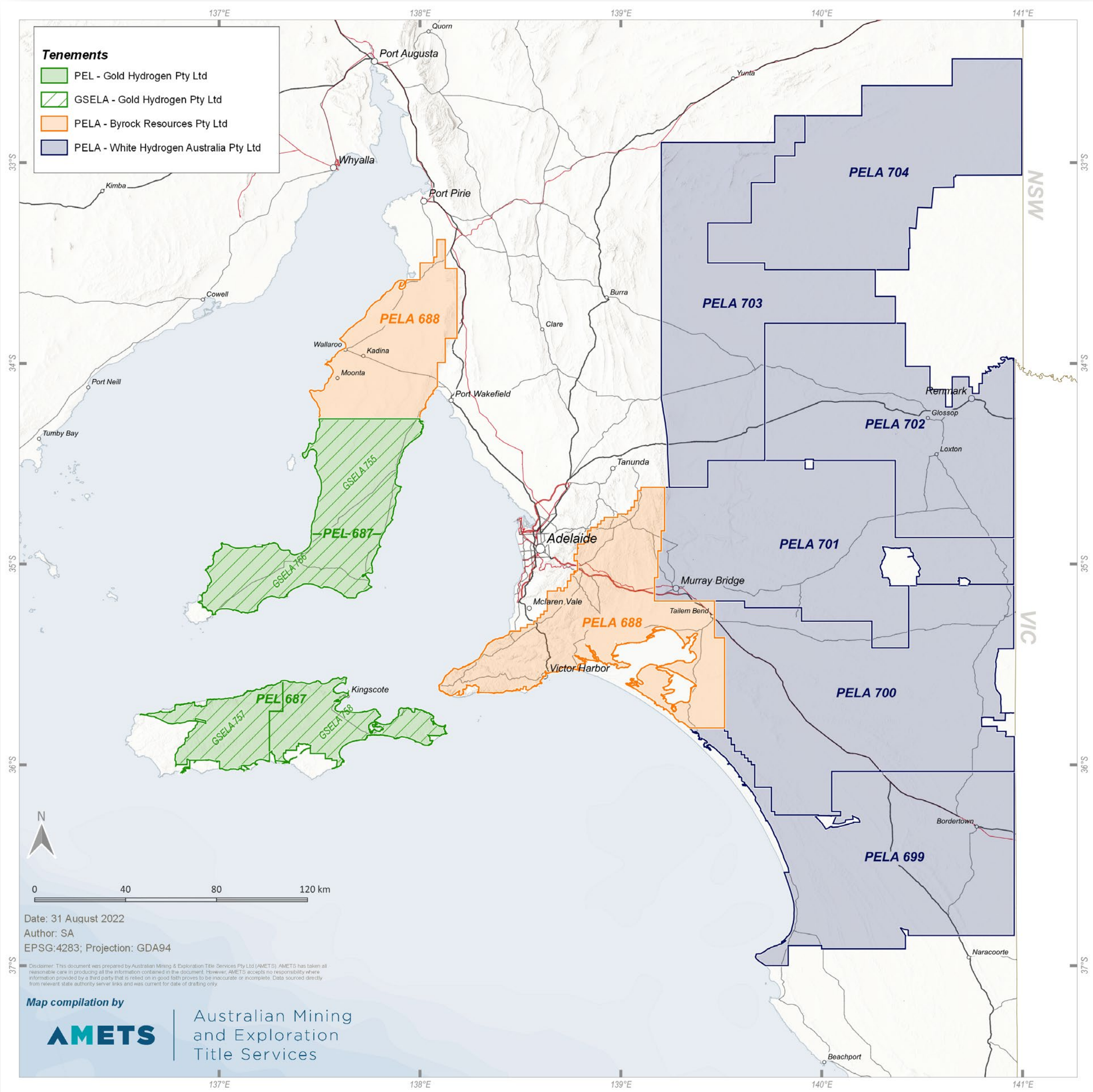
As the worldwide push for zero carbon emissions gathers pace, hydrogen is becoming an accepted alternative to current fossil fuels and can substantially reduce CO2 emissions. Gold Hydrogen is positioned to capitalise on this demand if it can successfully mature its Natural Hydrogen Prospective Resources to Reserves through discovery, appraisal and commercialisation.

[6] *'Unrisked' means that no risk factors have been applied to allow for risks associated with the chance of geological discovery, the chance of development, and the chance of commerciality. A detailed summary of key risks is set out in Section 5 of this Prospectus.*

[7] *This estimate of Natural Hydrogen Prospective Resources must be read in conjunction with the cautionary statement on page 11 that the estimated quantities of Natural Hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable Natural Hydrogen.*

[8] *See Table 6 of Annexure A for more detail on this value.*

Figure 1 – Gold Hydrogen Group tenement and areas under application located in South Australia. Map approved by Luke Titus (a qualified petroleum reserves and resources evaluator).



3.2 Core Values

A values-led organisation allows the Gold Hydrogen team to deliver on its purpose and strategy. Gold Hydrogen, via its Board, senior management teams and employees, hold the following core values central to their actions:

Excellence	Integrity	Respect	Sustainable Development	Performance
Strive for one quality standard in everything we do.	Always act with honesty and fairness, and do what we have committed to do.	Treat all of Gold Hydrogen's stakeholders with respect. Gold Hydrogen will respect the communities and environments in which we operate.	Make a positive contribution to the decarbonisation of the economy and conduct its activities in line with applicable United Nations Sustainable Development Goals.	Strive to deliver a positive financial outcome for Gold Hydrogen's shareholders.

3.3 Geology

(a) Gold Hydrogen granted tenement and areas under application

The Group has secured and applied for a substantial Natural Hydrogen exploration and gas storage acreage position covering approximately 83,439 km^2. On Completion, Gold Hydrogen's portfolio will be made up of the following granted tenement and other applications:

- One (1) granted Petroleum Exploration Licence (PEL) in South Australia: PEL 687 that covers approximately 7,820 km^2 on the Yorke Peninsula and Kangaroo Island in South Australia. On PEL 687, Gold Hydrogen is undertaking the Ramsay Project as its flagship and priority program;

- Exclusive rights over an additional seven (7) Petroleum Exploration Licence Applications (PELAs) in South Australia. PELAs 688, 699, 700, 701, 702, 703 and 704 cover approximately 67,512 km^2 and are subject to Native Title agreement; and

- Exclusive rights over four (4) Gas Storage Exploration Licence Applications (GSELAs) in South Australia. GSELAs 755, 756, 757 and 758 cover approximately 8,107 km^2, clear of Native Title and are coincident with PEL 687. Underground storage of Natural Hydrogen within potential Reservoirs will have a role to play in the future commercial exploitation of the Natural Hydrogen.

See Figure 1 above for a map of the tenement and areas under application and Table A below for an overview of the tenement interests of the Group at Completion.

Table A – Overview of Gold Hydrogen's PEL, PELAs and GSELAs.

Permit	Project Name	Gold Hydrogen Interest	Applicant	Geologic Area & Basin	Size (km²)	Term	Grant Date	Application Date	Expiry Date	Status	Act
PEL 687	Ramsay	100%	Gold Hydrogen Limited	Stansbury Basin & Kanmantoo Trough	7820	5-years	22/07/21	-	21/07/26	Granted	PGEA 2000
PEL(A) 688	Kanmantoo	100%	Byrock Resources Pty Ltd	Stansbury Basin & Kanmantoo Trough	9962	5-years	-	12/5/21	-	Pending	PGEA 2000
PEL(A) 699	Robe	100%	White Hydrogen Australia Pty Ltd	Padthaway Ridge-Kanmantoo Platform & Otway Basin	9624	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 700	Padthaway	100%	White Hydrogen Australia Pty Ltd	Padthaway Ridge-Kanmantoo Platform & Troubridge Basin Basin	9748	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 701	Troubridge	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Troubridge Basin	9750	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 702	Renmark	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Renmark Trough	9563	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 703	Boucat	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Renmark Trough	9015	5-years	-	3/8/22	-	Pending	PGEA 2000
PEL(A) 704	Baratta	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Renmark Trough	9850	5-years	-	19/7/21	-	Pending	PGEA 2000
GSEL(A) 755	Maitland	100%	Gold Hydrogen Limited	Stansbury Basin	2470	5-years	-	28/4/22	-	Pending	PGEA 2000
GSEL(A) 756	Yorketown	100%	Gold Hydrogen Limited	Stansbury Basin	2272	5-years	-	28/4/22	-	Pending	PGEA 2000
GSEL(A) 757	Flinders	100%	Gold Hydrogen Limited	Kanmantoo Trough	1780	5-years	-	28/4/22	-	Pending	PGEA 2000
GSEL(A) 758	Penneshaw	100%	Gold Hydrogen Limited	Kanmantoo Trough	1585	5-years	-	28/4/22	-	Pending	PGEA 2000

Gold Hydrogen will have 100% ownership of its projects at Completion either directly or through its subsidiaries. This 100% ownership interest across the tenements and applications provides Gold Hydrogen with flexibility in terms of timing and approach to exploration and any subsequent development of delineated Natural Hydrogen Reserves.

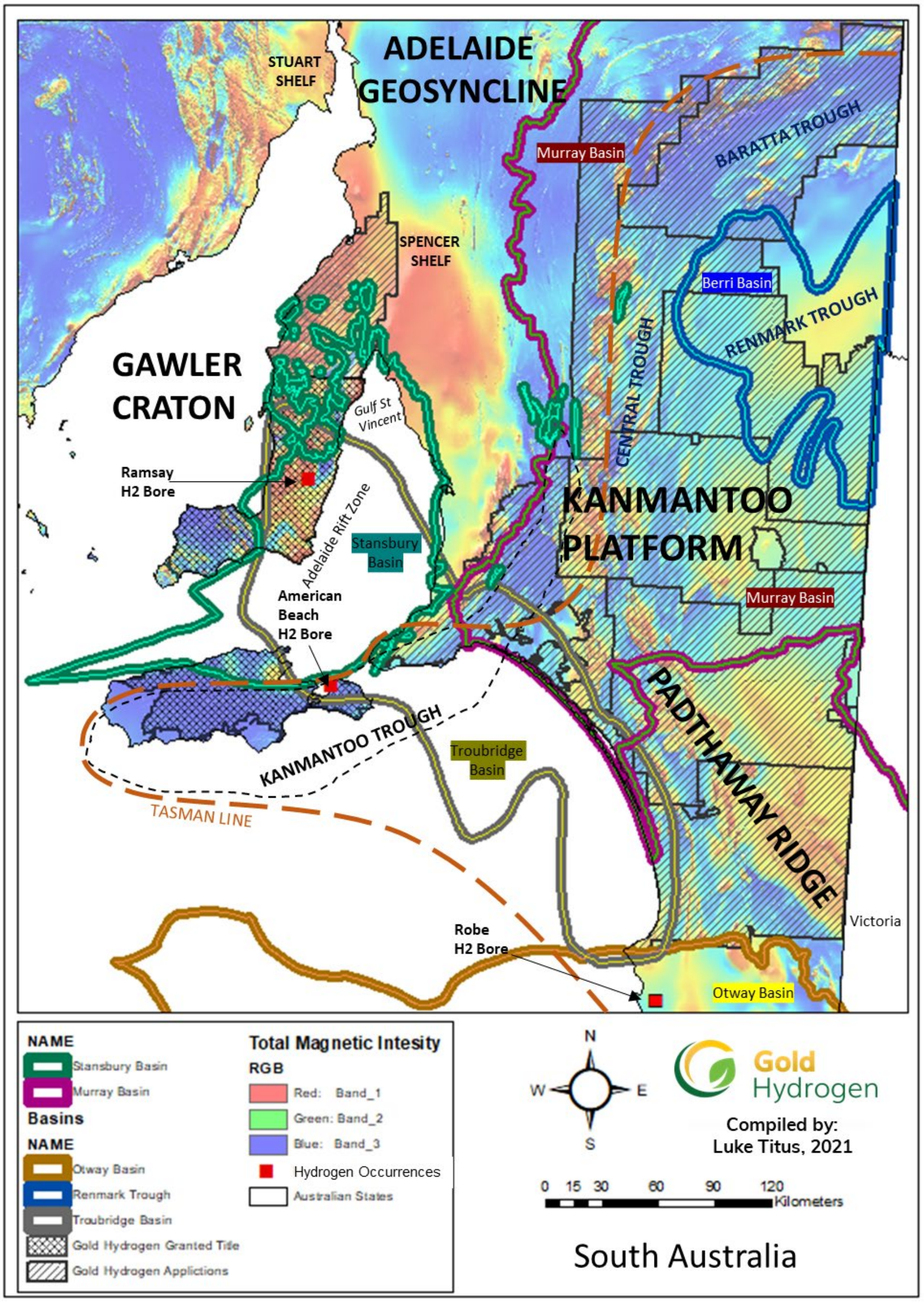
The term of each licence is five (5) years. Gold Hydrogen will either apply for production licences over selected portions of the permit area (subject to satisfactory exploration results), apply to renew the licence for a further five (5) year exploration period or relinquish the licence.

(b) Gold Hydrogen Prospective Resource

Gold Hydrogen's research identified a potential Natural Hydrogen system in the Stansbury Basin, Troubridge Basin, St. Vincent Basin, Otway Basin, Berri Basin and Murray Basin, the Kanmantoo Trough, Baratta Trough, Central Trough, Renmark Trough and Padthaway Ridge of the Kanmantoo Platform (see Figure 2). Gold Hydrogen's PEL, PELAs and GSELAs cover approximately 83,439 km^2 over this potential Natural Hydrogen system.

This is based upon historic occurrences of Natural Hydrogen in the Ramsay Oil Bore 1 and American Beach Oil 1.

Figure 2 – Location of the Stansbury Basin, Troubridge Basin, St. Vincent Basin, Otway Basin, Berri Basin and Murray Basin and the Kanmantoo Trough, Baratta Trough, Central Trough and Renmark Trough located on the Kanmantoo Platform.



(c) Gold Hydrogen Granted PEL 687

PEL 687 was granted over approximately 7,820 km² on 21 July 2021 with a five-year first term. It is unaffected by Native Title and an independently assessed Unrisked[9] Prospective Resource Best Estimate for PEL 687 of 1.3 billion kilograms of Natural Hydrogen was determined by the Technical Expert in October 2021 (see Table B below).

Table B – Gold Hydrogen's Reserves Statement – see Note 1.

Gold Hydrogen: Prospective Resources* of Hydrogen in '000 Tonnes - 30 September 2021									
PEL	Prospects	SPE PRMS Sub-class	1U Low Estimate	2U Best Estimate	Mean	3U High Estimate	Pg	Pd	Pc
PEL 687	All Prospects and Leads		207	1313	4187	8820	22%	48%	10%
Yorke Peninsula									
PEL 687	Ramsay FB	Prospect	124	931	2712	6989	22%	50%	11%
PEL 687	Ramsay Lst	Prospect	10	70	191	492	26%	50%	13%
PEL 687	Maitland	Lead	7	26	40	92	17%	35%	6%
Kangaroo Island									
PEL 687	Navigator	Lead	34	152	280	678	19%	40%	8%
PEL 687	Kanmantoo	Prospect	32	134	237	569	25%	40%	10%

** This estimate of Natural Hydrogen Prospective Resources must be read in conjunction with the cautionary statement on page 11 that the estimated quantities of Natural Hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable Natural Hydrogen.*

Notes:

1. *This Reserves Statement presents Gold Hydrogen's Prospective Resources. Gold Hydrogen currently has no Reserves and no Contingent Resources.*
2. *Estimates are assessed to comply with the ASX Listing Rules for Prospective Resources and SPE-PRMS 2018 with the understanding that naturally occurring hydrogen may be considered a hydrocarbon since it has energy content and can be used stand alone and/or blended with sales gas. "U" implies Prospective Resources.*
3. *Per ASX Listing Rules 5.28.4 and 5.28.5 estimates are unrisked and aggregated arithmetically by category, hence caution that the aggregate low estimate may be a very conservative estimate and the aggregate high estimate may be a very optimistic estimate due to the portfolio effects of arithmetic summation.*
4. *Probabilistic methods are used to prepare the estimates. The distribution of the estimates is the "full distribution" and has not been truncated by application of the MEPS (minimum economic pool size concept).*
5. *The Reference Point is at the wellhead/edge of lease (ie wellhead facilities) so the estimates have no deduction for flare, vent or fuel consumed in operations.*
6. *Pg (Chance of Geologic Discovery), Pd (Chance of Development) and Pc (Chance of Commerciality = Pg x Pd) are calculated as a weight average of the P50's of the H2 ('000 Tonnes) of the prospects.*
7. *Pg incorporates Play Risk and Prospect Risk.*
8. *Pd incorporates an assessment across all SPE-PRMS Commerciality Criteria (i.e. not just economics).*
9. *Information in the table and throughout the Report is rounded. Some totals in the tables may not add due to rounding.*
10. *Gold Hydrogen owns 100% of PEL 687 which has been issued under South Australian legislation.*
11. *This reserves statement:*
    a. *is based on, and fairly represents, information and supporting documentation prepared by the qualified petroleum reserves and resources evaluators listed in note 14 of this reserves statement. Details of each qualified petroleum reserves and resources evaluator's employment and professional organisation membership are set out in note 14 of this reserves statement; and*
    b. *has been approved by Luke Titus, who is a qualified petroleum reserves and resources evaluator and whose employment and professional organisation membership details are set out in note 14 of this reserves statement; and*
    c. *is issued with the prior written consent of Luke Titus and Teof Rodrigues & Associates (Teof Rodrigues, Paul Strong, and Greg Horton, whose employment and professional organisation membership details are set out in note 14 of this reserves statement) as to the form and context in which the estimated Natural Hydrogen resources and the supporting information are presented.*
12. *There is no change to information or additional information, since the Effective Date of 30 September 2021, that Gold Hydrogen and TRA are aware of that would materially change the estimates in this reserves statement.*
13. *Gold Hydrogen engages independent experts TRA to evaluate reserves and resources.*
14. *Qualified Petroleum Reserves and Resources Evaluators are:*

Name	Employer	Professional organisation
Luke Titus	Gold Hydrogen	SPE
Teof Rodrigues	Teof Rodrigues & Associates (TRA)	SPE
Paul Strong	Teof Rodrigues & Associates	GSL, AAPG, PESA
Greg Horton	Teof Rodrigues & Associates	SPE

[9] 'Unrisked' means that no risk factors have been applied to allow for risks associated with the chance of geological discovery, the chance of development, and the chance of commerciality. A detailed summary of key risks is set out in Section 5 of this Prospectus.

The Technical Expert Report documents, among other things, that in the 1920s and 1930s, Natural Hydrogen occurrences in PEL 687 were reported during unsuccessful ventures looking to discover oil. Gases were sampled by the State of South Australia at the rig site and by later laboratory analysis it was determined that these gases had a very high Natural Hydrogen content between 66% and 89% (see Table C). The rest of the gas was determined to be mostly nitrogen with minor amounts of methane and carbon dioxide (refer to the Technical Expert Report in Annexure A).

Drilling occurred to depths between 187m and 290m at the American Beach Oil 1 Well, and between 240m and 508m at the Ramsay Oil Bore 1 Well. Natural Hydrogen content increased significant as depth increased. Gold Hydrogen believes potential for deeper Natural Hydrogen sources and Reservoirs exist at untested depths.

Table C – Hydrogen composition for Ramsay Oil Bore 1 and American Beach Oil 1. See Table 6 of Annexure A for more detail on these values.

	American Beach Oil 1 Well		Ramsay Oil Bore 1 Well		
Depth (m)	187.4	**289.5**	240.8	262.1	**507.8**
H_2 (%) – sample composition	51.3	**68.6**	76.0	64.4	**84.0**
H_2 (%) – Air corrected values	65.6	**83.3**	76.0	73.1	**89.3**

The historical data reported in this Prospectus was obtained from gas samples taken from American Beach Oil 1 in 1922 at least six months after the Well was drilled in 1921, and from Ramsay Oil Bore 1 in 1931. The Wells were drilled in the process of exploring for hydrocarbons (oil), which were not discovered in any phase. Consequently, due to the age of the Wells, available technology at that time and Natural Hydrogen not being the focus of either exploration Well, the reported data regarding Natural Hydrogen from the Wells is limited to the testing conducted on the captured gas samples.

The following tables (aligned with ASX Listing Rule 5.30) provide information regarding the American Beach Oil 1 Well, the Ramsay Oil Bore 1 Well and also the Gravestock 1 Well, which is the most recent Well to be drilled on Yorke Peninsula in 2007. The data obtained from these Wells has been used in assessing the Natural Hydrogen Prospective Resource in PEL 687.

Table D – Ramsay Oil Bore 1 Well Information

a)	The name and type of Well	Ramsay Oil Bore 1; exploration Well drilled in 1931.
b)	The location of the Well and the details of the permit or lease in which the Well is located	The Well is within PEL 687 located at Lat(S) 34° 45' 54.7786", Long(E) 137° 43' 04.9478".
c)	The entity's working interest in the Well	Gold Hydrogen has no direct interest in the Well, other than its historic data. Also, while the Well is located within PEL 687, which is 100% owned by Gold Hydrogen, Gold Hydrogen proposes to drill new Wells.
d)	If the gross pay thickness is reported for an interval of conventional resources, the net pay thickness	Gross pay thickness of the Well has not been reported.
e)	The geological rock type of the formation drilled	The Well is drilled through clays and Carbonates rocks.
f)	The depth of the zones tested	No testing data is available or reported for the Well; it is unlikely that any pressure or flow testing was undertaken in 1931. Historical reported gas analysis data was obtained from gas samples recovered from the drilling fluid at 240.8m, 262.1m and 507.8m and later tested by South Australian Government geologists.
g)	The types of test(s) undertaken and the duration of the test(s)	There is no reported record of tests undertaken or their duration. The historical data presented in this Prospectus was obtained from laboratory analysis of gas samples taken at the Well site reported by South Australian Government geologists.
h)	The hydrocarbon phases recovered in the test(s)	The Well was drilled in the course of oil exploration. However, no hydrocarbon phases were reported in the drilling of the Well. During drilling gas was observed and captured and later analysed.
i)	Any other recovery, such as, formation water and water, associated with the test(s) and their respective proportions.	While historical reports indicate that water and sludge was present, there is no reported recovery of water and only gas samples were taken.
j)	The choke size used, the flow rates and, if measured, the volumes of the hydrocarbon phases measured	Chokes were not in use at the time the Well was drilled and there is no reported record of flow rates taken at the time the Well was drilled. There were no hydrocarbon phases reported and accordingly it is assumed that there were no hydrocarbon phases to measure.

k) If applicable, the number of fracture stimulation stages and the size and nature of fracture stimulation applied	Not applicable.
l) Any material volumes of non-hydrocarbon gases, such as, carbon dioxide, nitrogen, hydrogen sulphide and sulphur	The gas samples captured in the drilling of the well contained material quantities of hydrogen gas (as shown in Table C), methane and nitrogen. There were immaterial quantities of gases such as carbon dioxide and oxygen.
m) Any other information that is material to understanding the reported results.	The historical data reported in this Prospectus was obtained from gas samples taken during and after drilling of the Well in 1931 in the process of exploring for oil, which was not discovered. Consequently, due to the age of the Well, available technology and Natural Hydrogen not being the focus of the exploration, the reported data regarding Natural Hydrogen from the Well is limited to the sample testing conducted on the captured gas at that time.

Table E – American Beach Oil 1 Well Information

a) The name and type of Well.	American Beach Oil 1; exploration Well drilled in 1921.
b) The location of the Well and the details of the permit or lease in which the Well is located	The well is within PEL 687 located at Lat(S) 35° 47' 14.6776", Long(E) 137° 51' 44.2828".
c) The entity's working interest in the Well	Gold Hydrogen has no direct interest in the Well, other than its historic data. Also, while the Well is located within PEL 687, which is 100% owned by Gold Hydrogen, Gold Hydrogen proposes to drill new Wells.
d) If the gross pay thickness is reported for an interval of conventional resources, the net pay thickness	Gross pay thickness of the Well has not been reported.
e) The geological rock type of the formation drilled	The Well is drilled through clays, Carbonates and Basement crystalline rocks.
f) The depth of the zones tested.	No testing data is available or reported for the Well; it is unlikely that any pressure or flow testing was undertaken in 1921. Historical reported gas analysis data was obtained from gas samples recovered at 187.4m and 289.5m and tested by South Australian Government geologists.
g) The types of test(s) undertaken and the duration of the test(s)	There is no reported record of tests undertaken or their duration. The historical data presented in this Prospectus was obtained from laboratory analysis of gas samples taken at the Well site reported by South Australian Government geologists.
h) The hydrocarbon phases recovered in the test(s)	The Well was drilled in the course of oil exploration. However, no hydrocarbon phases were reported in the drilling of the Well. Inflammable gas was reported from the bore after drilling which led to samples of the gas being captured and analysis by the South Australian Government.
i) Any other recovery, such as, formation water and water, associated with the test(s) and their respective proportions.	While historical reports indicate that water and sludge was present, there is no reported recovery of water and only gas samples were taken.
j) The choke size used, the flow rates and, if measured, the volumes of the hydrocarbon phases measured	Chokes were not in use at the time the Well was drilled and there is no reported record of flow rates taken at the time the Well was drilled. There were no hydrocarbon phases reported and accordingly it is assumed that there were no hydrocarbon phases to measure.
k) If applicable, the number of fracture stimulation stages and the size and nature of fracture stimulation applied	Not applicable.
l) Any material volumes of non-hydrocarbon gases, such as, carbon dioxide, nitrogen, hydrogen sulphide and sulphur	The gas samples captured in the drilling of the Well contained material quantities of hydrogen gas (as shown in Table C) and nitrogen. There were immaterial quantities of gases such as methane carbon dioxide, oxygen and ethylene.
m) Any other information that is material to understanding the reported results.	The historical data reported in this Prospectus was obtained from gas samples taken in 1922 at least six months after the Well was drilled in 1921. The Well was drilled in the process of exploring for oil, which was not discovered. Consequently, due to the age of the Well, available technology and Natural Hydrogen not being the focus of the exploration, the reported data regarding Natural Hydrogen from the well is limited to the sample testing conducted on the captured gas at that time.

Table F – Gravestock 1 Well Information

a) The name and type of Well.	Gravestock 1; exploration Well drilled in 2007.
b) The location of the Well and the details of the permit or lease in which the Well is located	The Well is within PEL 687 located at Lat(S) 35° 05' 31.91"; Long(E) 137° 32' 04.37”
c) The entity's working interest in the Well	Gold Hydrogen has no direct interest in the Well, other than its historic data. Also, while the Well is located within PEL 687, which is 100% owned by Gold Hydrogen, Gold Hydrogen proposes to drill new Wells.
d) If the gross pay thickness is reported for an interval of conventional resources, the net pay thickness	No pay thickness of the Well has been reported. However, petrophysical interpretation of the wireline log data indicates possible gas pay in the Cambrian Parara Limestone over the interval 691m to 699m, although no gas was recorded during drilling.
e) The geological rock type of the formation drilled	The Well is drilled through clays, Carbonates and Basement crystalline rocks.
f) The depth of the zones tested	No testing occurred.
g) The types of test(s) undertaken and the duration of the test(s)	No tests were undertaken.
h) The hydrocarbon phases recovered in the test(s)	No tests were undertaken.
i) Any other recovery, such as, formation water and water, associated with the test(s) and their respective proportions	No tests were undertaken.
j) The choke size used, the flow rates and, if measured, the volumes of the hydrocarbon phases measured	No tests were undertaken.
k) If applicable, the number of fracture stimulation stages and the size and nature of fracture stimulation applied	Not applicable.
l) Any material volumes of non-hydrocarbon gases, such as, carbon dioxide, nitrogen, hydrogen sulphide and sulphur	Not applicable.
m) Any other information that is material to understanding the reported results.	The wireline logs show the basal 8m (26ft) of the Parara Limestone is a highly porous dolomitic sandstone, with log values ranging from 15% to 25%. The petrophysical interpretation suggests that gas was present, although no gas shows were recorded during drilling. This could be because the gas was Natural Hydrogen rather than methane, with the mudlogging unit not set up for recording the presence of Natural Hydrogen.

(d) Natural Hydrogen occurrences

Natural Hydrogen, also known as molecular hydrogen, gold hydrogen or white hydrogen, is present in a range of geological environments and can be classified into three main types:

- Natural Hydrogen as a Free gas in various environments;
- Fluid inclusions in various rock types; and
- Dissolved gas in various types of Ground water.

A review of recent research and works undertaken by Viacheslav Zgonnik, CEO of US based exploration company Natural Hydrogen Energy Ltd, conclusively demonstrated that Natural Hydrogen is more widespread in nature than was previously thought.[10]

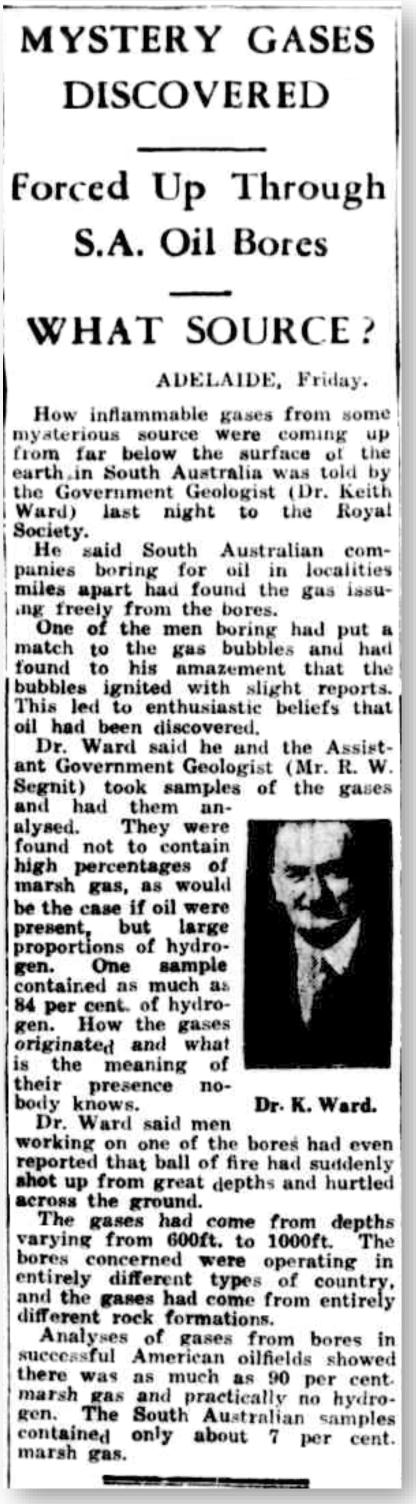
Once generated in these environments, Natural Hydrogen gas can remain and Accumulate further in the Natural Hydrogen Source rocks or Accumulate through Migration from the Source rock to become Trapped and Sealed in certain Reservoir types (and under various Structural setting or Stratigraphic settings).

[10] *Viacheslav Zgonnik, The occurrence and geoscience of natural hydrogen: A comprehensive review, Earth-Science Reviews, Volume 203, 2020. This author has not provided their consent for this statement to be included in this Prospectus.*

In South Australia, Non-air corrected Natural Hydrogen gas was reported during drilling operations in the 1920s and 1930s. "*Bulletin No. 22, Department of Mines, Geological Survey of South Australia, The Search for Oil in South Australia*", *by Keith Ward, Consultant Geologist*, documents the occurrences of Natural Hydrogen from both the Cambrian Stansbury Basin Stratigraphy overlying the Basement Source rocks and the Basement Source rock itself. Samples taken by the South Australia state geologist, Keith Ward resulted in up to 80% Natural Hydrogen gas (see Table C and Figure 3). The results were publicised at the time (see Figure 4).

Figure 3 – South Australia State geologist Keith Ward, took samples for compositional analysis that resulted >80% Non-air corrected Natural Hydrogen gas at the Ramsay Oil Bore 1.

*Figure 4 – Clipping from Barrier Miner (Broken Hill, NSW) from 1932. Source: National Library of Australia.**



MYSTERY GASES DISCOVERED

Forced Up Through S.A. Oil Bores

WHAT SOURCE?

ADELAIDE, Friday.

How inflammable gases from some mysterious source were coming up from far below the surface of the earth in South Australia was told by the Government Geologist (Dr. Keith Ward) last night to the Royal Society.

He said South Australian companies boring for oil in localities miles apart had found the gas issuing freely from the bores.

One of the men boring had put a match to the gas bubbles and had found to his amazement that the bubbles ignited with slight reports. This led to enthusiastic beliefs that oil had been discovered.

Dr. Ward said he and the Assistant Government Geologist (Mr. R. W. Segnit) took samples of the gases and had them analysed. They were found not to contain high percentages of marsh gas, as would be the case if oil were present, but large proportions of hydrogen. One sample contained as much as 84 per cent. of hydrogen. How the gases originated and what is the meaning of their presence nobody knows.

Dr. K. Ward.

Dr. Ward said men working on one of the bores had even reported that ball of fire had suddenly shot up from great depths and hurtled across the ground.

The gases had come from depths varying from 600ft. to 1000ft. The bores concerned were operating in entirely different types of country, and the gases had come from entirely different rock formations.

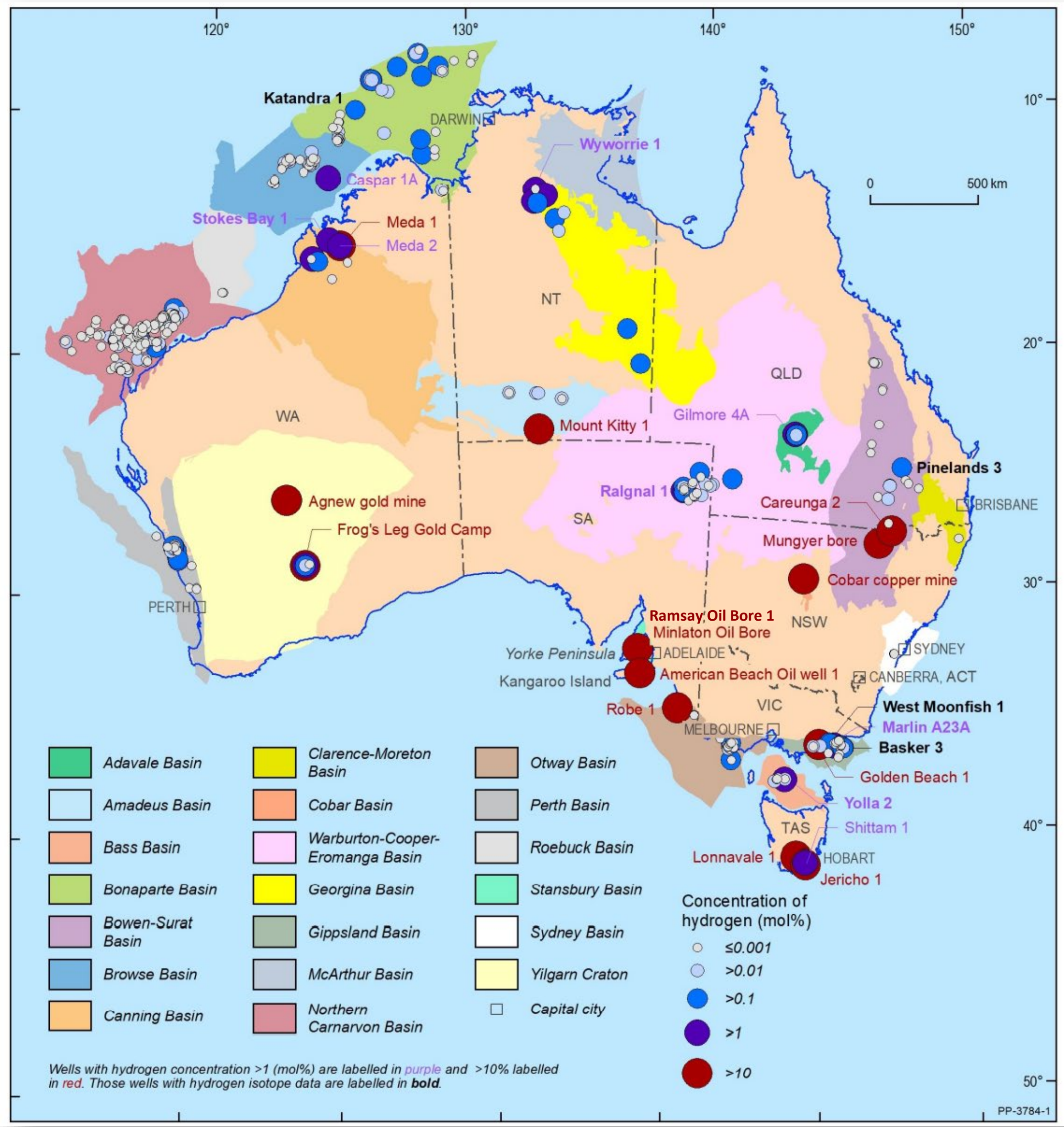
Analyses of gases from bores in successful American oilfields showed there was as much as 90 per cent. marsh gas and practically no hydrogen. The South Australian samples contained only about 7 per cent. marsh gas.

* *This author has not provided their consent for any statement to be included in this Prospectus.*

Natural Hydrogen gas has already been discovered and put to use in Mali, West Africa, where it has generated electricity for the village of Bourakebougou since 2012. A water Well drilled in 1987 produced an unidentified non-hydrocarbon gas to surface. In 2011, a new Well was drilled, nearby, and Natural Hydrogen gas was discovered. Natural Hydrogen from this Well has been used to power a fuel cell that generates power for the village. The company, Hydroma Inc, is a Canadian leader in the development of large-scale clean hydrogen projects and has since commenced with further Geophysical works, drilled further Wells, and continues to develop this Natural Hydrogen resource.

The generation of the Natural Hydrogen gas in South Australia is most likely to be through either Hydrolysis and/or Radiolysis in the Earth's crust. A paper titled "*Hydrogen in Australian natural gas: occurrences, sources and resources*" published in The Australian Petroleum Production and Exploration Association (**APPEA**) Journal 2021, 61. 163-191 (Boreham et al., 2021)[11] discusses occurrences, sources, and sinks (see Figure 5).

Figure 5 – Australia Natural Hydrogen gas occurrences showing the location of named Wells or Bores, modified from Boreham et al., 2021 by Luke Titus, 2021.



[11] Boreham Christopher J., Edwards Dianne S., Czado Krystian, Rollet Nadege, Wang Liuqi, van der Wielen Simon, Champion David, Blewett Richard, Feitz Andrew, Henson Paul A. (2021) Hydrogen in Australian natural gas: occurrences, sources and resources. The APPEA Journal 61, 163-191. This author has not provided their consent for any statement to be included in this Prospectus.

The same paper, also highlighted how Natural Hydrogen is produced:

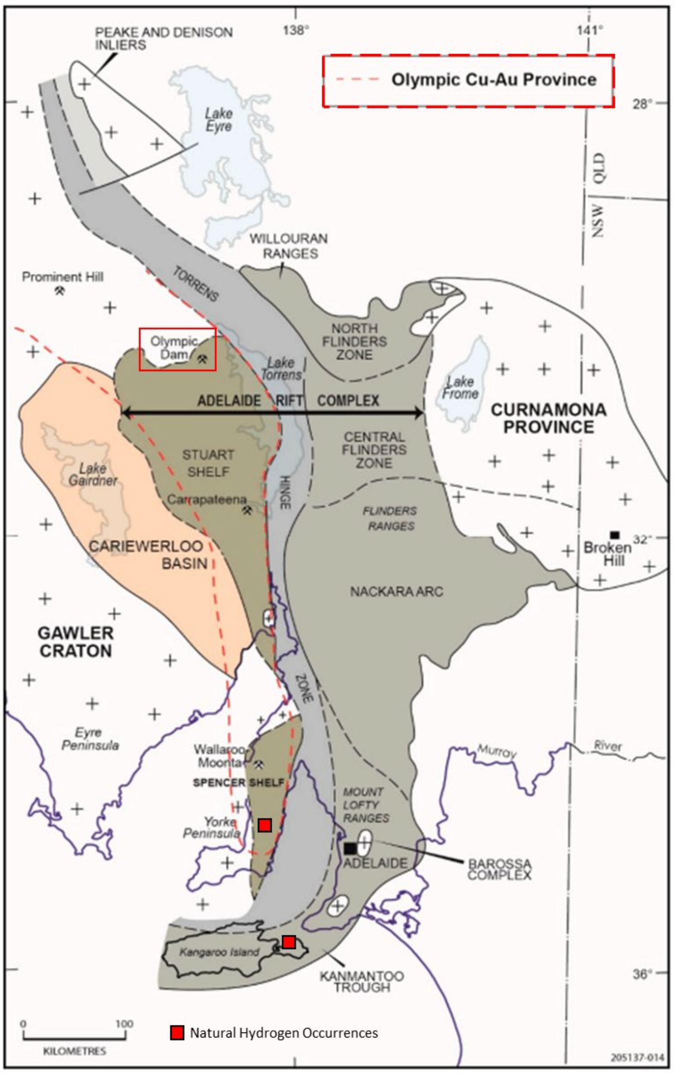
- For Hydrolysis: a key requirement is an abundance of water, like an ocean, and Iron-rich rocks like Hematite, which is essential because its reaction with water forms Magnetite and releases Natural Hydrogen as a gas for example.
- For Radiolysis: a key requirement is the presence of Uranium, Vanadium, or Potassium to provide the Ionizing radiation at depth, and again plenty of water, like an ocean.

Within the same paper, a case study was highlighted - *'Case study 2: Gawler Craton-Stansbury Basin, SA'* - which details the Natural Hydrogen gas occurrences within PEL 687 and recommends further evaluation of the resource potential.

The presence of ancient Iron-rich and natural Ionizing radiating Basement rocks within the Adelaide Superbasin of the Stuart Shelf and beneath PEL 687 have favourable characteristics for potential Hydrolysis and/or Radiolysis.

These Basement rocks are the same as those extracted at the Olympic Dam Mine, which is one of the world's largest IOGC-U deposits found to the north of PEL 687 and is discussed in detail by Anthony Reid in "*The Olympic Cu-Au Province, Gawler Craton: A Review of the Lithospheric Architecture, Geodynamic Setting, Alteration Systems, Cover Successions and Prospectivity, 2019*" (Reid, 2019)[12] (See, Figure 6).

Figure 6 – Location of the Spencer Shelf and other subdivisions of the Adelaide Superbasin with respect to the Gawler Craton and Curnamona Province, modified from Reid, 2019 by Luke Titus, 2021.

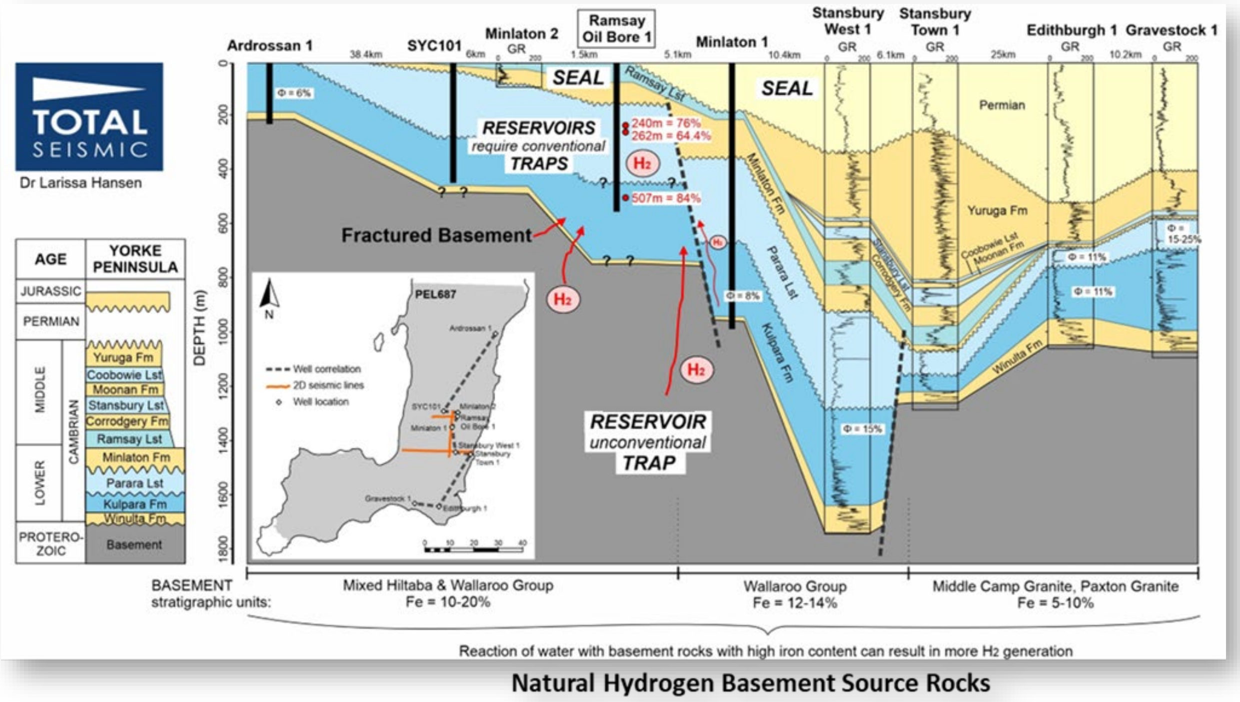


[12] *The Olympic Cu-Au Province, Gawler Craton: A Review of the Lithospheric Architecture, Geodynamic Setting, Alteration Systems, Cover Successions and Prospectivity, Anthony Reid, Geological Survey of South Australia, Department for Energy and Mining, Adelaide, SA 5001, Australia; Department of Earth Sciences, University of Adelaide, Adelaide, SA 5005, Australia, 2019. This author has not provided their consent for any statement to be included in this Prospectus.*

Overlying the ancient Basement rocks and Adelaide Superbasin is the Cambrian Stansbury Basin. This extensional, Faulted and now deformed Basin sat for long periods of time near the Paleo-equator, where high temperatures and evaporation of seawater, like the Dead Sea near Israel, deposited multiple cycles of Evaporites, Shales, Sandstones, and Carbonate rocks.

The historic drilling of the Ramsay Oil Bore 1 penetrated and recorded occurrences of Natural Hydrogen gas in the Stansbury Basin Stratigraphy of the Parara Limestone (drilling at 240m and 262m) and Kulpara Formation (drilling at 507m) based upon historic records. These results suggest these rocks have likely acted as local Seals on the Yorke Peninsula that overlay the local Natural Hydrogen Basement Source rocks (see Figure 7).

Figure 7 – Seismic and Stratigraphic ties of selected Wells on PEL 687 Yorke Peninsula and the location of historical Natural Hydrogen gas occurrences from the Stansbury Basin Parara Limestone and Kulpara Formation penetrated Ramsay Oil Bore 1.



The American Beach Oil 1 penetrated both the Troubridge Basin and Stansbury Basin Stratigraphy before recording Natural Hydrogen gas from local Tectonically Fractured Basement rocks based upon historic records. These results suggest these Basement rocks are likely acting as both a Natural Hydrogen Source rock and Reservoir locally.

The generated Natural Hydrogen can also seep to the surface and its expressions, known as "fairy circles" or seeps, are proxies for exploration.

(e) Natural Hydrogen Systems

Based upon the above research, Gold Hydrogen considers that Natural Hydrogen generates from a Source rock, Migrates from the Source rock, and can become Trapped and Accumulates in various types of geological Reservoirs and Structural settings. Table G below summarises the geological Basins and relevance as either a Source rock or Seal of Natural Hydrogen.

As Natural Hydrogen Accumulates into Reservoirs, this creates the potential for a 'Natural Hydrogen system' where the gas can be extracted by conventional or unconventional mechanical approaches that are common to the mature oil and gas industry.

Table G – Ramsay Project geological Basins and relevance to Natural Hydrogen. See Annexure A.

Geological Basin	Geological Eon/Era	Geological Period	Age in millions of years before Present	Relevance to Hydrogen Prospectivity
St Vincent	Cenozoic	Tertiary and Quaternary	~55 to Recent	Seal for reservoir/s
Troubridge	Late Palaeozoic	Permian	~299 to 251	Seal for reservoir/s
Stansbury	Early Palaeozoic	Early to Middle Cambrian	~540 to 510	Seal for reservoir/s. Cambrian Limestone reservoirs.
Spencer Shelf, Torrens Hinge Zone & Kanmantoo Trough	Neoproterozoic		~1000 to 542	Source of hydrogen. Massive Fractured Basement reservoir
Gawler Craton	Archean to Meso-Proterozoic		~3150 to 1450	Source of hydrogen. Massive Fractured Basement reservoir

Below summarises the key factors considered by Gold Hydrogen's senior management to be important for the presence of a Natural Hydrogen system. These factors are considered alongside the key characteristics of the Ramsay Project located in PEL 687 (see Table H).

Table H – Key factors for a Natural Hydrogen system for the Ramsay Project.

	Key Success Factor	Ramsay Project	
Source & Generation	The optimal geological conditions for the natural formation of Natural Hydrogen gas revolve primarily around the Hydrolysis and Radiolysis reactions in old rocks	Ramsay Project is ideally located at the Gawler craton of South Australia, where Radiolysis and Hydrolysis reactions of Iron-rich rocks are ongoing creating Natural Hydrogen	✔
Seals & Traps	As with traditional oil and gas, the entrapment of the Natural Hydrogen is essential to find commercially viable Accumulations	Ramsay Project contains seals in the Cambrian Stratigraphy including tight limestones that overlie the Basement Source rocks. These Seals were penetrated by the historic Wells that encountered Natural Hydrogen	✔
Structure	Ideally the host rocks for formation of Natural Hydrogen gas are located along major Structural boundaries in an extensional geological regime where natural fractures exist	Ramsay Project is located on a major Lithospheric boundary and bend in the Tasman Line of the Delamerian Orogeny. Additionally it is within the setting of the Tectonically active horst-graben Adelaide extensional rift	✔
Reservoir	The commerciality of a resource is a function of its Reservoir type, volume (size), depth (accessibility), extraction rate and quality of the Natural Hydrogen content	Ramsay Project Reservoir may extend to 5km depth (with only 50-150m thickness assumed in the Technical Expert Report) with occurrences of up to 84% Natural Hydrogen (89% Air-corrected) from rocks which overlie the Basement Source rocks	✔

(i) Source & Generation

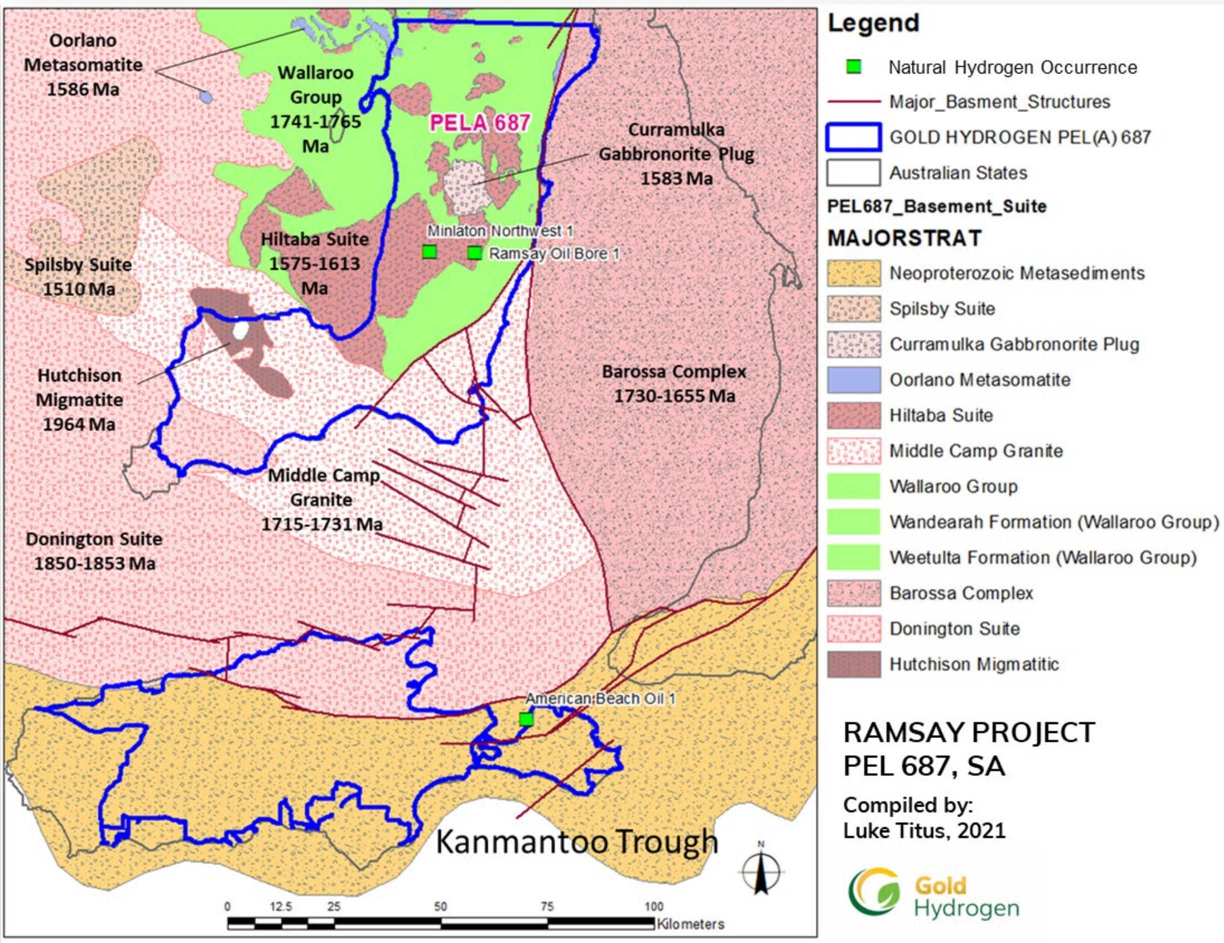
The Ramsay Project is located at the southern end of the Olympic Dam IOGC-U deposit belt and coalesces with a major Lithospheric boundary called the Tasman Line of the Delamerian Orogeny. All are located in the Tectonically active Adelaide Superbasin (See Figure 6).

In the Ramsay Project there are various types of Basement rocks and they are greater than 5-kilometers in thickness based on two dimensional Seismic lines, regional magnetics, and drill hole data (See Figures 8 and 9).

As outlined in Table G, it is indicated that Basement rocks at 540 Ma age or greater can potentially be a source of Natural Hydrogen. A Massive Fractured Basement (MFB) Reservoir is likely made up within the following Basement rocks including:

- The predominantly Sub-cropping Moonta-Wallaroo volcano-sedimentary succession of the Paleoproterozoic Wallaroo Group (~1750 Ma).
- Early Mesoproterozoic granites and mafic rocks of the Hiltaba Suite (~1590 Ma).
- Several gneissic granitoids of the Paleoproterozoic Donnington Suite and Gleesons Landing granite (~1850 Ma), which are uplifted and exposed in the southern part of Yorke Peninsula by Faulting and overlie the Hutchison Migmatite (~2000 Ma).
- The Barossa Complex (~1740 Ma) metamorphic rocks and metasediments that make up eastern edge of the known Gawler Craton. In Outcrop, these rocks are strongly banded parallel to gneissic foliation with minor intrusive granitic, pegmatitic and amphibolitic.
- In the Kanmantoo Trough, Neoproterozoic rocks (1000 Ma) unconformably overlie parts of latter Paleoproterozoic to Mesoproterozoic section or Hutchison Migmatite (See Figure 10).

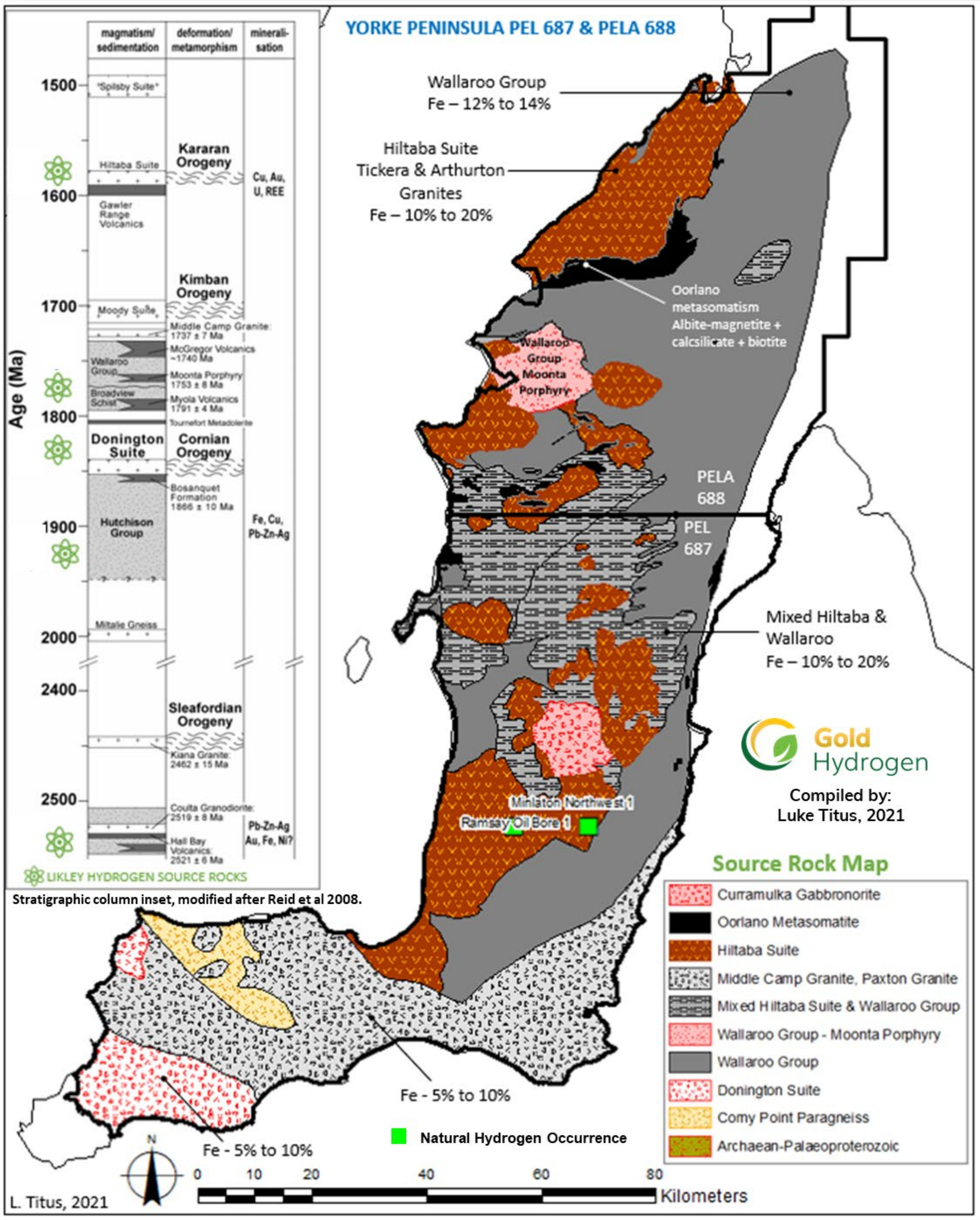
Figure 8 – Ramsay Project major Basement domains. Note the Ramsay Oil Bore 1 is located in the Hiltaba Suite.



The Natural Hydrogen system modelled by Gold Hydrogen considers these Basement rocks as the likely Natural Hydrogen Source rocks locally (see Figure 8). It is further considered that the mixing with large volumes of oxidized brines and/or sea water has or continues to be causing Hydrolysis in association with Radiolysis of minerals which are generating Natural Hydrogen, associated Accumulations and occurrences reported in the Ramsay Oil Bore 1 and American Beach Oil 1.

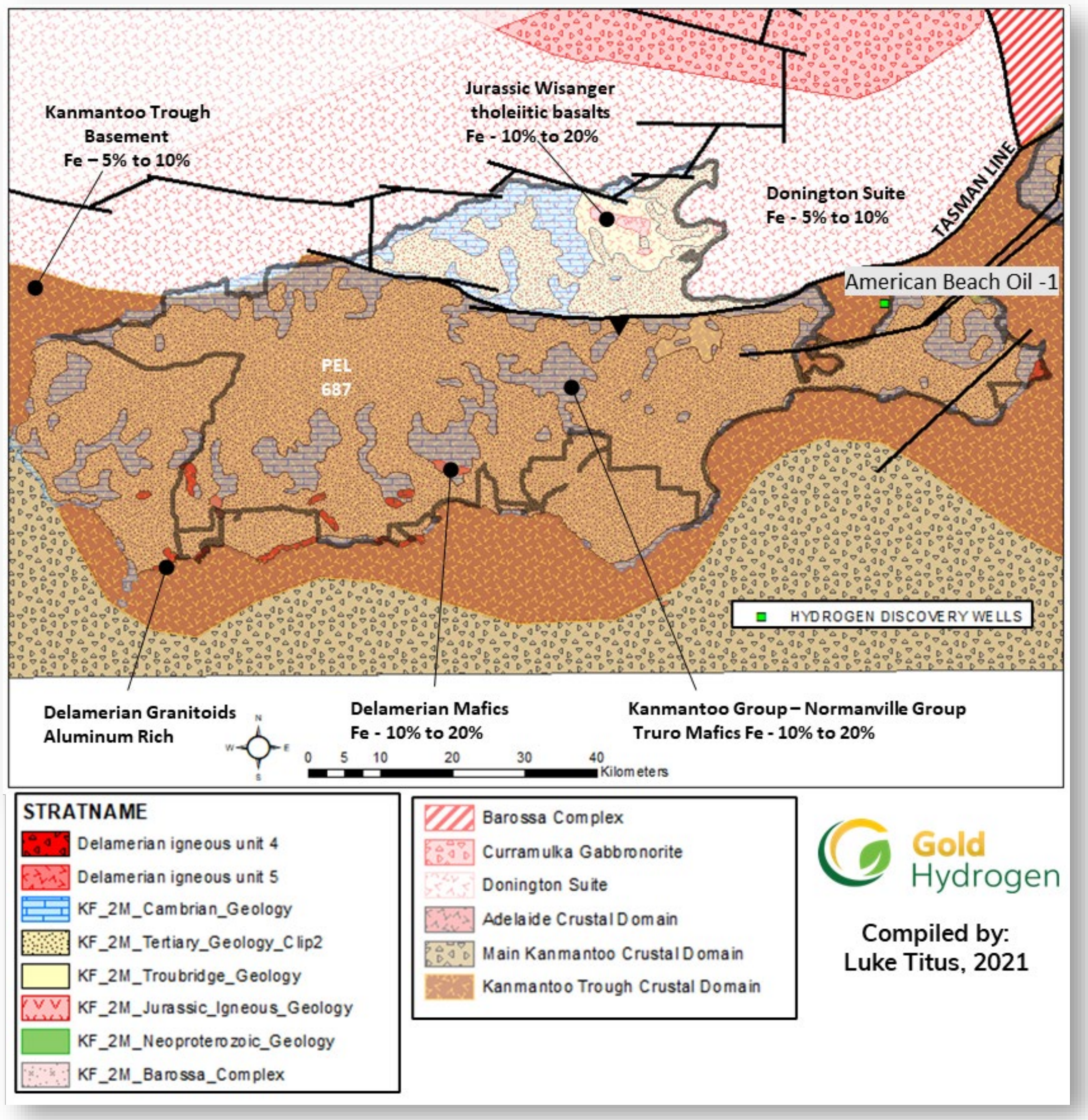
Natural Hydrogen gas is known to occur in fluid inclusions and fractures of some ancient cratons, including the Gawler Craton of the Ramsay Project. Measurements of fluid inclusions from the Gawler Craton area show they contain Natural Hydrogen and helium. This Natural Hydrogen is attributed to the long-term Radiolysis of water due to natural radioactivity generated by the surrounding Basement rocks. Additional studies and Source rock laboratory analysis and gas composition analysis will better support the understanding of Natural Hydrogen gas source and generation.

Figure 9 – Ramsay Project Source rocks of the Yorke Peninsula, Luke Titus, 2021. Stratigraphic column inset: Temporal evolution of the southeastern Gawler Craton, showing magmatic, volcano-sedimentary, deformation/metamorphism and mineralisation events, modified from Reid et al., 2008[13] by Luke Titus, 2021. Note the Ramsay Oil Bore 1 is located on interpreted Hiltaba Suite Stratigraphy on the Yorke Peninsula.



[13] A. Reid, M. Hand, E. Jagodzinski, D. Kelsey & N. Pearson (2008) Paleoproterozoic orogenesis in the southeastern Gawler Craton, South Australia, Australian Journal of Earth Sciences, 55:4, 449-471, DOI: 10.1080/08120090801888594. This author has not provided their consent for any statement to be included in this Prospectus.

Figure 10 – Ramsay Project Source rocks of the Kanmantoo Trough, Luke Titus, 2021. Note the American Beach Oil 1 is located on interpreted Kanmantoo Group Stratigraphy on Kangaroo Island.



(ii) Seals & Traps

As with traditional oil and gas, the entrapment of the Natural Hydrogen is essential to finding commercially viable Accumulations and with Lithologies or Structural Traps that inhibit or lessen the full escape of the Natural Hydrogen over geologic time.

The Stansbury Basin is an early to middle Cambrian Basin. It extends across Yorke Peninsula, Gulf St Vincent, Fleurieu Peninsula and Kangaroo Island in South Australia, and contains up to 6 km of Cambrian sedimentary rocks. The Stratigraphy (see Figure 12) of Stansbury Basin of PEL 687 formed approximately 500 Ma likely creates Seals above the various Basement Natural Hydrogen Source rocks based upon reported Natural Hydrogen occurrences in the historic Ramsay Oil Bore 1 and American Beach Oil 1 (see Figures 13 and 14).

Local successions of Conglomerates, Siliciclastics, Carbonates, Shales, and Evaporites can act as a Seal to varying degrees for trapping Natural Hydrogen, but the Evaporites, as noted in the Minlaton-1 core and approximately 5 km south of Ramsay Oil Bore 1, are the most effective irrespective of the natural gas type and Structural setting. Further drilling and certain laboratory analysis of rocks in the Ramsay Project will support a better understanding of Trap and Seal potential.

Figure 11 – Location of potential Seals associated with the Ramsay Project, Cambrian Stansbury Basin Yorke Peninsula.

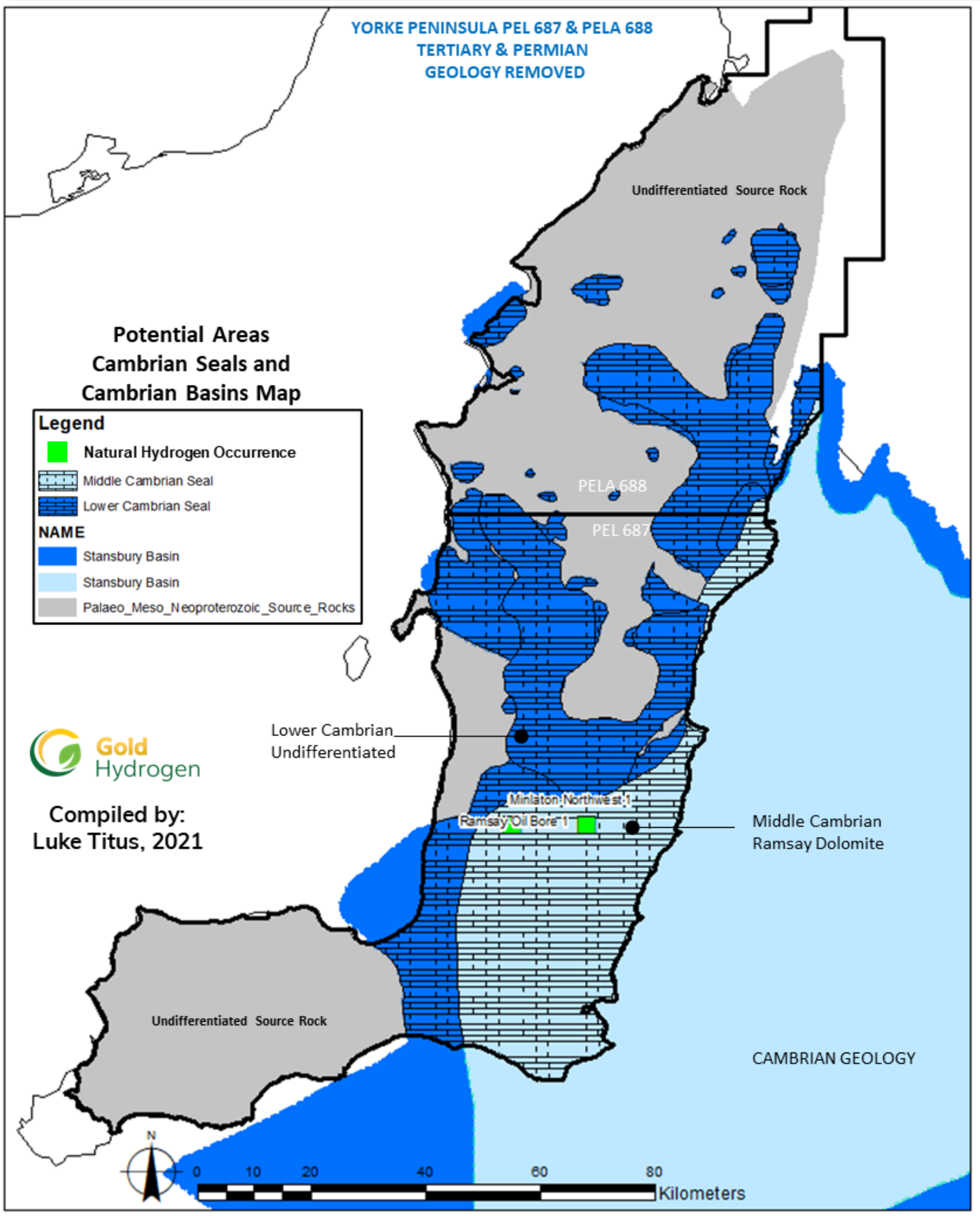
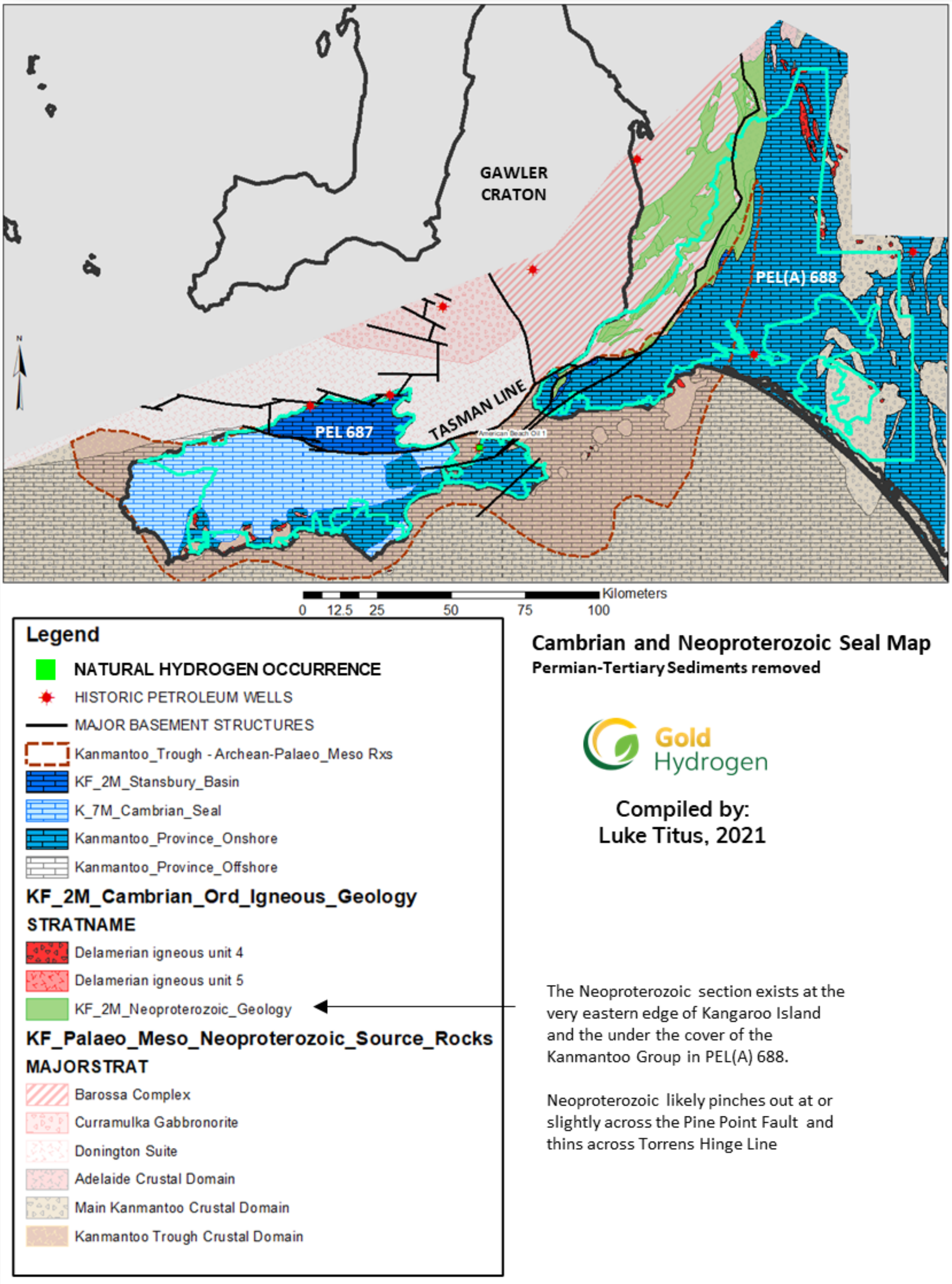


Figure 12 – Location of potential Seals associated with the Ramsay Project, Kanmantoo Trough.

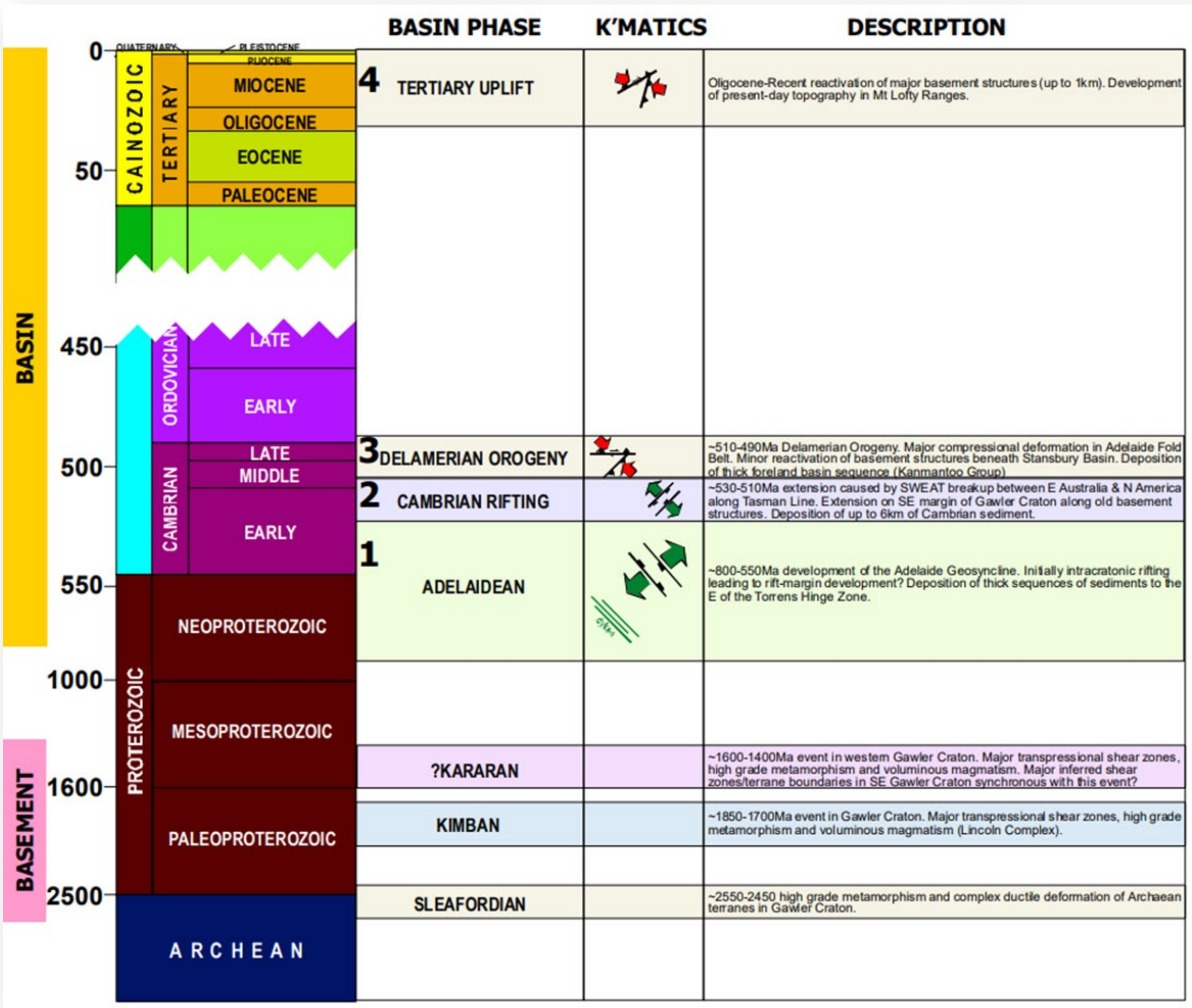


(iii) Structure

The Ramsay Project is located on a major Lithospheric boundary, a major bend in the Tasman Line of the Delamerian Orogeny and within the setting of the Adelaide Superbasin.

The present-day Structural geometry of the Cambrian Stansbury Basin is the result of the Superposition of four major Tectonic Basin phases spanning the late Neoproterozoic to Recent. The Tectonic history of the Stansbury Basin and the underlying Basement is detailed in Figure 13.

Figure 13 – Tectonic history of the Stansbury Basin and the underlying Basement, modified by Luke Titus, 2021.



Stresses operating during these Tectonic phases caused reactivation of Basement Structures (see Figure 14), as well as the development of new geological Structures (as shown on Figure 7) and current Basin configuration (see Figure 15). Additional airborne Gravity-magnetic surveys and a considerable number of additional Seismic lines will be necessary to better understand the full onshore Structure of the Ramsay Project.

Figure 14 – Basement structures of the Ramsay Project Stansbury Basin, SA.

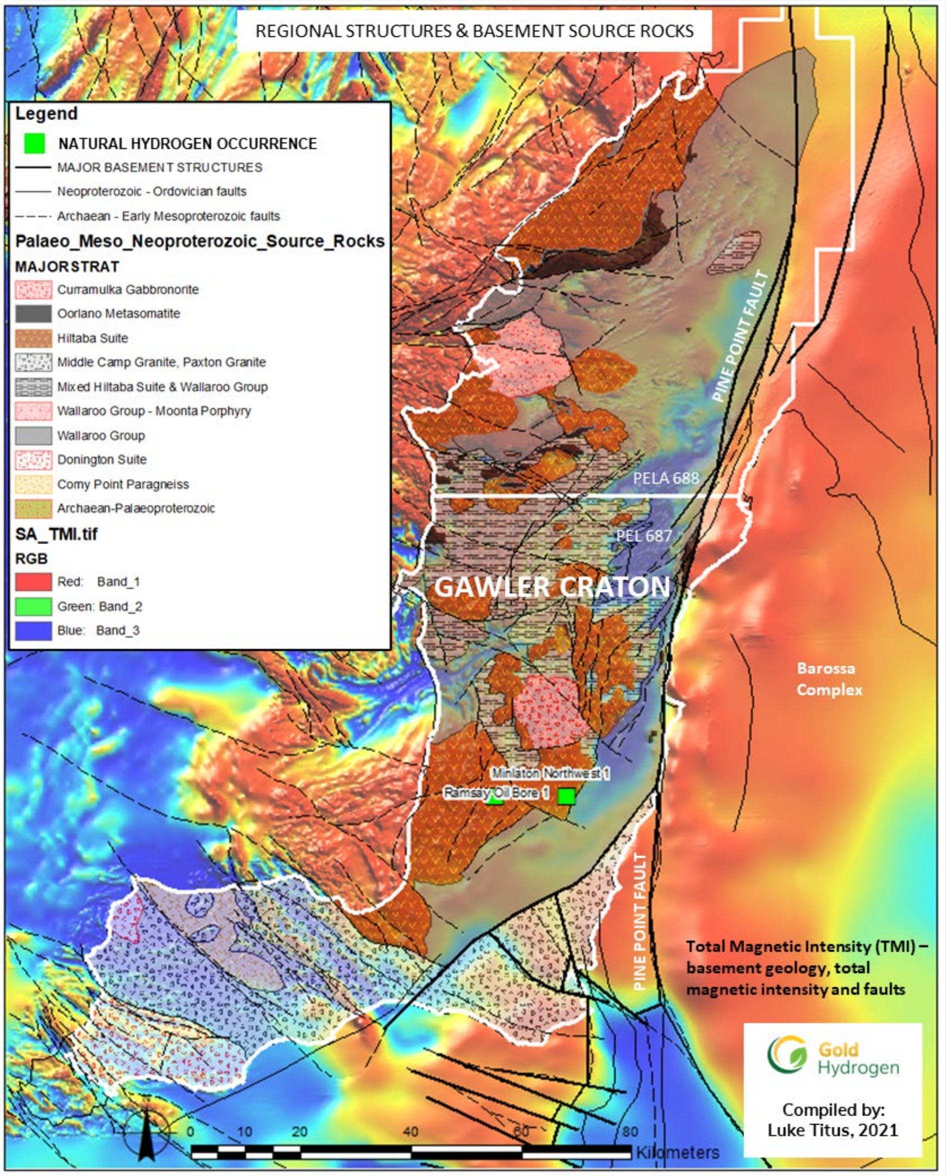
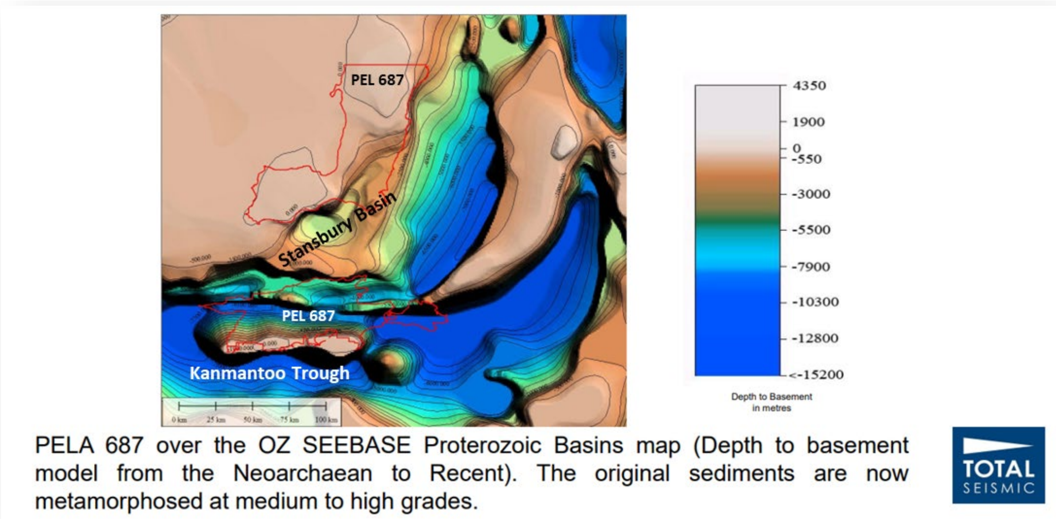


Figure 15 – OZ SEEBASE® 2021 depth to Basement map and location Stansbury Basin and Kanmantoo Trough with Ramsay Project outlined in red.



(iv) Reservoirs

Two potential Reservoirs for Natural Hydrogen have been identified on Yorke Peninsula and Kangaroo Island: MFB is considered the primary target; and Cambrian limestones and Sandstones are considered as secondary targets.

Primary target: Archean to Neoproterozoic MFB

The target MFB segment extends greater than 5 km in depth and is considered as a likely Reservoir for Natural Hydrogen on both Yorke Peninsula and Kangaroo Island. These types of Reservoirs would typically have an exceedingly high number of microfractures, fractures, joints, and associated Faults. The Reservoir behaviour of an MFB is entirely dominated by the fracture network and present throughout regardless of depth or even relative position to Structures.

Gas samples were taken in American Beach Oil 1 drilled in 1921. This contained a small proportion of methane but much Natural Hydrogen and was derived from Kanmantoo Group quartz-mica-schists and phyllites, indicating that metasediments can host Natural Hydrogen gas in the region.

Hydrocarbon discoveries in MFB Reservoirs are quite common. The Bach Ho Oil field discovered by Mobil Oil Co. in the Cuu Long Basin offshore Vietnam, and Lancaster and Whirlwind fields owned by Hurricane Energy in the West of Shetlands region of the Continental Shelf are examples.

Secondary target: Cambrian Parara Limestone

Natural Hydrogen gas was recovered in three samples taken in Ramsay Oil Bore 1 drilled in 1931. The samples were taken at depths of 240.8m, 262.1m and 507.8m, all indicated as being within the Cambrian Parara Limestone.

Gravestock 1 was the most recent Well to be drilled on Yorke Peninsula in 2007. The Kulpara Formation was 296m thick, although not all of it showed good Reservoir potential. The best interval was 41m thick in the middle of the interval.

The best Reservoir section in Gravestock 1 was the early Cambrian Parara Limestone immediately overlying the Kulpara Formation, with the Well completion report indicating two intervals (617m – 654m and 691m – 698m) with very good porosity on the wireline logs and in the rock cuttings samples. Petrophysical interpretation suggested that gas was present, although no gas was recorded during drilling. This could be because the gas was Natural Hydrogen rather than methane, with the recording unit not set up for the presence of Natural Hydrogen.

Gravestock 1 was drilled through clays and Carbonates rocks including dolostones and limestones. It was an exploration Well drilled for the purpose of discovering hydrocarbons.

No gas shows were recorded during drilling, but net gas pay thickness of approximately 8m was reported from 691m to 698m using wireline logs. This gas could have been Natural Hydrogen, but none was recorded. See Table F for further information.

There were no reported recoveries (including water) from the Well.

Secondary target: Cambrian Kulpara Formation

The dolomitised limestone of the early Cambrian Kulpara Formation may be the principal potential Reservoir on Yorke Peninsula and northern Kangaroo Island, reaching 500m in thickness in the Stansbury Basin. Core porosity ranges up to 13% and permeability reaches 340 millidarcies. Reported brine recovered ranges from 13,000 to 157,000 ppm sodium chloride, suggesting connate pore water and unbreached Structures still exist. Porosity is also reported in the Koolywurtie reef complex which is up to 73m thick (where not eroded by Minlaton Formation Conglomerate) and may have originally extended from Ardrossan to Kangaroo Island (100 km or more).

3.4 Objectives and plans

The objectives of the Ramsay Project are to progress the Natural Hydrogen Prospective Resources to Contingent Resources and/or Reserves and mature portions of the granted title PEL 687 to production licence areas. These major objectives will support Gold Hydrogen progressing to commercialisation.

Considerable technical and non-technical workflows have been progressed and completed in preparation for the IPO since May 2022. The purposes of the various workflows are to assist Gold Hydrogen with generating a 24-month schedule of activities and use-of-funds for the Ramsay Project.

Key Workflows that will mature areas of prospectivity, lead to prospects and underpin Ramsay Project maturation:

- Wellbore-1 concept selection – completed Aug 2022 (Figure 16)
- Stage 1 digital subsurface database modelling – due to be completed Dec 2022
- Reprocessing 2D Seismic relevant to prospect areas – due to be completed Nov 2022
- Generation of environmental and social constraint maps – due to be completed Nov 2022
- Commence multiple surface production scenarios and market analysis – in progress (Figure 17)
- Progressing approvals for airborne survey – due to be completed Dec 2022
- Commence workflows for permitting and approvals Stage 1 soil survey – in progress
- Commence workflows for DEM permitting and approvals required for Wellbore-1 – in progress

Key Milestones for drilling the first Well in the Ramsay Project, include but not limited to:

- Complete basis-of-design (BoD) for exploration Well-1 – Q1 CY23
- Complete procurement for exploration Well-1 – Q2 CY23
- Exploration Well-1 Well pad and SPUD – Q3 CY23
- Exploration Well-1 testing – Q3 CY23
- Resource update – Q4 CY23
- Commence workflows exploration Wells-2 and -3 – Q1 CY24

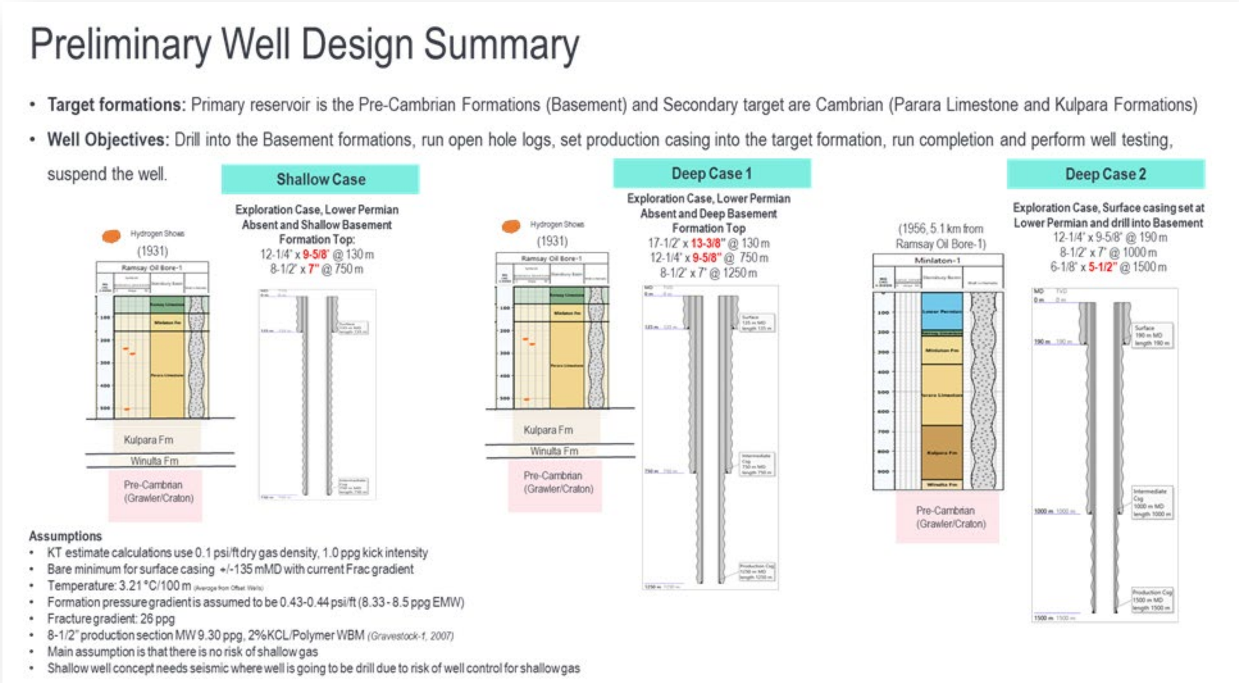
(a) Ramsay Project Subsurface Workstream

Gold Hydrogen's project plan at this stage is wholly focused on the Ramsey Project located on PEL 687. The work program follows a typical path for the development of an exploration project which is summarised in Table I below.

Table I – Gold Hydrogen – Indicative schedule as of December 1, 2022.

		Q4 CY22	Q1 CY23	Q2 CY23	Q3 CY23	Q4 CY23	Q1 CY24	Q2 CY24	Q3 CY24	Q4 CY24
Project development	Continued community & stakeholder engagement	■	■	■	■	■	■	■	■	■
	Environmental approvals and land access	■	■	■	■	■	■	■	■	■
CSIRO workstreams	Stage 1 – Gas Soil		■	■						
	Stage 1 – Lab analysis				■	■				
	Stage 2 – Gas Soil						■	■		
	Natural hydrogen research and studies	■	■	■	■	■	■			
	Airborne survey and processing	■	■	■						
Schlumberger workstreams	Downstream – production and sales scenarios	■	■	■						
	Upstream – 2D Seismic repro & dynamic model	■	■	■						
	Well design	■	■	■						
Yorke Peninsula drilling program	Exploration well 1 - permitting	■	■	■						
	Exploration well 1 - drill testing				■	■	■			
	Resource update						▲			
	Exploration wells 2 & 3 – permitting						■	■	■	
	Exploration wells 2 & 3 - drill testing								■	■

Figure 16 – Ramsay Project exploration Well concept selection.



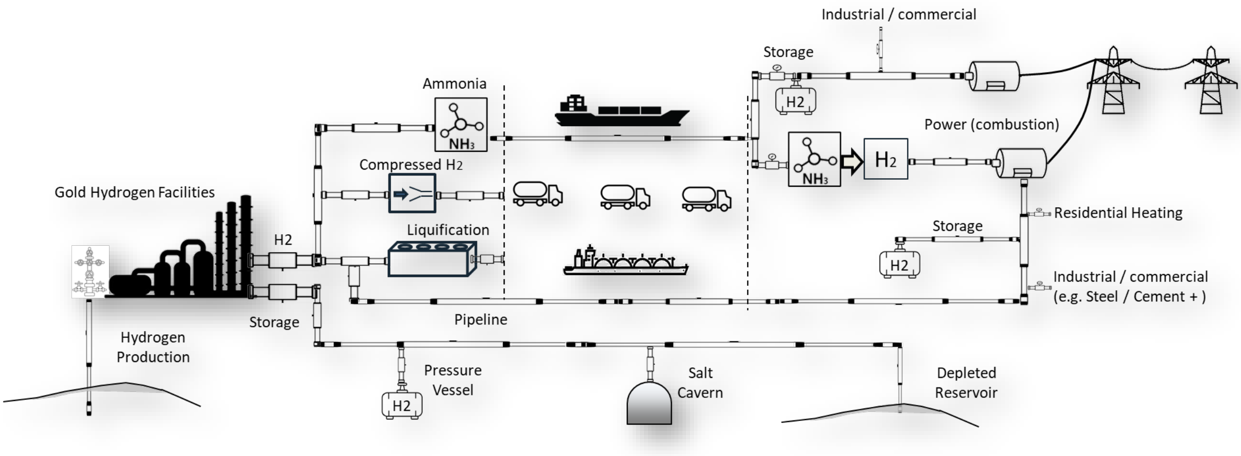
(b) Downstream production model

The downstream workflow that has commenced between Schlumberger and Gold Hydrogen involves a sophisticated model of production, various types of market distribution points and economics for each sales point. This data is tied back to the subsurface field development plan, long term development Well design and various annual production volume rates that could be used to gain gas-sales-agreements over the short-term or long-term.

Currently, eight (8) surface production and economic scenarios are being compiled and include: onsite electricity generation and sales; fuel cell battery distribution; raw Natural Hydrogen transportation on land; pure Natural Hydrogen generation and transportation; Natural Hydrogen liquification and shipping; Natural Hydrogen distribution and local ammonia plant; surface storage applications; subsurface storage and injection/withdraw.

An early onsite production scenario that converts Natural Hydrogen to electricity using a hydrogen turbine or a H_2 combustor, both of which can likely handle the N_2 and CO_2 in the gas stream without too much impact on the power generation efficiency and without raw gas conditioning is being explored. In addition, battery technology could be tied into the turbine or combustor and the Well choked.

Figure 17 – Ramsay Project downstream production scenarios.

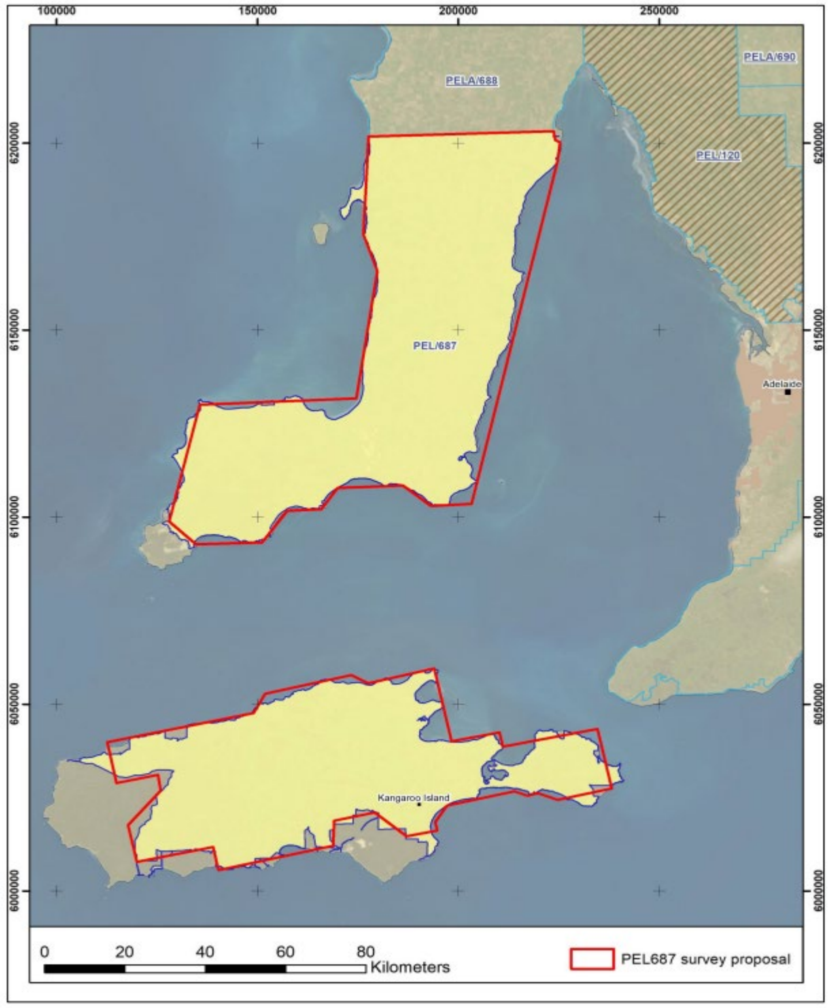


(c) Broader field and exploration lease development

Gold Hydrogen executed a contract with Xcalibur in August 2022 to complete a scope of works for a high-definition non-invasive Gravity-magnetic and digital terrain Falcon Plus airborne survey scheduled to commence February 2023. The survey area will include 18,203 line-kms at 500-metre line spacing. The Yorke Peninsula block accounts for 10,529 line-km, and the Kangaroo Island block contains 7,674 line-km. Processing and a detailed litho-structural interpretation are planned to commence post completion of the survey with final deliverables currently scheduled for receipt by June 2023.

The airborne deliverables will support further modelling of the subsurface Basement Natural Hydrogen Source rocks across the licence area, the depths and orientations of Faults and their association with geomorphic fairy circle expressions and connection to the Cambrian Stratigraphic section that has documented evidence of Carbonate Reservoirs that are Sealing and charged with Natural Hydrogen. Survey data will also support future two-dimensional Seismic line placement.

Figure 18 – Ramsay Project airborne survey areas.



Survey Area plotted over topographical map and imagery in projection WGS84 Zone 54 S

(d) Identification and extraction research and development

Gold Hydrogen entered into an agreement with the CSIRO in July 2022.

With the assistance of the CSIRO, Gold Hydrogen aims to build on the initial historical Natural Hydrogen data and develop new techniques and processes to accurately identify and effectively extract Natural Hydrogen gas near numerous potential seeps (fairy circles), Structures, Reservoirs, and potential active Natural Hydrogen generation kitchens in the regional Source rocks. This workflow will be undertaken from August 2022 to March 2024 and includes, but is not limited to, the following deliverables: conceptual geomodelling; soil gas surveys and analysis, seeps dynamics, gas mix and Natural Hydrogen sources; Natural Hydrogen fluid inclusion and Source rock and Seal characterization; collaboration with other agencies in the Natural Hydrogen space, grants, and universities.

CSIRO will conduct research services for Gold Hydrogen to analyse Source rock samples from the acreage position to characterize the mechanical, petrophysical, micro-Structural and mineralogical properties. This will involve rock samples preparation (coring, shaping, cutting, grinding), mineralogical characterization of rocks in natural state (e.g., X-Ray diffraction), X-Ray computed tomography of rocks in natural state to identify heterogeneities, damage, incipient fractures, and other natural Structural features, petrophysical characterization of intact rocks at in situ pressure/temperature conditions, e.g., porosity and permeability, mechanical testing at in situ pressure/temperature conditions, post-test X-Ray computed tomography of mechanically failed rocks to identify damage and fractures induced by mechanical yield/failure and post-test petrophysical characterization of mechanically failed rocks at in situ pressure/temperature conditions.

CSIRO soil sampling surveys are likely to commence and be completed between February and June 2023 followed by laboratory analysis of the recovered gas which may contain Natural Hydrogen. This initial survey will likely comprise of a minimum of 500 sample points that will test various geomorphologic, Structural features and rock Outcrops. A second survey will follow up on the results of the first survey in February to June 2024 and subsequent laboratory analysis. The data acquired from this survey will be integrated into the subsurface dynamic model to support further maturation of the resource and prospect generation.

Additionally, Gold Hydrogen is supporting a diverse range of students from Adelaide, Macquarie and Edith Cowan Universities through sponsorships that directly support certain project deliverables and support the research and development efforts that are being managed by an agreement that was signed with Deloitte's R&D division in June 2022.

Gold Hydrogen's proposed work program is the first in Australia that aims to develop novel Natural Hydrogen extraction and mid-stream production techniques to facilitate the use of Natural Hydrogen gas as a renewable energy source. Gold Hydrogen intends to submit its first R&D claim by November 2022.

Relationship building and strengthening of Gold Hydrogen's technical and non-technical approach to the project with the DEM began in early February 2021. Gold Hydrogen was the first business to apply for a PEL in South Australia for the sole purpose of extracting Natural Hydrogen from the subsurface.

Gold Hydrogen strongly believes it has a solid relationship with DEM through its open and transparent communication and looks forward to that continued relationship as it progresses through the state regulated approvals and permitting processes.

(e) Native Title and Exploration Licence Applications

As soon as practical, and in parallel with the work on PEL 687, Gold Hydrogen will progress the activities required to negotiate Native Title agreements for the Exploration Licence Applications. These agreements are a requirement for the Exploration Licence Applications to be granted. Once the Exploration Licence Applications are granted, project plans will be implemented, which Gold Hydrogen expects to be broadly along the same lines as that for PEL 687.

3.5 Environmental, community and stakeholder engagement

Gold Hydrogen believes the world has embarked on the great energy transition and is rapidly looking to decarbonise energy production and consumption. The movement towards developing energy use from predominately sustainable sources and the ability of a society to have a voice in shaping this policy has gained widespread momentum in both Australia and abroad.

This is reflected by the rapid development and implementation by government to support sustainable energy policies, accept globally climate change mandates, and increase regulatory processes.

Gold Hydrogen believes that businesses that quickly adapt to integrating sustainable business practices into their operations and whose culture is consistent with society's ESG expectations, have a greater chance of maintaining a 'license to operate' and are more likely to achieve long-term success.

The Gold Hydrogen executive team and Board are exceptionally qualified to deliver on Gold Hydrogen's Technical and ESG objectives. Gold Hydrogen has adopted an 'Integrated Approvals' approach to meeting its business targets. This approach factors in both technical (strategy, business development, project finance, capital markets, geology, R&D, engineering, operations, and production) and non-technical (environment, cultural heritage, community and stakeholders, health, and safety) criteria when assessing and operating Gold Hydrogen projects.

To that effect, important internal workflows associated with environmental, community and stakeholder engagement for gaining approvals and permits from the State commenced in June 2022. Gold Hydrogen has contracted locally based Australian firms JBS&G, Consentium and Australian Public Affairs to provide environmental, social, and land access support to complement its integrated approvals approach. These local businesses have a strong background and valuable knowledge to service Gold Hydrogen with, but not limited to, delivering regulatory approvals, social license strategies, and mitigating risks to potential project development.

Non-technical risks have been identified that need to be matured in tandem with technical risks to efficiently deliver the Ramsay Project in sensitive social and environmental contexts. Gold Hydrogen strongly believes that its ability to operate in the licence will be through a mutually beneficial relationship with local stakeholders and an engaged and supportive community.

Workflows development in the Integrated Approval Team (**IAT**) is ongoing and integrated with the Technical Team workflows for associated de-risking and progressing regulatory approvals for the proposed non-invasive airborne survey, non-invasive gas soil survey and various drilling campaigns as outlined in the schedule and use of funds.

IAT and the Technical Team approach, along with maintaining open communication with the State regulatory, local community and stakeholders about our progress against the schedule will be key to project development over both the short and long term.

Title administration (tenure) for Gold Hydrogen is managed by AMETS under an agreement with Gold Hydrogen. AMETS remains a cornerstone to the business with their wide range of tenement management services and deep experience to ensure the compliance for Gold Hydrogen's assets.

The operating window for field activities at the Ramsay Project can likely occur anytime during a given year due to the proximity to regional centres and local centres. There is normally some summer rain, but most of the rain is received during cool, wet winters starting around Anzac Day, in April. Regular rain is needed until quite late in the season to fill out the local farmers grains of barley, lentils, wheat, and canola. By the end of October, early November, farmers commence with harvest and preparation for the growing process that begins again in early autumn. Late summer and autumn born lambs are also sold in spring, and shearing takes place all year round, with spring being the most common time.

In relation to carbon emissions, the assessment of future carbon production and emissions has only been considered by Gold Hydrogen at high level at this stage, given the preliminary exploration nature of the Ramsay Project. The gas samples taken at the time of drilling the historic wells in the 1920s and 1930s provide the only basis of Gold Hydrogen's knowledge at this stage. Accordingly, Gold Hydrogen does not consider it appropriate to attempt to assess ratios of carbon emissions in production at this early stage, and as such is unable to provide additional information on what the carbon emissions intensity of producing Natural Hydrogen may be.

In the event of future development and production, Gold Hydrogen may sell the raw gas produced from the subsurface, or Gold Hydrogen may process the raw gas for sales. For any greenhouse gases that may be emitted, given historical gas composition testing has indicated the presence of such gases, Gold Hydrogen considers there are existing separation technologies (such as gas separation by absorption, which is an operation used to separate gases by washing or scrubbing a gas mixture with a suitable liquid where one or more of the constituents of the gas mixture dissolves or is absorbed in the liquid and can thus be removed from the mixture; and membrane gas separation, which is a pressure-driven process where the driving force is the difference in pressure between the inlet of the raw gas stream and the outlet of either product or waste gas using synthetic membranes) that Gold Hydrogen can explore and potentially utilise to address emissions by separating and then capturing such gases.

Gold Hydrogen has engaged Schlumberger to carry out studies on mid-stream and downstream concept and pre-feasibility commercialisation options for the Ramsay Project for potential future development and production, as outlined in Section 3.7. In addition to those studies, Gold Hydrogen is engaging with Schlumberger regarding potential processes to manage carbon production and emissions (carbon dioxide and methane), including assessment of the technologies currently available, and technologies which are new and emerging, regarding carbon capture and storage. Further, Gold Hydrogen has gas storage tenure applications lodged with the South Australian government overlapping PEL 687 which may be used in future carbon capture and storage operations.

3.6 Financing of the Company

The work program outlined advances the Ramsay Project in line with the objectives of progressing the natural hydrogen Prospective Resources to Contingent Resources and/or Reserves and ultimately mature portions of the granted title PEL 687 to production licence areas. The 24-month schedule of activities is aligned to use of funds below.

Use of funds	Year 1 – Amount ($)	Year 2 – Amount ($)
Corporate costs	**$1,789,500**	**$1,734,000**
Exploration, field development and drilling activities	**$5,854,199**	**$9,376,889**
Native title, land access and licence fees	$457,628	$1,032,595
Environmental and permitting costs	$319,000	$371,250
Airborne and Seismic surveys	$2,747,120	-
Drilling and associated activities	$2,330,450	$7,973,043
Offer costs	**$1,351,129**	-
Total	**$8,994,828**	**$11,110,889**

As at the Prospectus Date, Gold Hydrogen has no income producing assets and will generate losses for the foreseeable future. Until it is able to develop a project and generate appropriate cashflow, it is dependent upon being able to obtain future equity or debt funding to support long term exploration, after the expenditure of the net proceeds raised under the Offer. Gold Hydrogen is likely to require further equity or debt funding before it can progress to the production stage. Neither Gold Hydrogen nor any of the Directors nor any other party can provide any guarantee or assurance that if further funding is required, such funding can be raised on terms acceptable to Gold Hydrogen.

3.7 Channels to market

The Ramsay Project is currently in an early stage of exploration and there are a large variety of options available to take the Ramsay Project forward as the downstream value-chain emerges in the local and global hydrogen gas market. These options are likely to change in desirability and practicality as new data becomes available through results of the work program. Currently Gold Hydrogen is developing a series of simulation models with its contractor Schlumberger that explore various field development concepts from local domestic through to international opportunities.

The proposed simulation models will be developed to analyse key facility operations whilst also providing initial costing estimates. The models will also be tested at a range of throughputs to gain a better understanding of how each concept handles the expected range of Natural Hydrogen production rates that may occur within the Ramsay Project. Through the simulations, multiple operating scenarios can be tested to verify which simulation concept is the most cost effect at various stages of field development.

In August 2021, Energy Ministers across Australia agreed to reform the national gas regulatory framework to bring hydrogen blends and other renewable gases within its scope. Such changes are enablers to the development and supply of Natural Hydrogen to consumers. In South Australia, projects are already delivering hydrogen as a blend into existing natural gas pipelines to consumers.

Simulation models for local, domestic, and international market opportunities

(a) **Onsite electrical generation and sales** – assess generating energy for local consumption through the installation of a fuel cell on a given Well site to generate electricity. The simulation model will include the processing facilities required to treat the raw Natural Hydrogen along with the fuel cell used for electricity generation. The feasibility for this concept will include analysis of the electricity produced from the fuel cell and the electricity required by the facilities.

(b) **Fuel cell battery distribution** – uses the Well site fuel cell to charge batteries for energy distribution for local consumption. The simulation model will include the processing facilities required to treat the raw Natural Hydrogen along with the fuel cell used for electricity generation.

(c) **Raw Natural Hydrogen transportation on land** – identify local sources of demand for Natural Hydrogen along with access routes that can be utilised for Natural Hydrogen transportation. Existing pipelines will be considered for this concept as well as the potential to commission new Natural Hydrogen specific pipelines and the usage of trucks. The simulation model will include the processing facilities required to deliver the Natural Hydrogen at the required quality specifications along with compression systems and pipeline distribution networks.

(d) **Pure Natural Hydrogen generation and transportation** – explore the effectiveness of producing pure Natural Hydrogen onsite. The raw Natural Hydrogen production will be used to power an electrolyser rather than being processed until it reaches the composition quality for distribution into pipelines or trucks.

(e) **Natural Hydrogen liquification and shipping** – explore liquifying the Natural Hydrogen and shipping it to local and international markets. The assessment will look to utilize proposed or exiting terminals nearby or commissioning a new terminal near the project. The simulation model will include the processing facilities required to treat the raw Natural Hydrogen along with the distribution system to the ports and the liquification system required for shipments.

(f) **Natural Hydrogen distribution to local ammonia plants** – identify local ammonia plants along with pipelines that can be utilised for Natural Hydrogen transportation within the area. Existing pipelines will be considered for this concept as the potential to commission new Natural Hydrogen specific pipelines. The simulation model will include the processing facilities required to deliver the Natural Hydrogen at a required quality specification along with compression systems and pipelines required for distribution.

(g) **Natural Hydrogen storage applications** – due to possible fluctuations in demand and the potential for downstream facility downtime, it is important to understand what storage options are available to support a stable operation. Gold Hydrogen will analyse the potential of storing Natural Hydrogen within high pressure gas cylinders, underground Reservoirs (GSELAs to be held by Gold Hydrogen in the Ramsay Project upon Completion), and or offset depleted oil and gas fields. The simulation model will include the processing facilities required to deliver the Natural Hydrogen at the quality specifications required for storage.

3.8 Regulatory and Legal Framework

Gold Hydrogen's activities are primarily affected by the Petroleum and Geothermal Energy Act 2000 (SA) which regulates the exploration, recovery and commercial utilisation of petroleum and other resources including Natural Hydrogen gas. In particular the Petroleum and Geothermal Energy Act 2000 (SA) and its subordinate legislation regulates licensing for exploration, retention and production and transmission of Natural Hydrogen gas as well as establishing a framework for payment of royalties to the State of South Australia. The Petroleum and Geothermal Energy Act 2000 (SA) also sets mandatory licence conditions, regulates entry to, and use of, land and deals with issues between holders of overlapping tenements.

The National Gas Regulatory Framework regulates gas distribution and supply in Australia. This framework includes the National Gas Laws, National Gas Rules, National Gas Regulations, National Energy Retail Laws and National Energy Retail Regulations.

The National Gas Law is the principal legal instrument that governs gas distribution networks. Each State and Territory, apart from Western Australia have adopted the National Gas Law. Western Australia has a adopted a modified version. In South Australia the National Gas Law applies pursuant to the National Gas (South Australia) Act 2008 (SA).

The National Gas Regulatory Framework currently only regulates 'natural gas', defined as a substance that includes naturally occurring hydrocarbons. However, on 20 August 2021 the Commonwealth and State Energy Ministers agreed to reform and extend the National Gas Regulatory Framework to incorporate Natural Hydrogen.

On 6 April 2022, a consultation draft in the form of the National Energy Laws Amendment (Other Gases) Bill 2022 was released by the Commonwealth Government. This bill proposes to amend the National Gas Law, National Gas Rules, National Gas Regulations, National Energy Retail Law and National Energy Retail Regulations to change the gas that may be regulated to include Natural Hydrogen, biomethane and synthetic methane.

This means the distribution of Natural Hydrogen gas would be regulated the same way as natural gas and the amendments propose to provide access to the existing pipeline network for hydrogen producers.

These changes will likely be implemented in early 2023 as the Australian Energy Market Commission intends to provide the final draft rules to all of the State's Energy Ministers for approval by 14 November 2022.

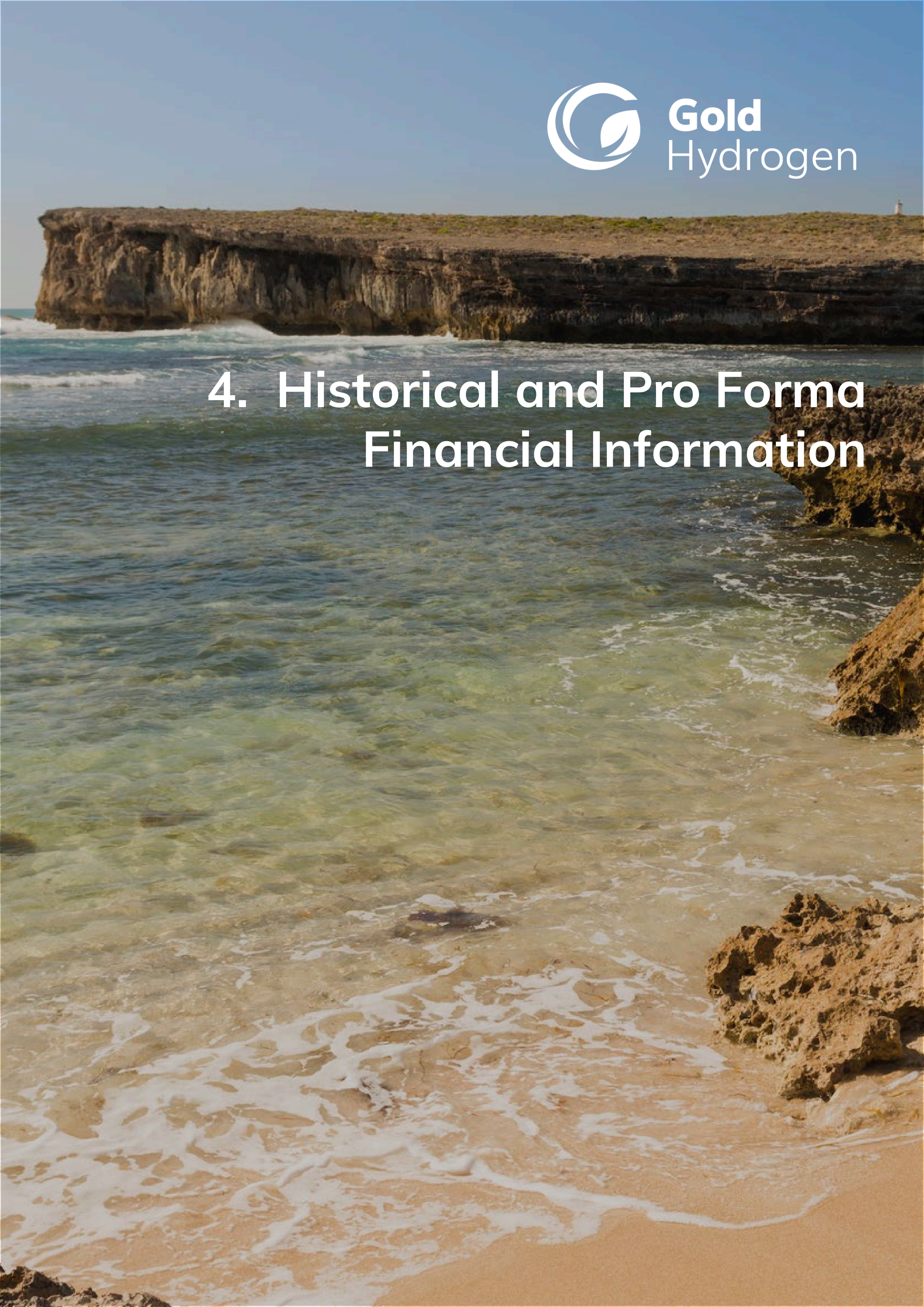
In addition to the Petroleum and Geothermal Energy Act 2000 (SA) and expected changes to the National Gas (South Australia) Act 2008 (SA), Gold Hydrogen's activities may also be impacted by Commonwealth and South Australian legislation protecting Native Title, heritage and the environment.

3.9 Royalties payable

Royalties payable to the South Australian government do not occur until production commences. Gold Hydrogen's activities on PEL 687 over the next two to four years are principally exploration and appraisal. So, production royalties will not be payable for some years.

Gold Hydrogen currently has no agreements with other parties involving royalties.

4. Historical and Pro Forma Financial Information



4. Historical and Pro Forma Financial Information

4.1 Introduction

This Section sets out Gold Hydrogen's historical and pro forma financial information. This information has been provided to assist potential investors with their understanding of the historical financial performance and financial position of Gold Hydrogen. The basis for preparation and presentation of this information is also set out below.

The historical and pro forma financial information has been prepared in accordance with the recognition and measurement criteria of Australian Accounting Standards and the accounting policies as described below.

The historical and pro forma financial information is presented in an abbreviated form insofar as it does not include all the disclosures and notes required in an annual financial report prepared in accordance with Australian Accounting Standards and the Corporations Act.

4.2 Historical Financial Information

The historical financial information set out below comprises the audited statement of financial position, statement of financial performance and other comprehensive income, and statement of cash flows for Gold Hydrogen for the financial years ended 30 June 2022 and 30 June 2021.

Statement of financial position *(as at 30 June 2022)*

	2022 $	2021 $
Assets		
Current assets		
Cash and cash equivalents	4,258,507	753
Trade and other receivables	141,581	2,263
Other	5,123	-
Total current assets	**4,405,211**	**3,016**
Non-current assets		
Property, plant and equipment	1,925	-
Exploration and evaluation	622,270	12,121
Other	31,505	-
Total non-current assets	**655,700**	**12,121**
Total assets	**5,060,911**	**15,137**
Liabilities		
Current liabilities		
Trade and other payables	475,809	26,905
Borrowings	3,979,066	17,334
Derivative financial instruments	1,799,953	-
Total current liabilities	**6,254,828**	**44,239**
Total liabilities	**6,254,828**	**44,239**
Net liabilities	**(1,193,917)**	**(29,102)**
Equity		
Issued capital	100	100
Accumulated losses	(1,194,017)	(29,202)
Total deficiency in equity	**(1,193,917)**	**(29,102)**

Statement of financial performance and other comprehensive income (for the year ended 30 June 2022)

	2022 $	4 months to 30 June 2021 $
Expenses		
Consultants	(369,499)	(3,000)
Legal	(57,055)	-
Licence fees	(17,972)	(11,782)
Public relations	(61,866)	-
Movement in fair value of convertible note derivative	(97,907)	-
Transaction costs in connection with proposed IPO	(35,016)	-
Travel	(15,567)	-
Other expenses	(56,321)	(14,420)
Finance costs	(453,612)	-
Total expenses	(1,164,815)	(29,202)
Loss before income tax expense	**(1,164,815)**	**(29,202)**
Income tax expense	-	-
Loss after income tax expense for the year attributable to the owners of Gold Hydrogen Limited	**(1,164,815)**	**(29,202)**
Other comprehensive income for the year, net of tax	-	-
Total comprehensive income for the year attributable to the owners of Gold Hydrogen Limited	**(1,164,815)**	**(29,202)**

	$	$
Basic earnings per share	(11,648)	(292)
Diluted earnings per share	(11,648)	(292)

Statement of cash flows (for the year ended 30 June 2022)

	2022 $	4 months to 30 June 2021 $
Cash flows from operating activities		
Receipts from customers (inclusive of GST)	(400)	-
Payments to suppliers and employees	(363,417)	(4,560)
Interest and other finance costs paid	(84,329)	-
Net cash used in operating activities	**(448,146)**	**(4,560)**
Cash flows from investing activities		
Payments for property, plant and equipment	(1,925)	-
Payments for exploration and evaluation assets	(555,165)	(12,121)
Payments for security deposits	(31,505)	-
Net cash used in investing activities	**(588,595)**	**(12,121)**
Cash flows from financing activities		
Proceeds from the issue of shares	-	100
Proceeds from convertible notes net of transaction costs	5,311,829	-
(Repayment of)/proceeds from Director loans - net	(17,334)	17,334
Net cash from financing activities	**5,294,495**	**17,434**
Net increase in cash and cash equivalents	4,257,754	753
Cash and cash equivalents at the beginning of the financial year	753	-
Cash and cash equivalents at the end of the financial year	**4,258,507**	**753**

4.3 Pro forma financial information

The pro forma financial information set out below comprises the reviewed pro forma consolidated statement of financial position as at 30 June 2022 showing the impact of a working capital adjustment for the period of 1 July 2022 to the date of the Prospectus, the proposed Offer, the conversion to Shares of the convertible notes, and the acquisition of Byrock and WH.

4.4 Pro forma statement of financial position

The pro forma statement of financial position has been derived from the audited statement of financial position as at 30 June 2022 adjusted for the following transactions as if they had occurred at 30 June 2022 (pro forma transactions):

- working capital adjustments to the date of the Prospectus totalling $2,334,161, including exploration & evaluation expenditure of $1,645,828.
- the issue of 40,000,000 Shares at an issue price of $0.50 per Share as a result of the Offer.
- estimated costs of the Offer of $1,351,128, with the costs allocated between the cost of raising additional share capital and the cost of the ASX listing. As such, $1,058,853 has been accounted for as capital raising costs through equity, and $292,275 has been expensed to profit or loss.
- the issue of 16,923,023 Shares at an issue price of $0.325 per Share in full and final satisfaction of the principal liability due under the convertible notes.
- the payment of $358,027 in cash being interest due to convertible noteholders for the period from 31 May 2022 to 15 December 2022.
- the issue of 4,000,000 Shares at an issue price of $0.50 per Share, and the payment of $66,381 in cash as consideration for the acquisition of Byrock and WH, and $30,000 in cash for the legal and associated costs of the acquisition.

	30 Jun 2022	Working Capital Adjustments	Acquisition of Byrock & WH	Offer	Conversion of Convertible Notes	Pro Forma
Assets						
Cash						
Cash on Hand	100		-			100
Cash at Bank	4,258,407	(2,334,161)	(96,381)	18,648,872	(358,027)	20,118,710
Total Cash	**4,258,507**	**(2,334,161)**	**(96,381)**	**18,648,872**	**(358,027)**	**20,118,810**
Other Current Assets						
GST Receivable	141,581	-	-	-	-	141,581
Prepayments	5,123	-	-	-	-	5,123
Total Other Current Assets	146,704	-	-	-	-	146,704
Total Current Assets	**4,405,211**	**(2,334,161)**	**(96,381)**	**18,648,872**	**(358,027)**	**20,265,515**
Non-current Assets						
Fixed Assets	1,925	-	-	-	-	1,925
Other	31,505	-	-	-	-	31,505
E&E Expenditure	622,270	1,645,828	2,066,381	-	-	4,334,479
Total Non-current Assets	**655,700**	**1,645,828**	**2,066,381**	**-**	**-**	**4,367,909**
Total Assets	**5,060,911**	**(688,332)**	**1,970,000**	**18,648,872**	**(358,027)**	**24,633,424**
Liabilities						
Current Liabilities						
Creditors & Accruals	475,809	-	-	-	-	475,809
Derivative Liability - Convertible Notes	1,799,953	-	-	-	(1,799,953)	-
Financial Liability - Convertible Notes	3,979,066	-	-	-	(3,979,066)	-
Total Current Liabilities	**6,254,828**	**-**	**-**	**-**	**(5,779,019)**	**475,809**
Total Liabilities	**6,254,828**	**-**	**-**	**-**	**(5,779,019)**	**475,809**
Net Assets	**(1,193,917)**	**(688,332)**	**1,970,000**	**18,648,872**	**5,420,992**	**24,157,615**
Equity						
Paid Up Capital	100		2,000,000	18,941,147	8,461,512	29,402,759
Retained Earnings/(Losses)	**(1,194,017)**	**(688,332)**	**(30,000)**	**(292,275)**	**(3,040,520)**	**(5,245,144)**
Total Equity	**(1,193,917)**	**(688,332)**	**1,970,000**	**18,648,872**	**5,420,992**	**24,157,615**

Note 1 – Reconciliation of movements in issued capital

	Number of Shares	Share capital
Reconciliation of movements in pro forma share capital	#	$
Audited balance at 30 June 2022	100	100
Share split (790,769.77 : 1)	79,076,877	-
Issue of Shares as partial consideration for the acquisition of Byrock & WH	4,000,000	2,000,000
Issue of Shares under the Offer	40,000,000	20,000,000
Total costs expected to be incurred in connection with the Offer to be offset against share capital	-	(1,058,853)
Conversion of convertible notes into Shares	16,923,023	8,461,512
Pro forma balance at 30 June 2022	**140,000,000**	**29,402,759**

Note 2 – Reconciliation of movements in convertible note liabilities

	Convertible note liability
Reconciliation of movements in convertible note liabilities	$
Convertible notes	
Audited balance at 30 June 2022	3,924,819
Adjustment to fair value immediately prior to conversion	1,575,181
Conversion to share capital immediately prior to IPO	(5,500,000)
	-
Interest on convertible notes	
Interest accrued/(paid) to 30 June 2022	54,247
Interest accrued to conversion	303,780
Interest paid immediately prior to conversion	(358,027)
	-
Derivative financial instruments arising from convertible notes	
Audited balance at 30 June 2022	1,799,953
Adjustment to fair value immediately prior to conversion	1,161,559
Settled through issue of share capital immediately prior to IPO	(2,961,512)
	-

Note 3 – Reconciliation of movements in exploration & evaluation expenditure

	Exploration & evaluation
Reconciliation of movements in exploration & evaluation assets	$
Audited balance at 30 June 2022	622,270
Adjusted to the date of the Prospectus	1,645,828
Acquisition of Byrock & WH	2,066,381
Pro forma balance at 30 June 2022	**4,334,479**

Note 4 – Reconciliation of movements in cash

Reconciliation of movements in cash	Cash $
Audited balance at 30 June 2022	4,258,507
Adjusted to the date of the Prospectus	(2,334,161)
Gross cash proceeds from the Offer	20,000,000
Expected costs of the Offer	(1,351,128)
Acquisition of Byrock & WH	(66,381)
Payment of convertible note interest	(358,027)
Payment of costs associated with the acquisition of Byrock & WH	(30,000)
Pro forma balance at 30 June 2022	**20,118,810**

4.5 Summary of significant accounting policies

Introduction

The historical financial information comprises the audited statement of financial position and statement of financial performance for Gold Hydrogen for the financial years ended 30 June 2022 and 30 June 2021.

The pro forma financial information comprises the reviewed pro forma consolidated statement of financial position as at 30 June 2022 showing the impact of a working capital adjustment for the period of 1 July 2022 to Listing, the proposed Offer, the conversion to Shares of the convertible notes, and the acquisition of Byrock and WH.

Operations and Principal Activities

The principal activity of Gold Hydrogen is gas exploration, focussed on the discovery of Natural Hydrogen resources.

Currency

The financial information is presented in Australian dollars, which is the functional currency of Gold Hydrogen, and is rounded to the nearest dollar.

Going Concern

The historical and pro forma financial information has been prepared on a going concern basis, which contemplates continuity of normal business activities and the realisation of assets and settlement of liabilities in the normal course of business.

The ability of Gold Hydrogen to continue as a going concern is principally dependent upon raising additional capital or securing other forms of financing, as and when necessary to meet the levels of expenditure required for Gold Hydrogen to continue to progress the exploration properties in which it has an interest and to meet Gold Hydrogen's working capital requirements.

The Directors have concluded that the going concern basis of preparation of Gold Hydrogen's financial statements is appropriate and any uncertainty regarding going concern is mitigated by the proposed Offer, which is planned to raise gross proceeds of $20,000,000. Gold Hydrogen may also have direct or indirect access to capital via asset-level transactions such as joint ventures or farm-ins, as well as via off-take and other commercial agreements.

Should Gold Hydrogen be unable to continue as a going concern, it may be required to realise its assets and extinguish its liabilities other than in the ordinary course of business, and at amounts which may differ from those stated in the historical and pro forma financial information. This financial information does not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts or classification of liabilities and appropriate disclosures that may be necessary should Gold Hydrogen be unable to continue as a going concern.

Basis of Preparation

Gold Hydrogen's financial statements have been prepared in accordance with AAS and interpretations issued by the AASB and the Corporations Act, as appropriate for for-profit oriented entities. Gold Hydrogen's financial statements also comply with IFRS as issued by the IASB.

Historical Cost Convention

Except for derivative financial instruments, Gold Hydrogen's financial statements have been prepared under the historical cost convention.

Critical Accounting Estimates

The preparation of Gold Hydrogen's financial statements requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying Gold Hydrogen's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to Gold Hydrogen's financial statements, are disclosed below.

Accounting Policies

The principal accounting policies adopted in the preparation of Gold Hydrogen's financial statements are set out either in the respective notes or below. These policies have been consistently applied to all the years presented, unless otherwise stated.

Current and Non-current Classification

Assets and liabilities are presented in the statement of financial position based on current and non-current classification.

An asset is classified as current when: it is either expected to be realised or intended to be sold or consumed in Gold Hydrogen's normal operating cycle; it is held primarily for the purpose of trading; it is expected to be realised within 12 months after the reporting period; or the asset is cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least 12 months after the reporting period. All other assets are classified as non-current.

A liability is classified as current when: it is either expected to be settled in Gold Hydrogen's normal operating cycle; it is held primarily for the purpose of trading; it is due to be settled within 12 months after the reporting period; or there is no unconditional right to defer the settlement of the liability for at least 12 months after the reporting period. All other liabilities are classified as non-current.

Deferred tax assets and liabilities (if brought to account) are always classified as non-current.

Derivative Financial Instruments

Derivatives are initially recognised at fair value on the date a derivative contract is entered into, and are subsequently remeasured to their fair value at each reporting date. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

Derivatives are classified as current or non-current depending on the expected period of realisation.

Impairment of Non-financial Assets

Non-financial assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount.

Recoverable amount is the higher of an asset's fair value less costs of disposal and value-in-use. The value-in-use is the present value of the estimated future cash flows relating to the asset using a pre-tax discount rate specific to the asset or cash-generating unit to which the asset belongs. Assets that do not have independent cash flows are grouped together to form a cash-generating unit.

Finance Costs

Finance costs attributable to qualifying assets are capitalised as part of the asset. All other finance costs are expensed in the period in which they are incurred.

Goods and Services Tax ('GST') and Other Similar Taxes

Revenues, expenses and assets are recognised net of the amount of associated GST, unless the GST incurred is not recoverable from the tax authority. In this case it is recognised as part of the cost of the acquisition of the asset or as part of the expense.

Receivables and payables are stated inclusive of the amount of GST receivable or payable. The net amount of GST recoverable from, or payable to, the tax authority is included in other receivables or other payables in the statement of financial position.

Cash flows are presented on a gross basis. The GST components of cash flows arising from investing or financing activities which are recoverable from, or payable to the tax authority, are presented as operating cash flows.

Commitments and contingencies are disclosed net of the amount of GST recoverable from, or payable to, the tax authority.

Critical accounting judgements, estimates and assumptions

The preparation of Gold Hydrogen's financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts in Gold Hydrogen's financial statements. Management continually evaluates its judgements and estimates in relation to assets, liabilities, contingent liabilities, revenue and expenses. Management bases its judgements, estimates and assumptions on historical experience and on other various factors, including expectations of future events, management believes to be reasonable under the circumstances. The resulting accounting judgements and estimates will seldom equal the related actual results. The judgements, estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

Exploration and Evaluation Assets

Exploration and evaluation expenditure incurred is accumulated in respect of each identifiable area of interest. Such expenditures comprise net direct costs and an appropriate portion of related overhead expenditure but do not include overheads or administration expenditure not having a specific nexus to a particular area of interest.

These costs are only carried forward to the extent that they are expected to be recouped through the successful development of the area or where activities in the area have not yet reached a stage which permits reasonable assessment of the existence of economically recoverable reserves and active or significant operations in relation to the area are continuing.

A regular review will be undertaken on each area of interest to determine the appropriateness of continuing to carry forward costs in relation to that area of interest. A provision is raised against exploration and evaluation assets where the Directors are of the opinion that the carried forward net cost may not be recoverable or the right of tenure in the area lapses. The increase in the provision is charged against the results for the year.

Accumulated costs in relation to an abandoned area are written off in full against profit or loss in the year in which the decision to abandon the area is made. When production commences, the accumulated costs for the relevant area of interest are amortised over the life of the area according to the rate of depletion of the economically recoverable reserves.

Gold Hydrogen performs regular reviews on each area of interest to determine the appropriateness of continuing to carry forward costs in relation to that area of interest. These reviews are based on detailed surveys and an analysis of exploration and drilling results performed to reporting date.

The Directors have assessed that for the exploration and evaluation assets recognised, the facts and circumstances do not suggest that the carrying amount of an asset may exceed its recoverable amount. In considering this the Directors have had regard to the facts and circumstances that indicate a need for impairment as noted in Accounting Standard AASB 6 Exploration for and Evaluation of Mineral Resources.

Derivative instruments - conversion feature of convertible notes

The fair value of the conversion feature of the convertible notes is estimated using present value techniques, by discounting the probability-weighted estimated future cash outflows.

4.6 Dividend Policy

Gold Hydrogen does not expect to pay dividends in the near future as its focus will primarily be on growing the existing business. Any future determination as to the payment of dividends by Gold Hydrogen will be at the discretion of the Directors and will depend upon matters such as the availability of distributable earnings, the operating results and financial condition of Gold Hydrogen, future capital requirements, general business and other factors considered relevant by the Directors. No assurances are given in relation to the payment of dividends or that any dividends may attach franking credits.

5. Risks

5. Risks

5.1 Introduction

This Section 5 describes some of the potential risks associated with an investment in Gold Hydrogen.

An investment in Gold Hydrogen is subject to risk factors specific to Gold Hydrogen and its business activities and those of a more general nature including general risks associated with investing in Shares. Any, or a combination, of these risk factors may have a material adverse effect on Gold Hydrogen's business, financial condition, operating and financial performance, growth, and/or the value of its Shares. Many of the circumstances giving rise to these risks and the occurrence of consequences associated with each risk are partially or completely outside the control of Gold Hydrogen, its Directors and management.

Section 5 does not purport to list every risk that may be associated with an investment in Shares now or in the future. Additional risks that Gold Hydrogen is unaware of, or that Gold Hydrogen currently considers to be immaterial, also have the potential to have a material adverse effect on Gold Hydrogen's business, financial condition, operating and financial performance, growth, and/or the value of the Shares.

The selection of risks in this section has been based on an assessment of a combination of the probability of the risk occurring and the impact of the risk if it did occur. The assessment is based on the knowledge of the Directors as at the Prospectus Date, however, there is no guarantee or assurance that the importance of risks will not change or that other risks will not emerge.

Before deciding whether to invest in Gold Hydrogen by applying for Shares, you should read the entire Prospectus and satisfy yourself that you have a sufficient understanding of these matters and should consider whether Shares are a suitable investment for you having regard to your own investment objectives, financial circumstances and particular needs (including financial and taxation issues). If you do not understand any part of the Prospectus or are in any doubt as to whether to invest in Gold Hydrogen, you should seek professional advice from your stockbroker, accountant, lawyer, financial adviser or other independent professional adviser before deciding whether to invest.

5.2 Risks specific to Gold Hydrogen

(a) Exploration, technological and operational risk

The current and future operations of Gold Hydrogen, including exploration, appraisal, development and possible production activities, may be adversely affected by a range of geological, technological and operational factors, including:

(i) geological and Reservoir conditions;

(ii) limitations on activities due to seasonal or adverse weather patterns;

(iii) alterations to program and budgets;

(iv) unanticipated operational and technical difficulties encountered in Geophysical surveys, drilling and production activities;

(v) mechanical failure of operating plant and equipment, industrial and environmental accidents, acts of terrorism or political or civil unrest and other force majeure events;

(vi) industrial action, disputation or disruptions;

(vii) unavailability of transport or drilling equipment to allow access and geological and Geophysical investigations;

(viii) shortages or unavailability of manpower or appropriately skilled manpower;

(ix) unexpected shortages or increases in the costs of consumables, spare parts, plant and equipment (noting that Gold Hydrogen's exploration and development activities are dependent on the availability of drilling rigs and related equipment in the area of its tenements); or

(x) prevention or restriction of access by reason of inability to obtain consents or approvals; or

(xi) loss of or damage to private property, personal injury or death, or environmental damage.

The occurrence of any of these risks could result in substantial financial losses to Gold Hydrogen in a number of different ways. Whilst the Directors of Gold Hydrogen will endeavour to anticipate, identify and manage the risks inherent in the activities of the business, with the aim of eliminating, avoiding and mitigating the impact of such, no assurance can be given that the Directors of Gold Hydrogen will be successful in these endeavours.

There is a risk that Gold Hydrogen may complete its drilling program in accordance with its work plan without any complications, and still not discover any Natural Hydrogen, or still not discover Natural Hydrogen in sufficient quantities for commercial operations.

(b) Land access risk

Immediate access to the land the subject of the licences in which Gold Hydrogen has an interest cannot always be guaranteed. Gold Hydrogen may be required to seek the consent of the relevant landholder or other person (including government) or groups with an interest in the land the subject of the tenements, and compensation may be required to be paid to such persons to carry out Gold Hydrogen's activities.

As at the Prospectus Date, Gold Hydrogen has entered into one land access agreement in relation to a portion of the land the subject of PEL 687, but it does not yet have access to all areas in of the land the subject of PEL 687 to which it will require access in order to drill its exploration Wells and otherwise expend its funds in accordance with the expenditure program in Section 7.1(b) of this Prospectus. Gold Hydrogen intends to commence negotiations with relevant landholders to procure such access following listing; but it cannot guarantee that such access will be granted by the relevant landholders.

(c) Native title and heritage risk

The NTA recognises certain rights of indigenous Australians over lands where those rights have not been extinguished. These rights, where they exist, have the ability to significantly delay the grant and exploitation of tenements.

In applying for certain permits, Gold Hydrogen must observe the provisions of the applicable Native Title legislation. In the event it is determined that Native Title does exist, or a Native Title claim is registered, Gold Hydrogen may need to comply with procedures under the NTA in order to carry out its operations or to be granted any additional tenements. Such procedures may take considerable time, involve the negotiation of significant agreements, may involve a requirement to negotiate for access rights, and require the payment of compensation to those person holding or claiming Native Title in the land which is the subject of a tenement. The administration and determination of Native Title issues may result in delays or alterations to exploration programs and additional operational costs, all of which may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.

Refer to the Solicitor's Tenement Report in Annexure B for further details.

(d) Resource and Reserve estimate risk

Gold Hydrogen is engaged in Natural Hydrogen exploration, appraisal and development which is inherently highly speculative and involves a significant degree of risk, as outlined under Section 5.2(a) (Exploration, technological and operational risk) above.

Estimating Prospective Resources, Contingent Resources and Reserves is subject to significant assumptions and uncertainties associated with technical data and the interpretation of that data, the application of technology to access and recover the resources, future commodity prices and future development and operating costs, including being able to deal with the unique properties of Natural Hydrogen in recovery from the subsurface, transporting and processing.

The historical drilling results referred to in this Prospectus were undertaken many years ago by third parties unrelated to Gold Hydrogen, and have been obtained by Gold Hydrogen from publicly available reports, so Gold Hydrogen cannot verify these results and they may be inaccurate or incorrect in certain respects.

There can be no guarantee that Gold Hydrogen will successfully be able to convert Prospective Resources into Contingent Resources, and if Gold Hydrogen is successfully able to convert Prospective Resources into Contingent Resources, there is no guarantee that Gold Hydrogen will successfully be able to convert Contingent Resources into Reserves. Further, if Gold Hydrogen does convert Contingent Resources into Reserves, there is no guarantee that Gold Hydrogen will be able to produce the volume of Natural Hydrogen that it estimates as Reserves. Estimates may change significantly or become more uncertain or have changed geologic risk or have changed development risk when new information becomes available throughout the life of a project.

Reduction in Prospective Resources, Contingent Resources and Reserves estimates may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.

(e) Tenement risk

PEL 687 is a granted tenement, but the Application Tenements are at various stages of application. There can be no assurance that the Application Tenements that are currently pending will be granted. There can be no assurance that when an Application Tenement is granted, it will be granted in its entirety. Additionally, some of the tenement areas applied for may be excluded. Gold Hydrogen is unaware of any circumstances that would prevent the Applications Tenements from being granted, however the consequences of being denied the applications for reasons beyond the control of Gold Hydrogen could be significant.

Petroleum and exploration tenements are subject to periodic renewal. The renewal of the term of granted tenements is subject to compliance with the application legislation and regulations and the discretion of the relevant regulatory authority. Renewal conditions may include increased expenditure and work commitments or compulsory relinquishment of certain areas within the tenements. The imposition of new conditions, the inability to meet those conditions, or the forfeiture or involuntary surrender of a tenement may adversely affect the operations, financial position and/or performance of Gold Hydrogen.

Certain third party interests overlap the tenements areas which may limit Gold Hydrogen's ability to conduct its activities.

Refer to the Solicitor's Tenement Report in Annexure B for further details.

(f) Regulatory risk

Gold Hydrogen must comply with the legislation and regulatory frameworks applicable to it in each jurisdiction in which it operates. A failure to do so could result in suspension or loss of tenements or other permits or financial losses through penalties or fines, which could impact Gold Hydrogen's ability to commercialise its assets, which may impact Gold Hydrogen's operational and financial performance.

Changes to the applicable legislation and regulations in the future may provide for more onerous conditions with which Gold Hydrogen must comply, which may also impact Gold Hydrogen's operational and financial performance.

(g) Gas price and exchange rate risk

The demand for, and price of, gas is dependent on a number of factors over which Gold Hydrogen has no control, including (among others) international and domestic supply and demand, global economic and political developments and actions by major industry participants. As such, it is impossible to predict future commodity prices with certainty. Gas prices fluctuate, at times significantly, and a material decline in the price of gas may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.

Gold Hydrogen's accounts are expressed in Australian dollars, however, income may be earned and expended incurred in the future in currencies other than Australian dollars, which may expose Gold Hydrogen to fluctuations and volatility based on the exchange rate between the Australian dollar and those other currencies. A fall in the value of the Australian dollar against other currencies could increase costs for Gold Hydrogen. All of these factors have a bearing on operating costs, and therefore could have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.

(h) Government policy change risk

Gold Hydrogen's business is affected by government policy.

Shifts in government policy could have varying degrees of impact on Gold Hydrogen's operations and its profitability and could range from loss or reduction in industry incentives to preventing development or stopping gas development in the areas or jurisdictions the subject of Gold Hydrogen's tenements and projects. Such changes could have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.

(i) Climate change risk

Climate change is a risk Gold Hydrogen has considered, particularly related to its operations in the gas industry. The climate change risks particularly attributable to Gold Hydrogen include:

(i) the emergence of new or expanded regulations associated with the transitioning to a lower-carbon economy and market changes related to climate change mitigation. Gold Hydrogen may be impacted by changes to local or international compliance regulations related to climate change mitigation efforts, or by specific taxation or penalties for carbon emissions or environmental damage. These examples sit amongst an array of possible restraints on industry that may further impact Gold Hydrogen and its profitability. While Gold Hydrogen (being in the hydrogen industry) may actually benefit from such changes, there can be no guarantee that Gold Hydrogen will not be negatively impacted by these occurrences; and

(ii) climate change may cause certain physical and environmental risks that cannot be predicted by Gold Hydrogen, including events such as increased severity of weather patterns and incidence of extreme weather events and longer-term physical risks such as shifting climate patterns. All these risks associated with climate change may significantly change the industry in which Gold Hydrogen operates.

(j) Environmental risk

Gold Hydrogen is subject to environmental regulation pursuant to a variety of Australian laws and regulations. Compliance with these laws and regulations can require significant expenditure, and a breach may result in substantial financial liability for Gold Hydrogen. It is proposed to minimize these risks by conducting Gold Hydrogen's activities in a responsible manner, and Gold Hydrogen has engaged local Adelaide-based contractors JBS&G and Consentium to support Gold Hydrogen in this regard.

However, despite its best efforts, Gold Hydrogen's operations may cause harm to the environment due to an unexpected occurrence or occurrences. Depending on the circumstances, Gold Hydrogen may suffer reputational damage, may have an obligation to remediate the damage and may also have its tenements suspended or revoked, all of which may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.

(k) Future funding risk

At the Prospectus Date, Gold Hydrogen has no income-producing assets and will generate losses for the foreseeable future. Until Gold Hydrogen is able to develop a project and generate appropriate cashflow, it is dependent upon being able to obtain future equity or debt funding to support long term exploration, after the expenditure of the net proceeds raised under the Offer. Gold Hydrogen is likely to require further equity or debt funding before it can progress to the production stage. Neither Gold Hydrogen nor any of the Directors nor any other party can provide any guarantee or assurance that if further funding is required, such funding can be raised on terms acceptable to Gold Hydrogen.

Any additional equity funding will dilute existing Shareholders. Also, no guarantee or assurance can be given as to when a project can be developed to the stage where it will generate positive cashflow. As such, a project would be dependent on many factors, for example exploration success, subsequent mine development, commissioning, and operational performance.

Should it choose in future to enter joint ventures, Gold Hydrogen may not be able to earn or maintain proposed equity interests in its tenements if it fails to meet the ongoing expenditure commitments. Accordingly, Gold Hydrogen may potentially lose entitlement or rights to interests in tenements and projects where ongoing expenditure commitments are not met.

(l) Limited operating history risk

Gold Hydrogen was incorporated on 28 January 2021 and since that time, it has incurred operating losses only. This means that investors will not have a long-term performance history or track record to use to make an assessment of the ability of Gold Hydrogen to achieve its objectives.

Accordingly, there is a risk that Gold Hydrogen's investment objectives will not be achieved.

(m) Insurance risk

Companies within the gas industry are exposed to various operating hazards. Although Gold Hydrogen intends to procure appropriate insurance to cover its activities, no assurance can be given that such insurance will be available on commercially reasonable terms or that any cover will be adequate and able to cover all potential claims. Insurance may not always be available for all aspects of gas exploration and production. Where Gold Hydrogen suffers loss and does not carry adequate insurance, Gold Hydrogen may be exposed to material uninsured losses, which may have a material adverse effect on the viability of a project or the business of Gold Hydrogen generally.

(n) Personnel risk

Gold Hydrogen's future value will depend in part on the performance of its senior management and other key personnel. There is a risk that Gold Hydrogen may not be able to retain or hire all personnel necessary for the development and operation of its business, which may have a material adverse effect on Gold Hydrogen and its business.

(o) Industry risk

There is projected to be significant investment in hydrogen projects around the world over the coming years. The effects of this investment are currently unknown. It may completely change the hydrogen industry and the market in which Gold Hydrogen intends to operate from where it is at the Prospectus Date, which could have a significantly positive, or a significantly negative, effect on Gold Hydrogen's operations and achievement of its intended business objectives.

5.3 General investment risks

(a) Economic factors

Once Gold Hydrogen becomes a publicly listed company on the ASX, it will become subject to general market risk that is inherent for all entities whose securities are listed on a securities exchange. This may result in fluctuations in the Share price that are not explained by the fundamental operations and activities of Gold Hydrogen.

The price of Shares quoted on ASX may rise or fall and the Shares may trade below or above the Offer Price due to a number of factors. These include, but are not limited to, the following:

(i) the number of potential buyers or sellers of Shares on the ASX at any given time;

(ii) fluctuations in the domestic and international market for listed stocks;

(iii) general economic conditions including the unemployment rate, interest rates, inflation rates, exchange rates, commodity and oil prices, and changes to government fiscal, monetary or regulatory policies, legislation or regulation;

(iv) recommendations by brokers or analysts;

(v) inclusion in, or removal from, market indices;

(vi) global hostilities, tensions, and acts of terrorism;

(vii) the nature of the markets in which Gold Hydrogen operates; and

(viii) general operational and business risks.

These factors may cause the Shares to trade at prices below the price at which the Shares are being offered under this Prospectus. There is no assurance that the price of the Shares will increase following quotation on the ASX.

General economic conditions (both domestically and internationally) may adversely impact on the price of the Shares after Listing. This includes an increase in unemployment rates, negative consumer and business sentiment and changes in interest rates, among other factors. As a result of the above-mentioned factors, Gold Hydrogen is unable to forecast the market price for Shares and they may trade on ASX at a price that is below the Offer Price.

(b) Liquidity

There is currently no public market through which Shares may be sold. From Listing, there can be no guarantee that an active market will develop or that the price of the Shares will increase.

There may be relatively few or many potential buyers or sellers of the Shares on the ASX at any time, which may increase the volatility of the market price of the Shares, prevent investors from acquiring more Shares or disposing of Shares they acquire under the Offer, or result in Shareholders receiving a market price for their Shares that is less than the price that Shareholders paid.

Following Completion, between approximately 63.57% and 71.43% of the Shares will be escrowed, which may impact on liquidity, as outlined in Section 7.5.

(c) Shareholder dilution

In the future, Gold Hydrogen may elect to issue Shares to fund or raise proceeds for furtherance of its work programs, acquisitions, general working capital requirements, or for any other reason.

While Gold Hydrogen will be subject to the constraints of the ASX Listing Rules regarding the percentage of its capital that it is able to issue within a 12-month period (other than where exceptions apply), Shareholder interests may be diluted and Shareholders may experience a loss in value of their equity as a result of such issues of Shares and fundraisings.

(d) Taxation

Tax laws in Australia are complex and are subject to change periodically as is their interpretation by the relevant courts and the tax revenue authorities. Changes in tax law (including transfer pricing, GST, stamp duties and employment taxes), or changes in the way tax laws are interpreted may impact the tax liabilities of Gold Hydrogen, Shareholder returns, the level of dividend imputation or franking, or the tax treatment of a Shareholder's investment.

In particular, both the level and basis of taxation may change. Tax law is frequently being changed, both prospectively and retrospectively. Furthermore, the status of some key tax reforms remains unclear at this stage.

In addition, tax authorities may review the tax treatment of Gold Hydrogen's business and activities, and any transactions entered into by Gold Hydrogen, now or in the future. Any actual or alleged failure to comply with, or any change in the application or interpretation of, tax rules applied in respect of such transactions, may increase Gold Hydrogen's tax liabilities or expose it to legal, regulatory or other actions.

An interpretation of the taxation laws by Gold Hydrogen which is contrary to that of a revenue authority in Australia may give rise to additional tax payable. In order to minimise this risk, Gold Hydrogen obtains external expert advice on the application of the tax laws to its operations (as applicable).

(e) Australian Accounting Standards

Changes to the AAS are determined by the AASB. The AASB may, from time to time, introduce new or refined AAS, which may affect the future measurement and recognition of key income statement and balance sheet items, including revenue and receivables. There is also a risk that interpretations of existing AAS, including those relating to the measurement and recognition of key statements of profit and loss and balance sheet items, including revenue and receivables, may differ. Changes to AAS issued by the AASB or changes to the commonly held views on the application of those standards could materially and adversely affect the financial performance and position reported in Gold Hydrogen's financial statements.

(f) Force majeure events

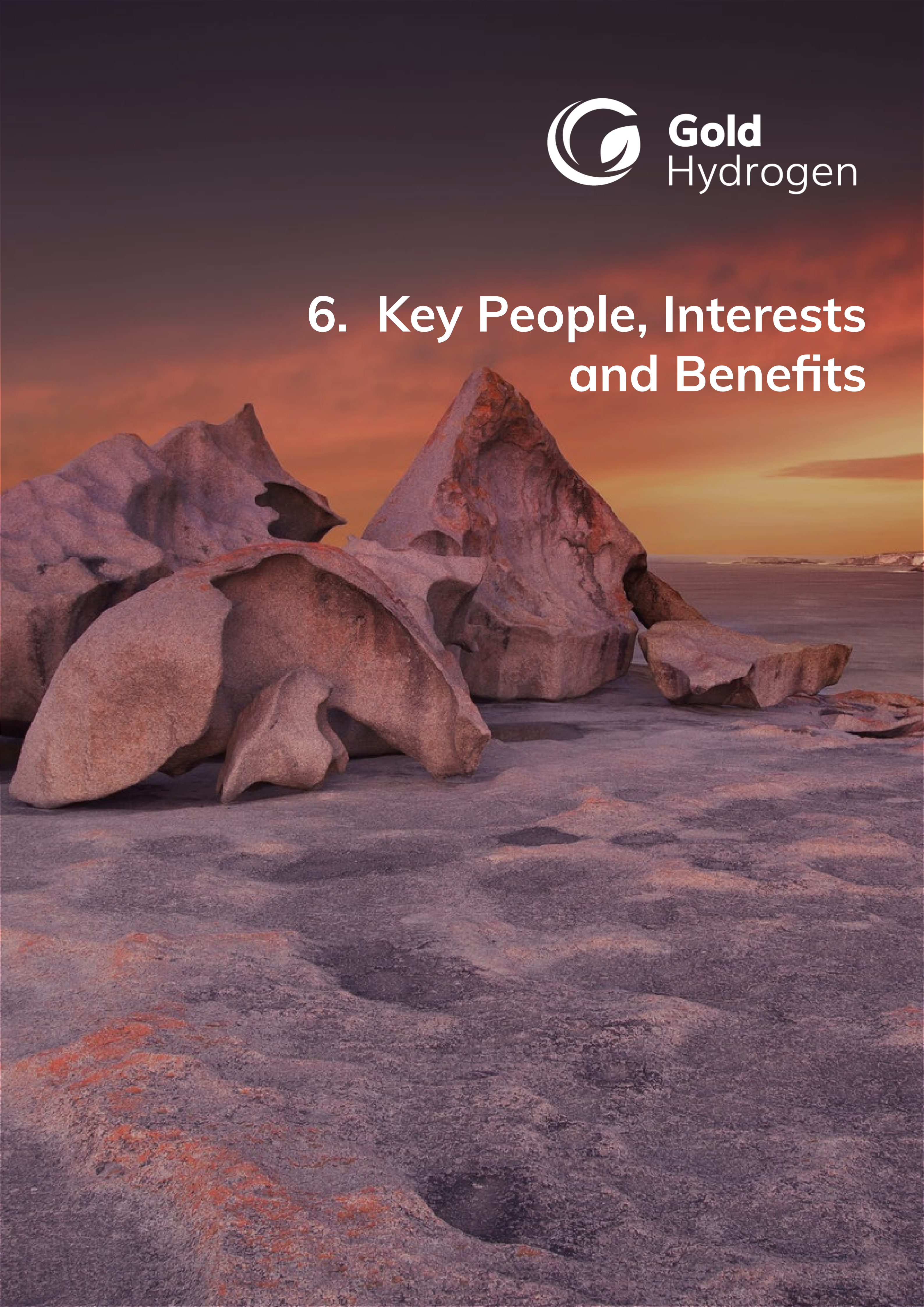
Events may occur within or outside Australia that could impact upon the global, Australian or local economies, relevant to Gold Hydrogen's operations and the Share price. These events include but are not limited to acts of terrorism, an outbreak of international hostilities, fires, floods, earthquakes, labour strikes, civil wars, natural disasters, outbreaks of disease or other man-made or natural events or occurrences that can have an adverse effect on the demand for Gold Hydrogen's products and services. Gold Hydrogen has only a limited ability to insure against some of these risks.

(g) COVID-19

In addition to the general force majeure events listed above, the global economy is still facing significant uncertainty due to the impacts of COVID-19. The ongoing and future responses of governments around the world to challenges presented by COVID-19 are dynamic and unpredictable, and the possibility of another Australian economic shutdown remains possible.

COVID-19 may adversely affect Gold Hydrogen in numerous ways, including health risks to its personnel, supply chain delays and other operational disruptions, all of which are likely to be beyond the reasonable control of Gold Hydrogen and may adversely affect Gold Hydrogen's Share price.

6. Key People, Interests and Benefits



6. Key People, Interests and Benefits

6.1 Board of Directors

Profiles of each member of the Board are set out in the table below.

Director	Experience and background
 **Alexander John Gosse Downer** Independent, Non-Executive Chairman *Bachelor of Arts (BA) (Hons) in Politics and Economics*	Alexander Downer is one of the country's best known politicians and diplomats. The South Australian was leader of the Liberal Party from 1994 to 1995, Minister for Foreign Affairs from 1996 to 2007, and High Commissioner to the United Kingdom from 2014 to 2018. Before entering politics he was an executive director of the Australian Chamber of Commerce. Since departing Canberra and the diplomatic service, he currently holds or has previously held a number of board appointments, including the Advisory Board of British strategic intelligence and advisory firm Hakluyt & Company, merchant bankers Cappello Capital Corp. the Adelaide Symphony Orchestra, Huawei in Australia, as well as ASX-listed Lakes Oil NL and Ironbark Zinc Ltd. Alexander is currently a Non-Executive Director of Yellow Cake Plc, remains a columnist for the Australian Financial Review and is Companion of the Order of Australia.
 **Neil John McDonald** Managing Director *Bachelor of Laws, Bachelor of Arts and Graduate of the Australian Institute of Company Directors (GAICD)*	Neil McDonald has more than 20 years of extensive commercial experience across the energy and minerals sectors in multiple Australian states. He has been involved from greenfield exploration to early development in projects across Queensland, Northern Territory and South Australia. He has worked on and helped commercialise some of Australia's largest exploration projects for private and public companies. As a commercial lawyer, Neil has a strong legal grounding in commercial and regulatory compliance in the resources industry. Areas of focus in his career have been: acquiring new assets for business growth, monetisation of existing assets, engaging domestic and international investors, new partnerships to maximise commercialisation of assets, developing non-partisan relationships at the highest political levels, both Federal and State. Neil is a graduate of the Australian Institute of Company Directors.
 **John Luke Titus** Executive Director *Bachelor of Science (Geology)*	Luke Titus has in excess of 25 years of relevant international exploration and development experience in industrial rocks and minerals, precious metals, conventional and unconventional hydrocarbons, and associated gases, including hydrogen and helium. Luke is highly skilled in early-stage undercover exploration using low-impact innovative techniques for data acquisition and analysis. After keeping abreast of international literature on the development of natural (gold) hydrogen in Africa and other continents, it was his research of Australian sites that found the previous accidental discovery of natural hydrogen here, seen as a by-product of other exploration. Luke is qualified to fulfil the role of Competent Person for announcements and resource and reserve-related estimates under the relevant ASX Listing Rules.

Director	Experience and background
 **Roger Hamilton Cressey** Executive Director *Bachelor of Engineering (Mechanical)*	Roger Cressey has more than 35 years of experience in the resource industry, predominantly in gas exploration and production. Roger has held CEO, COO and other executive roles within upstream and downstream operations across Australia, most recently in Queensland, NT and before that PNG. He has also held senior roles with companies active in Indonesia and Uganda. Roger's strengths lie in managing multi-discipline teams, strategy development and delivery. He has a strong focus on engagement with both external and internal key stakeholders.
 **Katherine Elizabeth Barnet** Independent, Non-Executive Director *Bachelor and Masters of Commerce*	Katherine Barnet is a Chartered Accountant with over 25 years' experience in the provision of professional services. Katherine is currently a partner at Olvera Advisors, a boutique Sydney-based consultancy, and has worked on some of Australia's largest corporate matters and achieved success in developing, evaluating and understanding complex financial transactions, optimising sustainable growth and increasing value to corporate entities. Her recent corporate expertise has been focused on the renewable energy / mining, retail, property and construction industries. Katherine is a Fellow of CAANZ and ARITA and a member of the Australian Institute of Company Directors.

6.2 Senior management

Profiles of the key members of Gold Hydrogen's executive management team are set out in the table below.

Executive	Experience and background
Neil John McDonald Managing Director and CEO	Per above
John Luke Titus Executive Director and COO	Per above
Roger Hamilton Cressey Executive Director, Commercial & Operations	Per above
 **Karl Mathew Schlobohm** Company Secretary and CFO *Bachelor of Commerce, Bachelor of Economics, Masters of Taxation*	Karl Schlobohm is a Chartered Accountant and Fellow of the Governance Institute of Australia, with over 30 years' experience across a range of businesses and industries. Karl has extensive listed company experience spanning the ASX, LSE, AIM and TSX exchanges, and has acted as CFO and/or Company Secretary for a number of publicly-listed companies in the resources industry including: • SolGold plc • Atlantic Lithium Ltd • DGR Global Ltd • Meridian Minerals Ltd • Tombola Gold Ltd

6.3 Interests and benefits

Other than as set out in this Prospectus, no:

- Director or proposed director of Gold Hydrogen;
- person named in this Prospectus as performing a function in a professional, advisory, or other capacity in connection with the preparation or distribution of this Prospectus;
- promoter of Gold Hydrogen; or
- underwriter to the Offer or financial services licensee named in this Prospectus as a financial services licensee involved in the Offer,

(each, a **relevant person**) holds, at the time of lodgment of this Prospectus with ASIC, or has held in the two years before lodgment of this Prospectus with ASIC, an interest in;

- the formation or promotion of Gold Hydrogen;
- the Offer; or
- any property acquired or proposed to be acquired by Gold Hydrogen in connection with its formation or promotion of the Offer,

Other than as set out in this Prospectus, no relevant person has paid or agreed to pay any amount or given or agreed to give any benefits for services provided by a relevant person in connection with the formation or promotion of Gold Hydrogen or the Offer.

(a) Interests of advisers

The amounts set out below are exclusive of GST.

(i) Gadens has acted as Australian legal adviser in respect of the Offer. In aggregate, Gold Hydrogen has paid or agreed to pay approximately $120,000 (plus GST and disbursements) for these services to the date of this Prospectus. Further amounts may be paid to Gadens in accordance with its normal time based charges.

(ii) The Lead Manager has acted as the lead manager and underwriter in relation to the Offer. Gold Hydrogen has agreed to pay the fees described in Section 7.6 of this Prospectus.

(iii) BDO has acted as the Investigating Accountant and Auditor in respect of the Offer and has performed work in relation to the Investigating Accountant's Report. In aggregate, Gold Hydrogen has paid or agreed to pay approximately $55,000 (plus GST and disbursements) for these services to the date of this Prospectus. Further amounts may be paid to BDO in accordance with its normal time based charges.

(iv) Teof Rodrigues & Associates Pty Ltd has acted as the Technical Expert in respect of the Offer and has performed work in relation to the Technical Expert Report. In aggregate, Gold Hydrogen has paid or agreed to pay approximately $72,000 (plus GST and disbursements) for these services to the date of this Prospectus.

(v) Frost and Sullivan Australia Pty Ltd has acted as the Industry Expert in respect of the Offer and has performed work in relation to the Industry Expert Report. In aggregate, Gold Hydrogen has paid or agreed to pay approximately $25,000 (plus GST and disbursements) for these services to the date of this Prospectus.

(b) Director and senior management remuneration and benefits

(i) Mr Neil McDonald – Managing Director and CEO

Mr Neil McDonald is employed as Managing Director and CEO, and, from the date on which Gold Hydrogen is admitted to the Official List, is entitled to receive $370,000 per annum (excluding statutory superannuation, which is capped at $27,500 per annum).

From the date on which Gold Hydrogen is admitted to the Official List, Mr McDonald will be provided with a desktop and laptop computer, and is entitled to be reimbursed for travel and other expenses incurred during the course of employment.

From the date on which Gold Hydrogen is admitted to the Official List, the Board may, in its absolute discretion invite Mr McDonald to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

(ii) Mr Luke Titus – Executive Director and COO

Mr Luke Titus is employed as Executive Director and COO, and, from the date on which Gold Hydrogen is admitted to the Official List, is entitled to receive $370,000 per annum (excluding statutory superannuation, which is capped at $27,500 per annum).

From the date on which Gold Hydrogen is admitted to the Official List, Mr Titus will be provided with a desktop and laptop computer, and is entitled to be reimbursed for travel and other expenses incurred during the course of employment.

From the date on which Gold Hydrogen is admitted to the Official List, the Board may, in its absolute discretion invite Mr Titus to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

(iii) Mr Roger Cressey – Executive Director, Commercial & Operations

Gold Hydrogen has executed a services agreement dated 1 July 2022 with RH Cressey Consulting Pty Ltd (**RHC**) under which Mr Roger Cressey is engaged to act as a Director of Gold Hydrogen.

The contracted fee is $234,000 per annum (excluding GST) for the services related to Mr Cressey. RHC is entitled to be reimbursed for travel and other expenses incurred in relation to Gold Hydrogen in the course of the engagement.

The Board may, in its absolute discretion, invite RHC to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

(iv) Mr Karl Schlobohm – Company Secretary and CFO

Gold Hydrogen has executed a services agreement dated 1 July 2022 with Millbohm Consulting Group Pty Ltd (**Millbohm**) under which Mr Karl Schlobohm is engaged to act as the Company Secretary and CFO.

The contracted fee is $234,000 per annum (excluding GST) for the services related to Mr Schlobohm. Millbohm is entitled to be reimbursed for travel and other expenses incurred in relation to Gold Hydrogen in the course of the engagement.

The Board may, in its absolute discretion, invite Millbohm to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

(v) Mr Alexander Downer – Non-Executive Chairman

Mr Alexander Downer has been appointed as the Non-Executive Chairman of Gold Hydrogen, and is entitled to receive $100,000 per annum (including statutory superannuation) for services provided to Gold Hydrogen as Non-Executive Chairman.

Mr Downer is entitled to be reimbursed for travel and other expenses incurred in connection with the business of Gold Hydrogen.

The Board may, in its absolute discretion invite Mr Downer to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

(vi) Ms Katherine Barnet – Non-Executive Director

Ms Katherine Barnet has been appointed as a Non-Executive Director of Gold Hydrogen, and is entitled to receive $50,000 per annum (including statutory superannuation) for services provided to Gold Hydrogen as Non-Executive Director.

Ms Barnet is entitled to be reimbursed for travel and other expenses incurred in connection with the business of Gold Hydrogen.

The Board may, in its absolute discretion invite Ms Barnet to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

The current maximum aggregate sum of Non-Executive Director remuneration is $500,000.

(c) Director and senior management interests in Shares and Director and Manager Options

The interests in Shares in Gold Hydrogen held by the Directors and senior management as at the Prospectus Date are set out below:

Director and senior management interests		
	Prospectus Date	
Director or senior manager[1]	No. of Shares	%
Neil McDonald, Managing Director and CEO	39,538,488	50%
Luke Titus, Executive Director and COO	39,538,489	50%
Roger Cressey, Executive Director, Commercial & Operations	-	-
Karl Schlobohm, Company Secretary and CFO	-	-
Alexander Downer, Non-Executive Chairman	-	-
Katherine Barnet, Non-Executive Director	-	-
Totals:	**79,076,977**	**100%**

Notes:

1. *Directors and senior managers listed above hold their interests either directly or indirectly through related companies, trusts or associates.*

The interests in Shares and Director and Management Options in Gold Hydrogen held by the Directors and senior management on admission to the ASX are set out below:

Director and senior management interests				
	On admission to the ASX			
Director or senior manager[1]	No. of Shares	No. of Director and Manager Options[2]	% (undiluted)[3]	% (fully diluted)[3]
Neil McDonald, Managing Director and CEO	38,506,511	600,000	27.50%	27.18%
Luke Titus, Executive Director and COO	38,506,511	600,000	27.50%	27.18%
Roger Cressey, Executive Director, Commercial & Operations	76,923	600,000	0.05%	0.47%
Karl Schlobohm, Company Secretary and CFO	153,846	600,000	0.11%	0.52%
Alexander Downer, Non-Executive Chairman	61,538	900,000	0.04%	0.67%
Katherine Barnet, Non-Executive Director	61,538	600,000	0.04%	0.46%
Totals:	**77,366,867**	**3,900,000**	**55.26%**	**56.47%**

Notes:

1. *Directors and senior management listed above hold their interests either directly or indirectly through related companies, trusts or associates.*
2. *All Director and Manager Options convert to Shares on a one for one basis. Shares issued on conversion will be held by Directors and senior managers listed above either directly or indirectly through related companies, trusts or associates.*
3. *Undiluted refers to the number of Shares on issue and fully diluted refers to the number of Shares and Director and Management Options on issue.*

The Directors and senior managers listed above (and their related companies, trusts or associates) are entitled to apply for Shares under the Offer. The above table does not take into account any Shares the Directors and senior managers listed above (or their related companies, trusts or associates) may acquire under the Offer.

As noted in the above table, Gold Hydrogen intends to issue 3,900,000 options (**Director and Management Options**) to the Directors and senior management as part of their remuneration packages. Upon exercise, the Director and Management Options will convert into Shares on a one-to-one basis.

Full details of the Director and Management Options are as follows:

Option holder	Options	Performance Milestone	Exercise Price	Vesting date	Expiry
Alexander Downer (or a related company, trust or associate)	300,000	The Market Value for one Share reaching 150% of the Offer Price	150% of Offer Price	1.5 years after date of admission to Official List of ASX	3 years after date of admission to Official List of ASX
	300,000	The Market Value for one Share reaching 200% of the Offer Price	200% of Offer Price	2 years after date of admission to Official List of ASX	4 years after date of admission to Official List of ASX
	300,000	The Market Value for one Share reaching 350% of the Offer Price	350% of Offer Price	3 years after date of admission to Official List of ASX	4 years after date of admission to Official List of ASX
Each of Neil McDonald, Luke Titus, Roger Cressey, Katherine Barnet and Karl Schlobohm (or, in each case, a related company, trust or associate)	200,000	The Market Value for one Share reaching 150% of the Offer Price	150% of Offer Price	1.5 years after date of admission to Official List of ASX	3 years after date of admission to Official List of ASX
	200,000	The Market Value for one Share reaching 200% of the Offer Price	200% of Offer Price	2 years after date of admission to Official List of ASX	4 years after date of admission to Official List of ASX
	200,000	The Market Value for one Share reaching 350% of the Offer Price	350% of Offer Price	3 years after date of admission to Official List of ASX	4 years after date of admission to Official List of ASX

For the purposes of the above, “Market Value”, while Gold Hydrogen is admitted to the Official List of ASX, means, as at or on any date of determination, the volume weighted average closing sale price per Share on ASX for the last 20 consecutive days on which Gold Hydrogen’s Shares have traded on ASX immediately preceding the date of determination.

The Director and Management Options will:

(i) not be transferable;

(ii) not confer any right to vote, except as required by law;

(iii) not confer any entitlement to a dividend, whether fixed or at the discretion of the Directors;

(iv) not confer any right to a return of capital, whether in winding up, upon a reduction of capital or otherwise;

(v) not confer any right to participate in the surplus profit or assets of Gold Hydrogen upon a winding up; and

(vi) not confer any right to participate in new issues of securities such as bonus issues or entitlement issues (subject to anti-dilution provisions that adjust the number of Shares into which the Director and Management Options convert if Gold Hydrogen splits or consolidates its Shares or undertakes a bonus issue or other capital reconstruction),

unless and until the applicable performance milestone is achieved and the Director and Management Option converts into Shares. The Director and Management Options also contain change of control provisions allowing Gold Hydrogen to convert them into Shares if there is a change of control of Gold Hydrogen, notwithstanding that the application performance milestone has not been achieved.

Where a Director or senior manager ceases to be employed by, or provide services to, Gold Hydrogen for any reason other than a material breach (being a breach or continued neglect by the Director or senior manager in the performance of the Director's or senior manager's duties or obligations to Gold Hydrogen or its subsidiaries pursuant to any contract of employment, retainer, consulting or services agreement, restraint of trade, or under any law), including due to death or disability, Gold Hydrogen may cancel all unvested Director and Management Options, and any vested Director and Manager Options must be exercised by the relevant Director or senior manager (or, in the case of death or disability, by their personal representatives) within a specified timeframe.

Where a Director or senior manager ceases to be employed by, or provide services to, Gold Hydrogen due to a material breach (as defined above), Gold Hydrogen may terminate all Director and Management Options previously granted to that Director or senior manager (whether vested or unvested).

6.4 Related party agreements

(a) Deeds of access and indemnity with each of the Directors and officers

Gold Hydrogen has entered into standard deeds of access and indemnity (Deed or Deeds) with each current Director and officer which confirms the Director's or officer's right of access to Board papers and requires Gold Hydrogen to indemnify the Director or officer against all losses or liabilities incurred by the Director or officer as a Director or officer of Gold Hydrogen.

Gold Hydrogen has in place a Directors' and Officers' insurance policy, insuring the Directors and officers against liability as a Director until seven years after they cease to hold office as a Director.

The Deeds entered into by Gold Hydrogen with each of the Directors and officers, which are summarised below, provide for Gold Hydrogen to give benefits to the Directors and officers which are reasonable. Each Director and officer has entered into a Deed with Gold Hydrogen under which the Director or officer is given access to Gold Hydrogen documents and in addition, is indemnified by Gold Hydrogen to the full extent licensed by law against:

(i) All liabilities sustained or incurred in connection with acting as a Director or officer of Gold Hydrogen.

(ii) Legal costs incurred in responding to an action relating to the Director's or officer's position with Gold Hydrogen, which is taken by regulatory authorities or others prior to commencing proceedings and defending an action for a liability incurred as a Director or officer of Gold Hydrogen.

Furthermore, under the Deed, each Director and officer is entitled to:

(i) a loan or advance to meet the costs of defending or responding to any claim or proceeding;

(ii) have Gold Hydrogen maintain and pay premiums in respect of Directors' and Officers' liability insurance to an agreed minimum coverage.

(b) Escrow agreements with each related party that holds restricted securities

Gold Hydrogen expects to enter into escrow agreements with each Director and senior manager that holds restricted securities. For further information on escrow arrangements, see Section 7.5.

(c) Executive service contracts

(i) Mr Neil McDonald – Managing Director and CEO

Gold Hydrogen has entered into an executive services agreement with Mr McDonald, pursuant to which Mr McDonald serves as Managing Director and Chief Executive Officer responsible for the overall management and supervision of the activities, operations, and affairs of Gold Hydrogen, subject to overall control and direction of the Board.

Pursuant to the agreement, from the date on which Gold Hydrogen is admitted to the Official List, Mr McDonald is entitled to receive $370,000 per annum (excluding statutory superannuation, which is capped at $27,500 per annum).

Mr McDonald will be provided with a desktop and laptop computer, and is entitled to be reimbursed for travel and other expenses incurred during the course of employment.

The Board may, in its absolute discretion invite Mr McDonald to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

The agreement is for an indefinite term, continuing until terminated by either Gold Hydrogen or Mr McDonald giving not less than 3 months' written notice of termination to the other party (or shorter period in limited circumstances).

Mr McDonald is also subject to restrictions in relation to the use of confidential information during and after his employment with Gold Hydrogen ceases and being directly or indirectly involved in a competing business during the continuance of his employment with the on terms which are otherwise considered standard for agreements of this nature.

In addition, the agreement contains additional provisions considered standard for agreements of this nature.

(ii) Mr Luke Titus – Executive Director and COO

Gold Hydrogen has entered into an executive services agreement with Mr Titus, pursuant to which Mr Titus serves as Executive Director and COO responsible for the oversight and management of the Company's technical work programs, and the management of technical partnerships and supplier relationships, subject to overall control and direction of the Board.

Pursuant to the agreement, from the date on which Gold Hydrogen is admitted to the Official List, Mr Titus is entitled to receive $370,000 per annum (excluding statutory superannuation, which is capped at $27,500 per annum).

Mr Titus will be provided with a desktop and laptop computer, and is entitled to be reimbursed for travel and other expenses incurred during the course of employment.

The Board may, in its absolute discretion invite Mr Titus to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

The agreement is for an indefinite term, continuing until terminated by either Gold Hydrogen or Mr Titus giving not less than 3 months' written notice of termination to the other party (or shorter period in limited circumstances).

Mr Titus is also subject to restrictions in relation to the use of confidential information during and after his employment with Gold Hydrogen ceases and being directly or indirectly involved in a competing business during the continuance of his employment with the on terms which are otherwise considered standard for agreements of this nature.

In addition, the agreement contains additional provisions considered standard for agreements of this nature.

(iii) Mr Roger Cressey – Executive Director, Commercial & Operations

Gold Hydrogen has executed a services agreement dated 1 July 2022 with RH Cressey Consulting Pty Ltd (**RHC**) under which Mr Roger Cressey is engaged to act as a Director of Gold Hydrogen.

The contracted fee is $234,000 per annum (excluding GST) for the services related to Mr Cressey. RHC is entitled to be reimbursed for travel and other expenses incurred in relation to Gold Hydrogen in the course of the engagement.

The Board may, in its absolute discretion, invite RHC to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

The agreement is non-exclusive and for an indefinite term, continuing until terminated by either party giving not less than 3 months' written notice of termination (or shorter period in limited circumstances).

RHC is subject to restrictions in relation to the use of confidential information during and after its engagement with Gold Hydrogen ceases and being directly or indirectly involved in a competing business during the continuance of the agreement on terms which are otherwise considered standard for agreements of this nature.

In addition, the agreement contains additional provisions considered standard for agreements of this nature.

(iv) Mr Karl Schlobohm – Company Secretary and CFO

Gold Hydrogen has entered into a services agreement dated 1 July 2022 with Millbohm Consulting Group Pty Ltd (**Millbohm**) under which Mr Karl Schlobohm is engaged to act as The Company Secretary and CFO.

The contracted fee is $234,000 per annum (excluding GST) for the services related to Mr Schlobohm. Millbohm is entitled to be reimbursed for travel and other expenses incurred in relation to Gold Hydrogen in the course of the engagement.

The Board may, in its absolute discretion, invite Millbohm to participate in bonus and/or other incentive schemes in Gold Hydrogen that it may implement from time to time, subject to compliance with the Corporations Act and ASX Listing Rules.

The agreement is non-exclusive and for an indefinite term, continuing until terminated by either party giving not less than 3 months' written notice of termination (or shorter period in limited circumstances).

Millbohm is subject to restrictions in relation to the use of confidential information during and after its engagement with Gold Hydrogen ceases and being directly or indirectly involved in a competing business during the continuance of the agreement on terms which are otherwise considered standard for agreements of this nature.

In addition, the agreement contains additional provisions considered standard for agreements of this nature.

(d) Non-Executive Director appointment letters

(i) Mr Alexander Downer – Non-Executive Chairman

Gold Hydrogen has entered into a non-executive director letter of appointment with Mr Downer pursuant to which Gold Hydrogen has agreed to pay Mr Downer $100,000 per annum (including statutory superannuation) for services provided to Gold Hydrogen as Non-Executive Chairman.

Mr Downer is entitled to be reimbursed for travel and other expenses incurred in connection with the business of Gold Hydrogen.

(ii) Ms Katherine Barnet – Non-Executive Director

Gold Hydrogen has entered into a non-executive director letter of appointment with Ms Barnet pursuant to which Gold Hydrogen has agreed to pay Ms Barnet $50,000 per annum (including statutory superannuation) for services provided to Gold Hydrogen as Non-Executive Director.

Ms Barnet is entitled to be reimbursed for travel and other expenses incurred in connection with the business of Gold Hydrogen.

(e) Share Sale Agreement in respect of shares in WH and Byrock

Gold Hydrogen has entered into an agreement with NFM and MS pursuant to which it agreed to purchase 100% of the share capital in WH and Byrock from NFM and MS.

The only material assets held by WH are its interests in PELAs 699, 700, 701, 702, 703 and 704, and the only material asset held by Byrock is its interest in PELA 688.

The consideration to be paid for the acquisition of these shares by Gold Hydrogen will be further Shares in Gold Hydrogen issued to NFM and MS prior to listing in accordance with the below formula:

GHS = N / LP

Where:

GHS is the aggregate number of Shares to be issued to NFM and MS

N is 2,000,000

LP is the Offer Price

These further Shares issued to NFM and MS will be restricted securities.

This transaction will complete on a date elected by Gold Hydrogen (acting reasonably) prior to the date on which Gold Hydrogen is admitted to the Official List.

(f) Deeds of Assignment of Intellectual Property

Each of Neil McDonald and Luke Titus have entered into a Deed of Assignment of Intellectual Property with Gold Hydrogen, pursuant to which they have each acknowledged and agreed that all intellectual property rights created by each of them in the course of providing any services to Gold Hydrogen at any time until the date of Listing will immediately vest in Gold Hydrogen.

6.5 Details of Employee Share and Option Scheme Rules

Gold Hydrogen has established an Employee Share and Option Scheme (**ESOS**) to assist in the attraction, motivation and retention of management and employees of Gold Hydrogen. The ESOS is a long-term incentive plan, under which rights to subscribe for Shares or options which convert into Shares upon exercise (**Options**) may be offered to eligible employees. Gold Hydrogen may offer additional incentives to management and employees outside of the ESOS over time.

As at the Prospectus Date, Gold Hydrogen has not issued any Shares or Options under the ESOS, and the Board does not presently intend to issue any Shares or Options under the ESOS but it may in its discretion issue new Shares or Options over time under the ESOS, provided that the maximum number of Shares and Options which may be offered under the ESOS cannot exceed 5% of Gold Hydrogen's total issued Shares at that time of the offer when aggregated with:

(a) the number of Shares and Options which would be issued on the basis that each outstanding offer with respect to Shares and Options under any employee share option scheme of Gold Hydrogen or any associated body corporate of Gold Hydrogen (including the ESOS) were accepted; and

(b) the number of Shares and Options issued during the previous 3 years pursuant to any employee share option scheme of the Company or an associated body corporate of Gold Hydrogen (including the ESOS).

The Director and Manager Options will not be issued under the ESOS.

The other material terms of the ESOS are as follows:

Material Term	Description
Administration	The ESOS is administered by the Board.
Eligible employees	Eligible employees include any full time or part time continuing employee of Gold Hydrogen or an associated body corporate of Gold Hydrogen who is employed at the time of the offer of the Shares or Options or is a Director or officeholder of Gold Hydrogen or of an associated body corporate of Gold Hydrogen and is determined by the Board from time to time in their absolute discretion to be eligible for participation under the ESOS. The Board may in its absolute discretion determine that an employee who otherwise would be eligible under the ESOS is nonetheless not eligible.
Aggregate Share issue limit	As above.
Conditions	The Board will determine the terms and conditions of any Shares or Options offered under the ESOS, including: • the number of Shares or Options being offered; • the issue price or exercise price of the Shares or Options on offer; • (for Options) the option period; • any specified date, being not more than 45 days after the date of the offer, by which the offer must be accepted (**Acceptance Date**); • any criterion, condition or other requirement that must be satisfied before issue or exercise; and • any other terms and conditions attaching to the offer An Offer which is not accepted by the participant by any specified Acceptance Date shall lapse.

Material Term	Description

Amendments	Subject to the below paragraph, the Board may by resolution amend the ESOS or any of terms of a Share or Option issued under the ESOS.
	
	The Board may not amend the ESOS if the amendment would materially reduce the rights of a participant in respect of a Share or Option issued under the ESOS before the date of the amendment, unless the amendment is introduced primarily:
	• for the purpose of complying with any State or Commonwealth legislation that affects the ESOS;
	• to correct a manifest error;
	• to address possible adverse tax implications in respect of the ESOS arising from, amongst others:
	  ◦ a ruling of any relevant taxation authority;
	  ◦ a change to tax legislation (including an official announcement by any relevant taxation authority); or
	  ◦ changes in the interpretation of tax legislation by a court or tribunal of competent jurisdiction; or
	• to enable Gold Hydrogen to comply with its constitution, the Corporations Act, other legislation or the ASX Listing Rules.

Participation and ranking	Option holders do not have any right to participate in new issues of securities in Gold Hydrogen made to shareholders generally. Gold Hydrogen will, where required pursuant to the ASX Listing Rules, provide Option holders with notice prior to the books record date (to determine entitlements to any new issue of securities made to shareholders generally) to exercise the Options, in accordance with the requirements of the ASX Listing Rules. The Option holder does not participate in any dividends unless the Options are exercised and the resultant Shares of Gold Hydrogen are issued prior to any specified record date to determine entitlements to the dividend. If there are certain variations to the Share capital of Gold Hydrogen including a bonus issue, rights issue or reorganisation, the Board may make such adjustments as they consider appropriate to the issue terms of Options issued under the ESOS. Unless specified otherwise by the Board in the terms and conditions of the offer when offering the relevant Shares or Options, all Shares and Options allotted under the ESOS shall rank pari passu in all respects with the Shares or Options (as applicable) of the same class for the time being on issue with the exception of any rights attaching to other Shares or Options (as applicable) by virtue of entitlements arising from a record date prior to the date of the allotment in respect of those Shares or Options (as applicable).
ASX Listing Rules	The ESOS is subject to Gold Hydrogen's constitution, the Corporations Act and the ASX Listing Rules.

6.6 Corporate governance

The Board of Gold Hydrogen takes the governance of Gold Hydrogen seriously and has implemented a range of corporate governance policies and ancillary materials, as listed below:

(a) Anti-Bribery & Corruption Policy

(b) Assessing the Independence of Directors Policy

(c) Board Charter

(d) Code of Conduct and Business Ethics

(e) Conflict of Interest Policy

(f) Continuous Disclosure Policy

(g) Core Values Statement

(h) Diversity and Inclusion Policy

(i) Fraud Control Policy

(j) Privacy Policy

(k) Related Party Transactions Policy

(l) Responsible Sourcing and Modern Slavery Policy

(m) Risk Management Policy

(n) Securities Trading Policy

(o) Whistleblower Policy

Copies of Gold Hydrogen's key corporate governance policies and charters for the Board and each of its committees are available on Gold Hydrogen's website (www.goldhydrogen.com.au) under *Corporate Governance*.

6.7 Corporate Governance Statement

(a) Overview

The Board of Directors of Gold Hydrogen is responsible for the corporate governance of Gold Hydrogen. The Board guides and monitors the business affairs of Gold Hydrogen on behalf of the shareholders, by whom they are elected, and to whom they are accountable.

Gold Hydrogen's Corporate Governance Statement has been adopted and structured with reference to the ASX Recommendations.

Gold Hydrogen's practices are largely consistent with the ASX Recommendations, and the Board has made appropriate statements reporting on the adoption of the recommendations. However, it does not consider that full compliance with all of the ASX Recommendations is currently possible or appropriate, due to the current size and scale of Gold Hydrogen's Board, management team and operations. The Board has offered full disclosure and reasons for the adoption of Company practices, in compliance with the "if not, why not" approach, and these are summarised below.

The Board is of the view that, with the exception of the departures specifically noted below, Gold Hydrogen otherwise complies with the ASX Recommendations.

A copy of Gold Hydrogen's full suite of corporate governance materials is available on Gold Hydrogen's website under Corporate Governance.

(b) Lay Solid Foundations for Management and Oversight

(i) Board Charter

In general, the Board provides input that assists in identifying and understanding emerging trends and issues, setting the broad framework within which the strategic and business plans will be prepared each year, recommending any significant shifts in the broad strategic direction of Gold Hydrogen, reviewing, developing and approving Gold Hydrogen's long-term strategic plan, and ensuring Gold Hydrogen develops annual business plans to achieve its strategic objectives.

The Board has delegated to the Managing Director / CEO, the day-to-day responsibility for running the affairs of Gold Hydrogen, and for implementing the policies and strategy set by the Board. The Board also delegates to senior management the responsibilities for the day-to-day activities leading toward achievement of Gold Hydrogen's strategic direction with agreed boundaries and authority limitations.

Gold Hydrogen has adopted a Board Charter which sets out the functions and responsibilities of the Board, the matters expressly reserved for the Board, the structure of the composition of the Board, and guidelines for assessing the independence of its members.

(ii) Information Regarding Election and Re-election of Director Candidates

The policies and procedures for the selection and appointment of new Directors is that candidates are considered and selected by reference to a number of factors which include, but are not limited to, their relevant experience and achievements, compatibility with other Board members, and credibility within Gold Hydrogen's scope of activities. Background checks, including via third parties, are undertaken ahead of any Director appointment.

Directors are initially appointed by the full Board subject to election by shareholders at Gold Hydrogen's next Annual General Meeting.

Gold Hydrogen has appropriate procedures in place to ensure that material information relevant to a decision to elect or re-elect a Director (including whether Directors support the election or re-election) is disclosed in the Notice of Meeting provided to shareholders.

At each Annual General Meeting the following Directors automatically retire and are eligible for re-appointment:

(A) any Director who has been elected in the office for a period in excess of three consecutive years or until the third annual general meeting following her/his appointment, whichever is longer, without submitting him/herself for re-election; and

(B) any Director who was appointed by the Directors during the year to fill a casual vacancy or as an addition to the existing Directors.

(iii) Written Agreements for Appointments of Directors and Senior Executives

New Directors receive a letter of appointment and a Deed of Access and Indemnity. Non-Executive Directors are not appointed for fixed terms. Executive Directors have written service contracts which set out the material terms for their employment, including a description of position and duties, reporting lines, remuneration arrangements and termination rights and entitlements.

Letters of appointment for Non-Executive Directors require those Directors to, among other things: disclose their material personal interests and any matters which may affect their independence; comply with key corporate policies; and notify Gold Hydrogen before accepting any new role that could impact upon the time commitment expected of them or give rise to a conflict of interest.

Currently not all of the written agreements setting out the terms of appointment of Gold Hydrogen's Directors and senior executives are with those Directors or senior executives (as the case may be) personally. Having regard to the nature and scale of Gold Hydrogen's operations and activities, the Board does not consider non-compliance with this Recommendation to be detrimental to Gold Hydrogen or its shareholders.

(iv) Company Secretary

The Company Secretary is accountable directly to the Board (through the Chairman) for facilitating Gold Hydrogen's corporate governance processes and the proper functioning of the Board. Each Director is entitled to access the advice and services of the Company Secretary.

In accordance with Gold Hydrogen's Board Charter, the appointment and removal of the Company Secretary is a matter for the Board as a whole. A copy of the Board Charter is available on Gold Hydrogen's website under Corporate Governance.

(v) Diversity

The Board has adopted a formal Diversity and Inclusion Policy which can be accessed on Gold Hydrogen's website under Corporate Governance. The Policy outlines the purpose, principles, measurable objectives, targets and key performance indicators to be achieved when the Board considers Gold Hydrogen to be of sufficient size and scale (given the nature of its current activities) for achieving specific diversity targets.

The recruitment and selection processes adopted by Gold Hydrogen ensure that staff and management are selected in a non-discriminatory manner, based on merit.

Gold Hydrogen respects and values the competitive advantage of diversity (which includes but is not limited to gender, age, disability, ethnicity, marital or family status, religious or cultural background), and the benefit of its integration throughout Gold Hydrogen in order to improve corporate performance, increase shareholder value and maximise the probability of achievement of Gold Hydrogen's goals. However, the Board of Directors does not believe that Gold Hydrogen is currently of a sufficient size to justify the establishment of formal and measurable objectives, having regard to the nature and scale of its activities.

(vi) Board Review and Evaluation

The current Board of Gold Hydrogen was formed on 1 July 2022. As such, it has not yet conducted a performance evaluation, and is yet to adopt a formal performance evaluation policy.

These matters will be reviewed in due course, following Gold Hydrogen's IPO.

(vii) Management Review and Evaluation

The Board has established a People, Culture and Resources Committee which is intended to review the performance and remuneration of Gold Hydrogen's CEO and executive management. The Committee will report and make recommendations to the Board on matters relevant to performance review metrics, corporate and executive milestone achievement and remuneration trends, structures and guidelines.

(c) Structure the Board to be Effective and Add Value

(i) Nomination Committee

The Board is of the view that Gold Hydrogen is not currently of the size or scale to justify the formation of a separate Nomination Committee, although a Charter has been adopted for future use once a Committee is established. The Board currently performs the functions of a Nomination Committee, and where necessary will seek the advice of external advisors in relation to this role.

The current Board of Gold Hydrogen was formed on 1 July 2022 and its members were chosen to provide an appropriate balance of skills, knowledge, industry experience, independence and diversity to enable it to discharge its duties and responsibilities effectively.

The Board shall, upon Gold Hydrogen reaching the requisite corporate and commercial maturity, approve the constitution of a Nomination Committee to assist the Board in relation to the appointment of Directors and senior executives as required.

(ii) Board Skills Matrix

Maintaining a balance of experience and skills is an important factor in the composition of a public company Board. The Board of Gold Hydrogen is currently comprised of seasoned industry professionals with combined qualifications, skills and experience as shown in the Board skills matrix below.

Skills	Industry
Gas exploration and production	Natural resources
Project and corporate development	Natural resources
Infrastructure development	Natural resources
Government liaison / relations	Government, natural resources
Stakeholder relations and management	Natural resources
Debt and equity financing	Accounting and finance
Corporate accounting and reporting	Private industry and ASX-listed companies
Governance	Government, natural resources

(iii) Disclose Independence and Length of Service

Recognising the importance of the appropriate balance between independent and non-independent representation on the Board, Gold Hydrogen has developed a formal Assessing the Independence of Directors Policy, which can be accessed from Gold Hydrogen's website under Corporate Governance.

The Board of Gold Hydrogen is comprised of the following members:

Name	Role	Date of appointment
Alexander Downer	Non-Executive Chair – Independent	1 July 2022
Katherine Barnet	Non-Executive Director – Independent	1 July 2022
Roger Cressey	Executive Director, Commercial & Operations	1 July 2022
Neil McDonald	Managing Director / CEO	28 January 2021
Luke Titus	Executive Director / COO	28 January 2021

All of Gold Hydrogen's Directors have been awarded options as part of their overall remuneration package, as outlined in this Prospectus. This includes Non-Executive Directors Alexander Downer and Katherine Barnet. The quantum of options held by each is not considered to impair the independence of the Non-Executive Directors given Gold Hydrogen's capital structure. Accordingly, whilst Gold Hydrogen has two independent Non-Executive Directors, its current Board membership is not comprised of a majority of independent Directors.

However, at this stage of Gold Hydrogen's development, the Board does not consider non-compliance with this corporate governance guideline to be prejudicial to the effectiveness of the Board in exercising their business judgment and acting in the best interest of all shareholders. As Gold Hydrogen matures and its business operations develop, the Board will consider the appointment of further independent Non-Executive Directors or modifications to the composition of its Board.

(iv) Majority of Directors Should be Independent

Refer to (iii) above.

(v) Board Chair Should be Independent

Gold Hydrogen's Non-Executive Chairman, Mr Alexander Downer, is considered to be independent under the ASX Recommendations. The quantum of options granted to Mr Downer as part of his remuneration package is not considered to be significant enough to impair his independence, having regard to the capital structure of Gold Hydrogen.

(vi) Director Induction and Personal Development

Gold Hydrogen is yet to establish a formal structured induction program. In the interim, Gold Hydrogen will make the following information available to any potential new Director upon request:

(A) all disclosure documents, including this Prospectus;

(B) past minutes of Directors' meetings of Gold Hydrogen;

(C) existing governance and other policies or procedures of Gold Hydrogen;

(D) copies of the audited financial statements of Gold Hydrogen since 2021;

(E) any other information, finance or otherwise, about the affairs of Gold Hydrogen that Directors request; and

(F) access to Gold Hydrogen's external auditors and legal representatives.

Gold Hydrogen recommends and encourages all Directors to attend relevant external seminars, conferences and educational programs for expanding their knowledge base and professional skills. Directors also have the right, in connection with the discharge of their duties and responsibilities, to seek independent professional advice at Gold Hydrogen's expense in accordance with the agreed procedure set by the Board. Gold Hydrogen provides the following documents to all Directors:

(A) a Letter of Appointment including appointment terms, the Director's duties and obligations, and the Director's entitlements;

(B) a Consent to Act, which requires a formal written consent to become a Director, containing the minimum information required by Gold Hydrogen; and

(C) a Deed of Access and Indemnity.

(d) Instil a Culture of Acting Lawfully, Ethically and Responsibly

(i) Company Values

Gold Hydrogen's core values and operating principles underpin the culture of the organization. They also guide the Board and Gold Hydrogen's management in their day-to-day dealings with each other and Gold Hydrogen's range of stakeholders. Gold Hydrogen's core values include:

(A) Excellence – we will strive for excellence in everything we do;

(B) Integrity – we will act with honesty and fairness;

(C) Respect – we will respect our full range of stakeholders;

(D) Sustainable Development – we will make a positive contribution to global decarbonisation; and

(E) Performance – we are striving for positive outcomes for stakeholders and the environment.

Gold Hydrogen's core values are outlined in full on Gold Hydrogen's website under Corporate Governance.

(ii) Code of Conduct and Business Ethics

The Board has established a Code of Conduct and Business Ethics for Directors, management and employees of Gold Hydrogen. The Code requires that Directors, management and employees maintain high standards of integrity by ensuring that all business activities are conducted legally and ethically in compliance with the letter and spirit of both the law and Company policies.

A copy of the Code of Conduct and Business Ethics can be accessed on Gold Hydrogen's website under Corporate Governance.

(iii) Whistleblower Policy

The Board has established a Whistleblower Policy that sets out the procedure for making disclosures of information that qualify for protection under the Corporations Act or the Whistleblower Policy. It applies to Directors, management and employees of Gold Hydrogen (and their relatives), as well as suppliers of Gold Hydrogen (and their employees, contractors, suppliers, consultants and service providers). Any incidents reported under the Policy are reported to Gold Hydrogen's Audit & Risk Management Committee.

A copy of the Whistleblower Policy can be accessed on Gold Hydrogen's website under Corporate Governance.

(iv) Anti-Bribery and Corruption Policy

The Board takes a zero-tolerance approach to bribery and corruption and is committed to acting professionally, ethically and with integrity in all of its business dealings and relationships. This extends to implementing and enforcing effective systems to counter bribery and corruption, and the Board has established an Anti-Bribery and Corruption Policy. Any potential or actual breaches of the Policy are to be reported to Gold Hydrogen's Board.

A copy of the Anti-Bribery and Corruption Policy can be accessed on Gold Hydrogen's website under Corporate Governance.

(e) Safeguard the Integrity of Corporate Reports

(i) Audit and Risk Management Committee

The Board has established an Audit and Risk Management Committee. The Committee currently comprises:

(A) Ms Katherine Barnet – Non-Executive Director (Committee Chair)

(B) Mr Alexander Downer – Non-Executive Director

The Committee is chaired by a Non-Executive Director (Ms Katherine Barnet) who is not the Chair of the Board. Ms Barnet is also considered by Gold Hydrogen to be an independent Director, as is Mr Downer. Whilst both Ms Barnet and Mr Downer hold options in Gold Hydrogen, the quantum is considered insufficient to impair their independence, having regard to the capital structure of Gold Hydrogen.

However, given the current size and scale of Gold Hydrogen's operations, this matter is not considered by the Board to impede the role and effectiveness of the Committee. As Gold Hydrogen's size and scale of operations increases, consideration will be given to appointing further Non-Executive Directors to become members of the Committee.

Gold Hydrogen has adopted an Audit and Risk Management Charter setting out the Committee's responsibilities as well as its reporting requirements. The Charter will be reviewed annually to determine whether any changes are necessary. A copy of the Charter can be accessed from Gold Hydrogen's website under Corporate Governance.

From a financial and corporate reporting perspective, the Audit and Risk Management Committee is responsible for:

(A) monitoring the integrity of the financial statements of Gold Hydrogen, reviewing significant financial reporting judgments;

(B) reviewing Gold Hydrogen's internal financial control system;

(C) considering the appointment of the external auditor and to approve the remuneration and terms of engagement of the external auditors;

(D) monitoring and reviewing the external auditor's independence, objectivity and effectiveness, taking into consideration relevant professional and regulatory requirements; and

(E) developing and implementing policy on the engagements of the external auditor to supply non-audit services, taking into account relevant ethical guidance regarding the provision of non-audit services by the external audit firm.

The Audit and Risk Management Committee is responsible for reviewing the nomination, performance and independence of Gold Hydrogen's external auditors. BDO was appointed as Gold Hydrogen's external auditor in 2022.

(ii) CEO and CFO Certification of Financial Statements

Prior to the approval of Gold Hydrogen's financial statements each year, the Chief Executive Officer and the Chief Financial Officer confirm in writing to the Board that the financial reports of Gold Hydrogen for the financial year:

(A) present a true and fair view, in all material respects, of Gold Hydrogen's financial condition and operational results and are in accordance with relevant accounting standards;

(B) the statement given in accordance with section 295A of the Corporations Act is founded on a sound system of risk management and internal compliance and control which implements the policies adopted by the Board; and

(C) Gold Hydrogen's risk management and internal compliance and control system is operating efficiently and effectively in all material respects in relation to financial reporting risks.

(iii) Verification of Periodic Corporate Reports

Being a participant in the natural resources industry, Gold Hydrogen will lodge unaudited cash flow statements and activity statements on a quarterly basis with ASX. These reports will be prepared by Gold Hydrogen's accounting and exploration staff respectively, checked by Gold Hydrogen's CFO, COO and CEO, and then circulated to the Board ahead of release to the market. In this way Gold Hydrogen believes these reports will be materially accurate, balanced and provide shareholders and interested investors with an appropriate level of information.

Gold Hydrogen's half-yearly financial reports are audit reviewed ahead of publication, and its Annual Financial Report, including the Director's Report and Renumeration Report, will be subject to audit by Gold Hydrogen's external audit firm.

(f) Make Timely and Balanced Disclosure

(i) Continuous Disclosure Policy

The Board has adopted a Continuous Disclosure Policy to ensure compliance with the relevant disclosure requirements of the ASX Listing Rules and the Corporations Act. The Policy sets out: the rules and procedures for ASX information disclosure; the responsibility of the Board, senior executives and staff to ensure that price sensitive information is identified, reviewed by management and disclosed to ASX in a timely, clear and objective manner; and that all information provided to ASX is posted on Gold Hydrogen's website as soon as possible after its disclosure to ASX.

The Company Secretary manages Gold Hydrogen's compliance with its continuous disclosure obligations, and is responsible for communications with, and coordinating disclosure of information to, ASX.

A copy of the Continuous Disclosure Policy is available on Gold Hydrogen's website under Corporate Governance.

(ii) Directors Should Receive Copies of Material Market Announcements

Directors will receive advanced copies of all material announcements to be released to ASX, including related information, such as financial statements and public presentations, and are aware of and accountable for, Gold Hydrogen's compliance with regard to its continuous disclosure obligations.

(iii) Release of New Presentations to Market

In order to ensure the equality of information among investors, Gold Hydrogen will release to the market a copy of all new and substantive investor or analyst presentations at the time of delivery. This is a requirement of Gold Hydrogen's Continuous Disclosure Policy, a copy of which is available on Gold Hydrogen's website under Corporate Governance.

(g) Respect the Rights of Security Holders

(i) Information on Website

Information about Gold Hydrogen, its operations, and its governance is made available to investors and the general public at: https://www.goldhydrogen.com.au/

Information about Gold Hydrogen's corporate governance and related policies is available on Gold Hydrogen's website under Corporate Governance.

(ii) Two-Way Investor Relations Program

Gold Hydrogen is committed to informing shareholders of all major developments affecting the operations of Gold Hydrogen and its commercial and financial state of affairs. Communications with shareholders will include:

(A) the annual report which is to be distributed, or otherwise made available, to all shareholders;

(B) the half-year financial report;

(C) quarterly activities and cash flow reports;

(D) information relevant to the Annual General Meeting and other general meetings called to obtain shareholder approval for significant corporate actions, as appropriate;

(E) company announcements, presentations, interviews, analyst reports, etc;

(F) electronic shareholder updates related to the above audits; and

(G) all of the information available on Gold Hydrogen's website, located at: https://www.goldhydrogen.com.au/

Gold Hydrogen welcomes questions from shareholders at any time, and these will be answered promptly unless the information requested is market sensitive and not in the public domain. All announcements made by Gold Hydrogen to ASX will be posted to its website.

(iii) Facilitate Participation at Meetings of Security Holders

Gold Hydrogen encourages shareholder participation at its future AGMs and intends to ensure that all Notices of Meetings are available on its website and distributed electronically to registered recipients. Gold Hydrogen's external auditor will attend Gold Hydrogen's AGMs and will be available to answer any questions which shareholders may have about the conduct of the external audit for the relevant financial year, and the preparation and content of the audit report.

Shareholders who are unable to attend meetings of Gold Hydrogen will be encouraged to participate in meetings by way of the appointment of a proxy.

(iv) Determination of Shareholder Resolutions

Gold Hydrogen will conduct all shareholder meetings on the basis that resolutions to be put to Shareholders are to be determined by poll.

(v) Facilitate Electronic Communications

Gold Hydrogen will have the capability to communicate with shareholders electronically through its website and email communications. Electronic contact details will be provided on Gold Hydrogen's website.

Gold Hydrogen also operates Twitter and Linked In accounts to facilitate shareholder updates on alternative platforms.

(h) Recognise and Manage Risk

(i) Risk Committee

The Board has not set up a stand-alone risk committee, but has established a combined Audit and Risk Management Committee, which – from a risk perspective – is responsible for:

(A) ensuring the development of an appropriate risk management policy framework that will provide guidance to management in implementing appropriate risk management practices throughout Gold Hydrogen's operations, practices and systems;

(B) defining and periodically reviewing risk management as it applies to Gold Hydrogen and clearly identify all the stakeholders;

(C) ensuring that the Committee clearly communicates Gold Hydrogen's risk management philosophy, policies and strategies to Directors, senior executives, employees, contractors and appropriate stakeholders;

(D) ensuring that Directors and senior executives establish a risk aware culture which reflects Gold Hydrogen's risk policies and philosophies;

(E) reviewing methods of identifying broad areas of risk and setting parameters or guidelines for business risk reviews; and

(F) considering capital raising, treasury and market trading activities with particular emphasis on risk treatment strategies and appropriate levels of organisational authority.

(ii) Annual Risk Review and Disclosure

The responsibility for undertaking and assessing risk management and internal control effectiveness is delegated to Company management. Management is required by the Board to report back on the efficiency and effectiveness of risk management, inter alia, by benchmarking Gold Hydrogen's performance against general industry standards. The Board intends for a comprehensive risk review process to be conducted at least annually.

The risk profile of Gold Hydrogen contains both financial and non-financial factors including operational, field and geological risks, and a range of financial and corporate risks.

As part of its regular risk management practices, Gold Hydrogen has in place an experienced Board, has adopted a schedule of regular Board meetings, has incepted an Audit and Risk Management Committee, has adopted a Delegation of Authority regime and a Fraud Control Policy, is subject to six-monthly financial audits, has strict documented invoice authorisation and payment procedures, and undertakes a rigorous appraisal of proposed project expenditures.

(iii) Internal Audit or Alternative Approach

Gold Hydrogen does not have a formal internal audit function due to its relatively recent formation and the current size and scale of its operations. The Audit and Risk Management Committee will monitor the future requirements for an internal audit function. Gold Hydrogen's management – under advisement from its external auditors – will periodically undertake internal reviews of Gold Hydrogen's financial systems and processes, and where systems are considered inadequate or require improvement, these systems are developed.

At this stage Gold Hydrogen's operational and financial functions are not complex, and all expenditure authorizations include the CEO and the CFO or COO. All suppliers are known to Gold Hydrogen, and any irregular and unrecognized expenses are routinely queried and discussed with one of the three personnel noted above. Gold Hydrogen has written invoice approval and payment authorisation procedures, including supplier activity and bank detail verification.

Gold Hydrogen's Board has implemented a Delegation of Authority regime as part of its governance and risk management processes, under which the CEO and other senior executives execute on Gold Hydrogen's strategic objectives and business plans within agreed Board-sanctioned financial limits.

Gold Hydrogen's range of risk-, governance-, safety- and employment-related policies and practices are to be periodically reviewed (and if required, updated) by Gold Hydrogen's CEO, CFO, and COO. Any substantial changes or additions are approved by the Board ahead of implementation.

(iv) Sustainability Risks and Management

Gold Hydrogen, as an exploration company, faces inherent risks in its activities, including economic, environmental and social sustainability risks which may have a material impact on Gold Hydrogen's ability to create value for its shareholders.

The Board intends to monitor the ongoing operational and financial performance of Gold Hydrogen's activities. It intends to monitor and receive advice on areas of operational and financial risks, and consider strategies for appropriate risk management. All operational and financial strategies to be adopted are aimed at improving the value of Gold Hydrogen's assets.

Gold Hydrogen's Corporate Governance framework includes a Charter for an Environment, Social and Governance (ESG) Committee to review and monitor Gold Hydrogen's assessment and management of its ongoing social and environmental risks. However, given the current size and scale of Gold Hydrogen's operations, the Board currently performs the functions of this Committee, and where necessary will seek the advice of external advisors in relation to this role.

The Board shall, upon Gold Hydrogen reaching the requisite corporate and commercial maturity, approve the constitution of an ESG Committee to assist the Board in relation to the oversight of Gold Hydrogen's activities and policy framework in this area.

In line with its core values, Gold Hydrogen intends conduct all of its activities in a responsible, sustainable manner, mindful of the potential human, economic, social and environmental impacts of its actions. Gold Hydrogen, through its activities and ultimate objectives, plans to make a positive contribution to decarbonisation and the green energy sector.

Gold Hydrogen intends to include sustainability and climate change related disclosure in its Annual Reports to Shareholders.

(i) Remunerate Fairly and Responsibly

(i) Remuneration Committee

Rather than a Remuneration Committee, Gold Hydrogen's Board has formed a People, Culture and Resources Committee, which is responsible for – amongst other things – reviewing and making recommendations to the Board on Director and senior executive remuneration packages and frameworks. The Committee intends to meet at least annually, or at such intervals as required to fulfill its obligations in this regard.

The Committee currently comprises:

(A) Ms Katherine Barnet – Independent Non-Executive Director (Committee Chair)

(B) Mr Alexander Downer – Independent Non-Executive Director

The Committee is chaired by a Non-Executive Director (Ms Katherine Barnet), who is not the Chair of the Board. Ms Barnet is also considered by Gold Hydrogen to be an independent Director, as is Mr Downer. Whilst both Ms Barnet and Mr Downer hold options in Gold Hydrogen, the quantum is considered insufficient to impair their independence, having regard to the capital structure of Gold Hydrogen. As Gold Hydrogen's size and scale of operations increases, consideration will be given to appointing further Non-Executive Directors to re-constitute the membership of the Committee in line with best practice standards.

The Board has adopted a People, Culture and Resources Committee Charter, which is available on Gold Hydrogen's website under Corporate Governance.

(ii) Disclosure of Executive and Non-Executive Director Remuneration Policy

The Board of Directors is ultimately responsible for determining and reviewing compensation arrangements for the Directors and the senior executives of Gold Hydrogen. Based on the input and recommendations of the People, Culture and Resources Committee, the Board assesses the appropriateness of the nature and amount of remuneration of such officers on a periodic basis by reference to relevant employment market conditions with the overall objective of ensuring maximum stakeholder benefit from the retention of a high-quality Board and executive team.

Disclosure of the remuneration details for Directors and executives are outline in this Prospectus, and will also occur each year in the Remuneration Report segment of Gold Hydrogen's Annual Report.

The remuneration of Gold Hydrogen's executive team and the Executive Directors will be fixed and reviewed by the Board, with input from the People, Culture and Resources Committee, and will comprise a fixed remuneration component and may also include specific short and long-term incentives in the form of performance-based salary increases and/or bonuses; and/or the issue of options or other performance related securities.

All of Gold Hydrogen's Directors have been awarded options as part of their overall remuneration package. This includes Non-Executive Directors Alexander Downer and Katherine Barnet. The quantum of options held by each is not considered to impair the independence of the Non-Executive Directors given Gold Hydrogen's capital structure.

(iii) Equity-Based Remuneration Scheme

Gold Hydrogen's Securities Trading Policy specifically prohibits Directors and senior Executives from engaging in short-term trading in Gold Hydrogen's securities. The Policy also stipulates that participants may not enter into transactions which limit the economic risks of participating in any equity-based remuneration scheme. The Securities Trading Policy can be accessed on Gold Hydrogen's website under Corporate Governance.

7. Details of the Offer

7. Details of the Offer

7.1 The Offer

This Prospectus is for an initial public offering of Shares by Gold Hydrogen. Gold Hydrogen will issue approximately 40,000,000 Shares, raising proceeds of approximately $20,000,000 at the Offer Price of $0.50 per Share.

On Completion, between approximately 89,000,000 and 100,000,000 Shares (representing between approximately 63.57% and 71.43% of the issued Shares) will be subject to escrow arrangements as described in Section 7.5.

The total number of Shares on issue at Completion will be 140,000,000 and all Shares on issue will rank equally with each other. A summary of the rights attaching to the Shares is set out in Section 7.11.

The Offer is made on the terms, and is subject to the conditions, set out in this Prospectus.

(a) Structure of the Offer

The Offer comprises:

(i) the **Broker Firm Offer**; and

(ii) the **Institutional Offer**.

No general public offer of Shares will be made under the Offer.

The allocation of Shares between the Broker Firm Offer and the Institutional Offer was determined by the Lead Manager after consultation with Gold Hydrogen, having regard to the allocation policies outlined in Sections 7.3(d) and 7.4(b).

The Offer is made on the terms, and is subject to the conditions, set out in this Prospectus.

(b) Purpose of the Offer and use of proceeds

The Offer is being conducted to:

(i) enable Gold Hydrogen to continue its activities of exploration and development, focussing initially on developing PEL 687;

(ii) provide a liquid market for its Shares through listing on the ASX;

(iii) provide Gold Hydrogen with additional financial flexibility to pursue growth opportunities and improved access to capital markets;

(iv) provide Gold Hydrogen with the benefits of an increased profile that arises from being a listed company; and

(v) pay the costs of the Offer.

The Offer is expected to raise approximately $20,000,000 (before costs). The existing funds of Gold Hydrogen and proceeds of the Offer are as follows.

Source of funds	Amount ($)
Existing cash reserves	$1,700,000
Gross proceeds from the Offer	$20,000,000
Total funds available	**$21,700,000**

These funds will be applied by Gold Hydrogen as set out below:

Use of funds	Year 1 - Amount ($)	Year 2 - Amount ($)
Corporate costs	**$1,789,500**	**$1,734,000**
Exploration, field development and drilling activities	**$5,854,199**	**$9,376,889**
Native title, land access and licence fees	$457,628	$1,032,595
Environmental and permitting costs	$319,000	$371,250
Airborne and Seismic surveys	$2,747,120	-
Drilling and associated activities	$2,330,450	$7,973,043
Offer costs	**$1,351,129**	-
Total	**$8,994,828**	**$11,110,889**

The Directors believe that on Completion, Gold Hydrogen will have sufficient working capital at the time of admission to carry out its stated business objectives and sufficient working capital for at least the next two years.

The preceding table represents Gold Hydrogen's current intentions as at the Prospectus Date based on Gold Hydrogen's current business plan and business conditions. The amount and timing of the actual expenditure may vary and will depend on numerous factors, including the timing and success of Gold Hydrogen's activities and the risks outlined in Section 5. The Board reserves the right to vary the expenditures dependent on circumstances and other opportunities.

(c) Capital structure before and after Completion of Offer

The capital structure of Gold Hydrogen as at the Prospectus Date, and the expected capital structure of Gold Hydrogen on admission to the ASX, is summarised in the following table:

Holder	Prospectus Date	Admission Date	Undiluted % on Admission Date	Fully Diluted % on Admission Date
NFM[1]	39,538,488	38,506,511	27.50%	27.18%
MS[1]	39,538,489	38,506,511	27.50%	27.18%
Sell Down Counterparties[2]	-	6,063,955	4.33%	4.21%
Convertible Note Holder Conversion Shares	-	16,923,023	12.09%	11.76%
IPO Investors	-	40,000,000	28.57%	27.80%
Director and Manager Options[3]	-	3,900,000	-	2.71%
Total	**79,076,977**	**143,900,000**	**100%**	**100%**

Notes:

1. *NFM is an associate of Neil McDonald, and MS is an associate of Luke Titus.*
2. *The Sell Down Counterparties will include Alexander Downer, Roger Cressey, Karl Schlobohm and Katherine Barnet (either directly or indirectly through related companies, trusts or associates), who will procure Shares from NFM and MS in the sell down prior to listing – see Section 6.3(c) for more details of the Shares held by each of these parties on admission.*
3. *The Director and Manager Options will be held by Neil McDonald, Luke Titus, Alexander Downer, Roger Cressey, Karl Schlobohm and Katherine Barnet (either directly or indirectly through related companies, trusts or associates) – see Section 6.3(c) for more details.*

(d) Substantial Shareholders

Gold Hydrogen expects NFM and MS to be the only substantial shareholders in Gold Hydrogen on admission to the ASX.

(e) Control implications of the Offer

Following Completion, the Directors do not expect any Shareholder will control (as defined by section 50AA of the Corporations Act) Gold Hydrogen.

(f) Potential future fundraising

The Directors consider that following completion of the Offer, Gold Hydrogen will have sufficient working capital to achieve its stated business objectives for a period of at least two years. Development of one or more of Gold Hydrogen's projects or additional opportunities for Gold Hydrogen could, however, require further funding from external sources in the future.

7.2 Terms and conditions of the Offer

Topic	Summary
What is the type of security being offered?	Fully paid ordinary Shares in Gold Hydrogen.
What are the rights and liabilities attached to the security being offered?	A description of the Shares, including the rights and liabilities attaching to them, is set out in Section 7.11.
What is the consideration payable for each security being offered?	Offer Price of $0.50 per Share. Except as required by law, applicants cannot withdraw or vary their Applications.
What is the Offer Period?	The key dates, including details of the Offer Period, are set out on page 6. No Shares will be issued on the basis of this Prospectus later than the expiry date of 13 months after the Prospectus Date.
What are the cash proceeds to be raised?	Approximately $20,000,000 is expected to be raised under the Offer.
Is the Offer underwritten?	Yes. Details are provided in Section 7.6.
Who is the Lead Manager of the Offer?	The Lead Manager is Morgans Corporate Limited ACN 010 539 607 (AFSL 235 407).
What is the minimum and maximum Application size under the Offer?	**Broker Firm Offer** The minimum Application size under the Broker Firm Offer is 4,000 Shares, the number of Shares to the value of $2,000 at the Offer Price, and Applicants must apply in multiples of 1,000 Shares. There is no maximum value of Shares that may be applied for under the Broker Firm Offer. **Institutional Offer** There is no minimum or maximum value of Shares that may be applied for under the Institutional Offer. The Lead Manager and Gold Hydrogen reserve the right to reject any Application or to allocate a lesser number of Shares than that applied for. In addition, the Lead Manager and Gold Hydrogen reserve the right to aggregate any Applications that they believe may be multiple Applications from the same person.

Topic	Summary
What is the allocation policy?	The allocation of Shares between the Broker Firm Offer and Institutional Offer was determined by the Lead Manager after consultation with Gold Hydrogen having regard to the allocation policies outlined in Sections 7.3(d) and 7.4(b). • **Broker Firm Offer:** With respect to the Broker Firm Offer, it is a matter for the Brokers how they allocate Shares among their retail clients and they (and not Gold Hydrogen or the Lead Manager) will be responsible for ensuring that eligible retail clients who have received an allocation from them receive the relevant Shares. • **Institutional Offer:** The allocation of Shares among Applicants in the Institutional Offer was determined by the Lead Manager after consultation with Gold Hydrogen.
When will I receive confirmation that my Application has been successful?	It is expected that initial holding statements will be dispatched on or about 10 January 2023.
Will the Shares be listed?	Gold Hydrogen will apply to the ASX within seven days of the Prospectus Date for admission to the Official List and quotation of Shares on the ASX (under the code “GHY”). If approval is not given within three months after such application is made (or any longer period permitted by law), the Offer will be withdrawn and all Application Monies received will be refunded without interest as soon as practicable in accordance with the requirements of the Corporations Act.
When are the Shares expected to commence trading?	It is expected that trading of the Shares on the ASX will commence on or about 13 January 2023, on a normal settlement basis. Following the issue of Shares, Successful Applicants will receive a holding statement setting out the number of Shares issued to them under the Offer. It is the responsibility of each person who trades in Shares to confirm their own holding before trading in Shares. If you sell Shares before receiving a holding statement, you do so at your own risk. Gold Hydrogen and the Lead Manager disclaim all liability, whether in negligence or otherwise, if you sell Shares before receiving your holding statement, whether on the basis of a confirmation of allocation provided by any of them or confirmed your firm allocation through a Broker or the Gold Hydrogen IPO Offer Information Line.
Are there any escrow arrangements?	Yes. Details are provided in Section 7.5.

Topic	Summary
Has any ASIC relief or ASX waiver or confirmation been obtained or been relied on?	Gold Hydrogen has sought a modification of section 707(3) and (4) of the Corporations Act from ASIC to the extent necessary to: • permit Shares issued in connection with listing (pursuant to arrangements entered into prior to lodgement of the Prospectus with ASIC) to holders of notes to be able to be sold within 12 months of their issue without the requirements for a future disclosure document (or cleansing notice) being prepared in connection with that sale; and • permit Shares issued after listing (pursuant to arrangements entered into prior to lodgement of the Prospectus with ASIC) to holders of Director and Manager Options to be able to be sold within 12 months of their issue without the requirements for a future disclosure document (or cleansing notice) being prepared in connection with that sale. Gold Hydrogen has not sought any other exemptions, modifications or relief from ASIC in relation to the Offer. Gold Hydrogen has sought a confirmation from ASX that: • Gold Hydrogen is generally suitable for admission to the Official List of the ASX; and • the Director and Manager Options are appropriate and equitable for the purposes of ASX Listing Rule 6.1. Gold Hydrogen has not sought any other waivers, relief or confirmation from ASX in relation to the Offer.
Are there any tax considerations?	The tax consequences of any investment in Shares will depend upon an investor's particular circumstances. Applicants should obtain their own tax advice prior to deciding whether to invest.
Are there any brokerage, commission or stamp duty considerations?	No brokerage, commission or stamp duty is payable by Applicants on acquisition of Shares under the Offer. See Section 7.6 for details of various fees payable by Gold Hydrogen to the Lead Manager.
Where can I find out more information about the Offer?	All enquiries in relation to this Prospectus should be directed to the Gold Hydrogen IPO Offer Information Line on 1800 500 095 (within Australia) or +61 1800 500 095 (outside Australia) from 8:30am to 5:30pm (Brisbane time), Monday to Friday (Business Days only). If you have any questions about whether to invest in Gold Hydrogen, you should seek professional advice from your accountant, financial adviser, stockbroker, lawyer or other professional adviser before deciding whether to invest.

7.3 Broker Firm Offer

(a) Who can apply?

The Broker Firm Offer is open to Australian resident retail clients of participating Brokers who have a registered address in Australia and who received an invitation from a Broker to acquire Shares under this Prospectus and are not in the United States or are not a US Person. You should contact your Broker to determine whether you can receive an allocation of Shares under the Broker Firm Offer.

(b) How to apply

If you have received an invitation to apply for Shares from your Broker and wish to apply for those Shares under the Broker Firm Offer, you should contact your Broker for information about how to submit your Broker Firm Offer Application Form and for payment instructions. Applicants under the Broker Firm Offer must not send their Application Forms or payment to the Share Registry.

Applicants under the Broker Firm Offer should contact their Broker to request a Prospectus and Application Form, or download a copy at www.goldhydrogen.com.au. Your Broker will act as your agent and it is your Broker's responsibility to ensure that your Application Form and Application Monies are received before 5.00pm (Brisbane Time) on the Closing Date or any earlier closing date as determined by your Broker.

Broker clients should complete and lodge their Broker Firm Offer Application Form with the Broker from whom they received their invitation to participate in the Broker Firm Offer. Broker Firm Offer Application Forms must be completed in accordance with the instructions given to you by your Broker and the instructions set out on the back of the Application Form.

By making an Application, you declare that you were given access to the Prospectus, together with an Application Form. The Corporations Act prohibits any person from passing an Application Form to another person unless it is attached to, or accompanied by, a hard copy of this Prospectus or the complete and unaltered electronic version of this Prospectus.

The minimum Application size under the Broker Firm Offer is 4,000 Shares, being $2,000 of Shares in aggregate, and Applicants must apply in multiples of 1,000 Shares. There is no maximum Application size under the Broker Firm Offer. Gold Hydrogen, in consultation with the Lead Manager, reserves the right to aggregate any Applications which they believe may be multiple Applications from the same person, to not accept Applications in the Broker Firm Offer that are from persons they believe may be Institutional Investors (or to treat any such Applications as bids in the Institutional Offer) or reject or scale back any Applications (or aggregation of Applications) in the Broker Firm Offer. Gold Hydrogen may determine a person to be eligible to participate in the Broker Firm Offer, and may amend or waive the Broker Firm Offer application procedures or requirements, in its discretion in compliance with applicable laws.

Gold Hydrogen, the Lead Manager and the Share Registry take no responsibility for any acts or omissions committed by your Broker in connection with your Application.

The Broker Firm Offer opens at 9.00am (Brisbane time) on 1 December 2022 and is expected to close at 5.00pm (Brisbane time) on 9 December 2022. Gold Hydrogen and the Lead Manager may elect to close the Broker Firm Offer or any part of it early, extend the Broker Firm Offer or any part of it, or accept late Applications either generally or in particular cases. The Broker Firm Offer or any part of it may be closed at any earlier time and date, without further notice. Your Broker may also impose an earlier closing date.

Applicants are therefore encouraged to submit their Applications as early as possible. Contact your Broker for instructions.

(c) How to pay

Applicants under the Broker Firm Offer must pay their Application Monies to their Broker in accordance with instructions provided by that Broker.

(d) Broker Firm Offer allocation policy

The allocation of Shares to Brokers will be determined by agreement between the Lead Manager and Gold Hydrogen. Shares which are allocated to Brokers for allocation to their retail clients will be issued to the Applicants nominated by those Brokers (subject to the right of the Lead Manager and Gold Hydrogen to reject, aggregate or scale back Applications). It will be a matter for each Broker as to how they allocate Shares among their retail clients, and they (and not the Lead Manager or Gold Hydrogen) will be responsible for ensuring that retail clients who have received an allocation from them receive the relevant Shares.

Applicants in the Broker Firm Offer will be able to call the Gold Hydrogen IPO Offer Information Line on 1800 500 095 (within Australia) or +61 1800 500 095 (outside Australia) from 8:30am to 5:30pm (Brisbane time), Monday to Friday to confirm their allocation. Applicants under the Broker Firm Offer will also be able to confirm their allocation through the Broker from whom they received their allocation.

However, if you sell Shares before receiving a holding statement, you do so at your own risk, even if you obtained details of your holding from the Gold Hydrogen IPO Offer Information Line or confirmed your allocation through the Broker from whom you received your allocation.

7.4 Institutional Offer

(a) Invitations to bid

Under the Institutional Offer, Institutional Investors in Australia and certain other eligible jurisdictions outside the United States were invited to bid for an allocation of Shares under this Prospectus. The Lead Manager separately advised the Institutional Investors of the Application procedures for the Institutional Offer.

(b) Institutional Offer allocation policy

The allocation of Shares among Applicants in the Institutional Offer was determined by the Lead Manager after consultation with Gold Hydrogen. The Lead Manager and Gold Hydrogen had absolute discretion regarding the basis of allocation of Shares among Institutional Investors.

Participants in the Institutional Offer have been advised of their allocation of Shares, if any, by the Lead Manager. The allocation policy was influenced, but not constrained, by the following factors:

(i) number of Shares bid for by particular Applicants;

(ii) the timeliness of the bid by particular Applicants;

(iii) Gold Hydrogen's desire for an informed and active trading market following Completion;

(iv) Gold Hydrogen's desire to establish a wide spread of institutional Shareholders;

(v) overall anticipated level of demand under the Broker Firm Offer and Institutional Offer;

(vi) the size and type of funds under management of particular Applicants;

(vii) the likelihood that particular Applicants will be long term Shareholders; and

(viii) any other factors that Gold Hydrogen and the Lead Manager considered appropriate.

7.5 Escrow arrangements

The ASX may classify certain existing Shares a and new Shares issued on conversion of notes as being subject to the restricted securities provisions of the ASX Listing Rules. Those restricted securities may be required to be held in escrow for a period determined by the ASX.

It is expected that the following number of securities will be treated as restricted securities and held in escrow:

Number of securities	End of escrow
5,923,023[1]	31 May 2023
83,076,977[2]	24 months after listing on the ASX

1: This comprises a portion of the Shares issued to convertible note holders on conversion of the convertible notes prior to admission.
2: This comprises all Shares held by NFM, MS and the sell down counterparties on admission.

Gold Hydrogen will also seek to agree voluntary escrow arrangements with the convertible note holders prior to admission to the ASX, pursuant to which each convertible note holder will agree to escrow all of their Shares (being 16,923,023 Shares in aggregate across all convertible note holders) until 6 months after listing on the ASX, with the relevant Shares to be held in escrow on substantially the same terms as if they were subject to the restricted securities provisions of the ASX Listing Rules. Gold Hydrogen cannot guarantee it will be successful in obtaining such agreement from the convertible note holders prior to listing, and Gold Hydrogen may decide to proceed with listing without obtaining such agreement from the convertible note holders.

Gold Hydrogen also expects the 3,900,000 Director and Manager Options to be treated as restricted securities and held in escrow for 24 months after listing on the ASX.

7.6 Underwriting arrangements

Gold Hydrogen has entered into an underwriting agreement (**Underwriting Agreement**) with the Lead Manager. Pursuant to the terms of the Underwriting Agreement, the Lead Manager has agreed to act as lead manager and underwrite the Offer, subject to certain conditions and termination events.

The Lead Manager may, subject to first obtaining Gold Hydrogen's consent, appoint sub-underwriters to sub-underwrite the Offer. The Lead Manager has not entered into any sub-underwriting agreements.

The allocation of any Shares will be determined by the Lead Manager after consultation with Gold Hydrogen.

The Underwriting Agreement sets out a number of circumstances under which the Lead Manager may terminate the agreement.

The material terms and conditions of the Underwriting Agreement are summarised below:

Fees	Under the Underwriting Agreement, on the date of Settlement Gold Hydrogen will pay to the Lead Manager: (a) a management fee equal to 1% of the Gross proceeds of the Offer; and (b) an underwriting fee of 4% of the Gross proceeds of the Offer. The actual amount of fees payable to the Lead Manager will not be known until the date of Settlement. In addition to the fee described above, Gold Hydrogen must reimburse the Lead Manager for certain other reasonable agreed costs and expenses (as set out in the Underwriting Agreement) incurred in connection with the Offer.
Condition Precedent	Entry into the escrow deeds with at least 90% of the relevant escrowed persons by Gold Hydrogen before Settlement is a condition precedent to the Underwriting Agreement. If this does not occur (and this condition is not waived by the Lead Manager), the Underwriting Agreement comes to an end.
Termination events not limited by materiality	As described below, if any of the following events occur at any time before Settlement, the Lead Manager may terminate the Underwriting Agreement without cost or liability by notice to Gold Hydrogen: (a) (**unable to issue**) Gold Hydrogen is prevented from allotting or issuing the Shares within the time required by the timetable set out in the Underwriting Agreement, this Prospectus, the ASX Listing Rules, the ASX Settlement Rules or by any other applicable laws, an order of a court of competent jurisdiction or a government agency; (b) (**index fall**) the S&P/ASX Small Ordinaries Index published by ASX is at any time more than 10% below its level as at 5pm on the business day immediately preceding the date of the Underwriting Agreement; (c) (**material adverse change**) there is a material adverse change, or any development involving a prospective material adverse change, in the condition, financial or otherwise, or in the assets and liabilities, financial position and performance, profits and losses or prospects of the Group from that described in this Prospectus; (d) (**ASIC action**) ASIC: (i) makes an order or interim order under section 739 of the Corporations Act concerning this Prospectus; (ii) applies for an order under Part 9.5 of the Corporations Act in relation to the Offer or any Offer document; and that application is not dismissed or withdrawn before the earlier of 5 business days after it is made or the date of Settlement, or becomes public before it is dismissed or withdrawn;; (iii) holds, or gives notice of intention to hold, a hearing or investigation in relation to the Offer or any Offer document under the Corporations Act or the *Australian Securities and Investments Commission Act 2001* (Cth); (iv) prosecutes or gives notice of an intention to prosecute, or commences proceedings against, or gives notice of an intention to commence proceedings against, Gold Hydrogen or any of its officers, employees or agents in relation to the Offer or any Offer document;

Termination events not limited by materiality (continued)	

Termination events not limited by materiality (continued)

(e) (**withdrawal of consent**)

(i) any person whose consent to the issue of this Prospectus or any Supplementary Prospectus is required by section 720 of the Corporations Act and who has previously consented to the issue of this Prospectus or any Supplementary Prospectus withdraws such consent;

(ii) any person gives a notice under section 733(3) of the Corporations Act; or

(iii) any person (other than the Lead Manager) who has previously consented to the inclusion of their name or any statement in this Prospectus or any supplementary prospectus withdraws that consent;

(f) (**withdrawal of Prospectus**) Gold Hydrogen withdraws this Prospectus or the Offer or the invitations to apply for Shares under this Prospectus;

(g) (**repayment of application monies**) any circumstance arises after lodgement of this Prospectus that results in Gold Hydrogen being required, by ASIC or under any applicable law, to either:

(i) repay the funds received from applicants under the Offer; or

(ii) offer applicants under the Offer an opportunity to withdraw their applications for Shares and be repaid the amounts paid by them;

(h) (**ASX approval**) any of the ASX approvals obtained by Gold Hydrogen is withdrawn, qualified (other than by conditions acceptable to the Lead Manager, acting reasonably) or withheld (or ASX indicates to Gold Hydrogen or the Lead Manager that the approval is likely to be withdrawn, qualified or withheld);

(i) (**ASIC and ASX Waivers**) any of the ASIC waivers or ASX waivers are withdrawn, revoked or amended without the prior written approval of the Lead Manager;

(j) (**Offer Documents**) The Lead Manager forms the view (acting reasonably) that:

(i) there is an omission from the Prospectus or any supplementary prospectus of material required by the Corporations Act to be included;

(ii) an Offer document contains a statement which is untrue, inaccurate, misleading or deceptive or likely to mislead or deceive (whether by inclusion or omission); or

(iii) an Offer document does not contain all information required to comply with all applicable laws;

(k) (**section 730 notice**) a person gives a notice to Gold Hydrogen under section 730 of the Corporations Act;

(l) (**Insolvency**) Gold Hydrogen or any of its subsidiaries becomes insolvent, or an act occurs or an omission is made which may result in Gold Hydrogen or any of its subsidiaries becoming insolvent;

(m) (**Authorisations**):

(i) any authorisation held by a Gold Hydrogen or any of its subsidiaries is revoked or not renewed;

(ii) Gold Hydrogen or any of its subsidiaries fails to comply with, or breaches, an authorisation, consent, concession, licence, tenement, permit, declaration, approval, exemption, notarisation or waiver, however it is described;

(iii) Gold Hydrogen or any of its subsidiaries fails to pay any fees, charges and royalties in respect of authorisation, consent, concession, licence, tenement, permit, declaration, approval, exemption, notarisation or waiver, however it is described when due and payable; or

(iv) Gold Hydrogen or any of its subsidiaries takes any action to surrender in whole or part any authorisation, consent, concession, licence, tenement, permit, declaration, approval, exemption, notarisation or waiver, however it is described;

Termination events not limited by materiality (continued)	(n) (**Material Contracts**) any material contract is: (i) terminated or rescinded without the prior written consent of the Lead Manager (such consent not to be unreasonably withheld or delayed); (ii) materially altered or amended without the prior written consent of the Lead Manager (such consent not to be unreasonably withheld or delayed); or (iii) found to be void or voidable; (o) (**Timetable**) any event specified in the timetable set out in the Underwriting Agreement is delayed for more than 2 business day without the prior written approval of the Lead Manager; (p) (**debt facilities**) (i) Gold Hydrogen breaches, or defaults under, any provision, undertaking, covenant or ratio of a material debt or financing arrangement or any related documentation to which that entity is a party which has, or may have, a material adverse effect on the Group; or (ii) there occurs: (A) an event of default; (B) a review event which gives a lender or financier the right to accelerate or require repayment of the debt or financing; or (C) any other similar event, under or with respect to any such debt or financing arrangement or related documentation; or (q) (**illegality**) there is an event or occurrence, including any statute, order, rule or regulation, official directive or request (including one compliance with which is in accordance with the general practice of persons to whom the directive or request is addressed) of any Government agency which makes it illegal for the Lead Manager to satisfy an obligation under the Underwriting Agreement, or to market, promote or settle the Offer in accordance with the Underwriting Agreement; (r) (**fraud**) any of the following occur: (i) a Director engages or has engaged in any fraudulent conduct or activity or is charged with an indictable offence; or (ii) Gold Hydrogen or any of its subsidiaries engages in fraudulent conduct or activity, whether or not in connection with the Offer; (s) (**Directors and Senior Management**): (i) a Director or any member of the senior management of Gold Hydrogen is charged with a criminal offence relating to any financial or corporate matter; (ii) any Government agency commences any public action against Gold Hydrogen, any of its subsidiaries, any of the Directors or any member of Gold Hydrogen's senior management, or announces that it intends to take any such action; (iii) any Director is disqualified under the Corporations Act from managing a corporation; or (iv) a change in Gold Hydrogen's senior management or the Directors occurs, or a Director or any member of Gold Hydrogen's senior management dies or becomes permanently incapacitated; (t) (**Restriction Agreements**) any of the escrow deeds to be entered into by escrowed persons: (i) are not, or cease to be, valid, binding and enforceable in accordance with their terms; (ii) are varied without the prior written consent of the Lead Manager; or (iii) are not performed in accordance with their terms.

Termination events limited by materiality	If one of the following events occurs at any time before the date of Settlement, the Lead Manager may terminate its obligations under the Underwriting Agreement without cost or liability by notice to Gold Hydrogen if, in the reasonable opinion of the Lead Manager, the event:
	• has had or is likely to have a material adverse effect on:
	  • the success of the Offer;
	  • the ability of the Lead Manager to market or promote the Offer;
	  • the willingness of persons to apply for, or settle obligations to subscribe for, Shares under the Offer; or
	  • the price at which Shares are sold or traded on ASX; or
	• has given or is likely to give rise to:
	  • a contravention by the Lead Manager of, or the Lead Manager being involved in a contravention of, the Corporations Act or any other applicable law; or
	  • a liability for the Lead Manager.
	The Lead Manager can terminate as above, if any of the following events occur:
	(a) (**disclosures**) any information supplied (and where information has first been supplied in draft and the in final form, in its final form), by or on behalf of Gold Hydrogen to the Lead Manager in relation to the Group or the Offer is or becomes false or misleading or deceptive or likely to mislead or deceive, including by way of omission;
	(b) (**breach**) Gold Hydrogen fails to comply with any of its obligations under the Underwriting Agreement, or any representation or warranty by Gold Hydrogen in the Underwriting Agreement is or becomes incorrect;
	(c) (**forward looking statements**) this Prospectus includes any financial forecast or any expression of opinion, belief, intention or expectation which is not based on reasonable grounds (including having regard to ASIC Regulatory Guide 170), taken as a whole;
	(d) (**breach of laws or Constitution**) Gold Hydrogen commits, is involved in or acquiesces in any activity which breaches any of the following matters:
	  (i) the Corporations Act or any other law to which Gold Hydrogen is subject or any order of any Government Agency that is binding on it;
	  (ii) the ASX Listing Rules (except where compliance has been waived, or as modified, by ASX);
	  (iii) its Constitution or other constituent documents;
	  (iv) any legally binding requirement of ASIC or ASX; or
	  (v) any other undertaking or instrument or authorisation binding on it;
	(e) (**hostilities**) in respect of any one or more of Australia, the United States of America, any member state of the European Union, Indonesia, Japan, Russia, the People's Republic of China, North Korea or South Korea:
	  (i) hostilities not presently existing commence (whether or not war has been declared);
	  (ii) a major escalation in existing hostilities occurs (whether or not war has been declared);
	  (iii) a declaration is made of a national emergency or war; or
	  (iv) a terrorist act is perpetrated in any of those countries or a diplomatic, military, commercial or political establishment of any of those countries elsewhere in the world;

Termination events limited by materiality (continued)	(f) (**change in law**) there is introduced, or there is a public announcement of a proposal to introduce, into the Parliament of the Commonwealth of Australia or any State or Territory of Australia a new law, or the Government of Australia, or any State or Territory of Australia, the Reserve Bank of Australia, or any Minister or other Government Agency of Australia or any State or Territory of Australia, adopts or announces a proposal to adopt a new policy (other than a law or policy which has been announced before the date of the Underwriting Agreement); (g) (**material adverse change in financial markets**) any of the following occurs: (i) any material adverse change or disruption to the political conditions or financial markets of Australia, Japan, the United Kingdom, the United States of America or the international financial markets or any change or development involving a prospective change in national or international political, financial or economic conditions, (ii) a general moratorium on commercial banking activities in Australia, the United States of America, Japan or the United Kingdom is declared by the relevant central banking authority in any of those countries, or there is a material disruption in commercial banking or security settlement or clearance services in any of those countries; or (iii) trading in all securities quoted or listed on ASX, the London Stock Exchange or the New York Stock Exchange is suspended or limited in a material respect for one day on which that exchange is open for trading; (h) (**Certificate**) a statement in a certificate provided by Gold Hydrogen to the Lead Manager is untrue, incorrect or misleading or deceptive in a material respect; (i) (**Supplementary Prospectus**) (i) Gold Hydrogen lodges a supplementary prospectus; or (ii) the Lead Manager forms the view (acting reasonably) that a supplementary prospectus must be lodged with ASIC under the Corporations Act; or (j) (**unauthorised alterations**) without the prior written consent of the Lead Manager (such consent not to be unreasonably withheld), Gold Hydrogen alters its share capital or the Constitution.
Effect of termination of Underwriting Agreement	If the Lead Manager validly terminates its obligations under the Underwriting Agreement, the Lead Manager will be discharged from its obligations under the Underwriting Agreement.
Representations, warranties and undertakings	The Underwriting Agreement contains certain representations and warranties provided by Gold Hydrogen to the Lead Manager, as well as customary conditions precedent (including relating to conducting due diligence, lodgement of the Prospectus and material contracts). The representations and warranties by Gold Hydrogen relate to matters such as the conduct of the Company, disclosure and compliance with applicable laws, due diligence, insolvency, ownership of assets, litigation, financial information in this Prospectus and the conduct of the Offer. A number of representations and warranties are also given by the Lead Manager to the Company. Gold Hydrogen's undertakings include, amongst other undertakings, that it will not without the prior written consent of the Lead Manager at any time from the date of the Underwriting Agreement and up to 180 days after the date of Settlement, undertake certain actions, including not making changes to its business and not allotting or agreeing to allot (or indicating that it may do so) any Shares or other securities (or securities convertible or exchangeable into equity of Gold Hydrogen) subject to certain limited exceptions.

Indemnity	Gold Hydrogen will indemnify the Lead Manager, each of its related bodies corporate and entities controlled by the Lead Manager and each of their respective officers, employees, agents and advisers against all losses, liabilities, claims, damages, costs, charges and expenses whatsoever (including reasonable legal costs on a full indemnity basis) incurred or suffered directly or indirectly in connection with the Offer or the Underwriting Agreement, including losses incurred or suffered as a result of: (a) any statement in, or omission from, any Offer document or any media statements, announcements, advertisements, publicity or other materials relating to the Offer or the Group published by or on behalf of Gold Hydrogen or any of its subsidiaries; (b) the distribution of any Offer document and the making of the Offer; (c) the subscription for and issue of Shares under the Offer; (d) any breach by Gold Hydrogen of, or any failure by Gold Hydrogen to perform or observe any of its obligations under, the Underwriting Agreement; (e) any representation or warranty by Gold Hydrogen contained in the Underwriting Agreement not being true or correct; (f) the preparation for, or involvement in, any investigation, review or inquiry relating to the Offer or any Offer document or any media statements, announcements, advertisements, publicity or other materials relating to the Offer or the Group published by or on behalf of Gold Hydrogen or any of its subsidiaries undertaken by ASIC, ASX, any other Government agency or any other regulatory body, or any legal proceedings in relation to the Offer or any Offer document or any media statements, announcements, advertisements, publicity or other materials relating to the Offer or the Group published by or on behalf of Gold Hydrogen or any of its subsidiaries; or (g) any other claim under which an indemnified party has any liability under the Corporations Act or any other applicable law in relation to the Offer or any Offer document or any media statements, announcements, advertisements, publicity or other materials relating to the Offer or the Group published by or on behalf of Gold Hydrogen or any of its subsidiaries.

The Underwriting Agreement otherwise contains provisions considered standard for an agreement of its nature (including representations and warranties and confidentiality provisions).

7.7 Acknowledgments

Each Applicant under the Offer will be deemed to have:

(a) agreed to become a member of Gold Hydrogen and to be bound by the terms of the Constitution and the terms and conditions of the Offer;

(b) acknowledged having personally received a printed or electronic copy of the Prospectus (and any supplementary or replacement prospectus) including or accompanied by the Application Form and having read them all in full;

(c) declared that all details and statements in their Application Form are complete and accurate;

(d) declared that the Applicant, if a natural person, is over 18 years of age;

(e) acknowledged that, once Gold Hydrogen, the Share Registry or a Broker receives an Application Form (including electronically), it may not be withdrawn;

(f) applied for the number of Shares at the Australian dollar amount shown on the front of the Application Form;

(g) agreed to being allocated and issued the number of Shares applied for (or a lower number allocated in a way described in this Prospectus), or no Shares at all;

(h) authorised Gold Hydrogen and the Lead Manager and their respective officers or agents, to do anything on behalf of the Applicant necessary for Shares to be allocated to the Applicant, including to act on instructions received by the Share Registry upon using the contact details in the Application Form;

(i) acknowledged that, in some circumstances, Gold Hydrogen may not pay dividends, or that dividends paid may not be franked;

(j) acknowledged that the information contained in this Prospectus (or any supplementary or replacement prospectus) is not financial product advice or a recommendation that Shares are suitable for the Applicant(s), given the investment objectives, financial situation or particular needs (including financial and tax issues) of the Applicant;

(k) declared that the Applicant is a resident of Australia (except as applicable to the Institutional Offer);

(l) acknowledged and agreed that the Offer may be withdrawn by Gold Hydrogen or may otherwise not proceed in the circumstances described in this Prospectus; and

(m) acknowledged and agreed that if Listing does not occur for any reason, the Offer will not proceed.

Each Applicant under this Prospectus will be taken to have represented, warranted and agreed as follows:

(n) it understands that the Shares have not been, and will not be, registered under the US Securities Act or the securities laws of any state of the United States and may not be offered, or sold, pledged or transferred directly or indirectly, in the United States, except in a transaction exempt from, or not subject to, registration under the US Securities Act and any other applicable securities laws;

(o) it is a resident domiciled in Australia or, if outside Australia, is an Institutional Investor;

(p) it is located in Australia at the time of the Application and is not acting for the account or benefit of any person in the United States or any other foreign person, excluding Applicants who are Institutional Investors;

(q) it has not and will not send the Prospectus or any other material relating to the Offer to any person in the United States.

7.8 ASX listing, registries and holding statements, and settlement trading

(a) Application to ASX for listing of Gold Hydrogen and quotation of Shares

Gold Hydrogen will apply to ASX within seven days of the Prospectus Date, for its admission to the Official List and quotation of Shares (under the code "GHY").

ASX takes no responsibility for this Prospectus or the investment to which it relates. The fact that the ASX may admit Gold Hydrogen to the Official List is not to be taken as an indication of the merits of Gold Hydrogen or the Shares offered for subscription.

If permission is not granted for the official quotation of the Shares on the ASX within three months after the Prospectus Date (or any later date permitted by law), all Application Monies received by Gold Hydrogen will be refunded (without interest) as soon as practicable in accordance with the requirements of the Corporations Act.

Gold Hydrogen will be required to comply with the ASX Listing Rules, subject to any waivers obtained by Gold Hydrogen from time to time.

(b) CHESS and issuer sponsored holdings

Gold Hydrogen has applied to participate in the ASX's Clearing House Electronic Subregister System (**CHESS**) and will comply with the ASX Listing Rules and the ASX Settlement Operating Rules. CHESS is an electronic transfer and settlement system for transactions in securities quoted on the ASX under which transfers are effected in an electronic form.

When the Shares become approved financial products (as defined in the ASX Settlement Operating Rules), holdings will be registered in one of two subregisters, an electronic CHESS subregister or an issuer sponsored subregister. For all Successful Applicants, the Shares of a Shareholder who is a participant in CHESS or a Shareholder sponsored by a participant in CHESS will be registered on the CHESS subregister. All other Shares will be registered on Gold Hydrogen sponsored subregister.

Following Completion, Shareholders will be sent a holding statement that sets out the number of Shares that have been allocated to them. This statement will also provide details of a Shareholder's Holder Identification Number (**HIN**) for CHESS holders or, where applicable, the Shareholder Reference Number (**SRN**) of issuer sponsored holders.

Shareholders will subsequently receive statements showing any changes to their shareholding. Share certificates will not be issued.

Shareholders will receive subsequent statements during the first week of the following month if there has been a change to their holding on the register and as otherwise required under the ASX Listing Rules and the Corporations Act. Additional statements may be requested at any other time either directly through the Shareholder's sponsoring broker in the case of a holding on the CHESS subregister or through the Share Registry in the case of a holding on Gold Hydrogen sponsored subregister. Gold Hydrogen and the Share Registry may charge a fee for these additional issuer sponsored statements.

(c) Selling Shares on market

It is expected that trading of the Shares on ASX will commence on or about 13 January 2023. Gold Hydrogen, the Share Registry and the Lead Manager disclaim all liability, whether in negligence or otherwise, to persons who trade Shares before receiving a holding statement, even if such person received confirmation of allocation from the Gold Hydrogen IPO Offer Information Line or confirmed their firm allocation through a Broker.

7.9 Overseas distribution and selling restrictions

No action has been taken to register or qualify the Shares or the Offer, or to otherwise permit a public offer of the Shares, in any jurisdiction outside Australia.

In particular, the Shares have not been, and will not be, registered under the US Securities Act or the securities laws of any state or other jurisdiction of the United States and may not be offered or sold, directly or indirectly, in the United States, except in transactions exempt from, or not subject to, the registration requirements of the US Securities Act and applicable US state securities laws.

Each Applicant under the Institutional Offer has been required to make certain representations, warranties and covenants set out in the confirmation of allocation letter distributed to it.

This Prospectus does not constitute an offer of Shares in any jurisdiction in which it would be unlawful. In particular, this document may not be distributed to any person, and the Shares may not be offered or sold, in any country outside Australia except to the extent permitted below.

(a) Hong Kong

WARNING: This document has not been, and will not be, registered as a prospectus under the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong, nor has it been authorised by the Securities and Futures Commission in Hong Kong pursuant to the Securities and Futures Ordinance (Cap. 571) of the Laws of Hong Kong (the "SFO"). Accordingly, this document may not be distributed, and the Shares may not be offered or sold, in Hong Kong other than to "professional investors" (as defined in the SFO and any rules made under that ordinance).

No advertisement, invitation or document relating to the Shares has been or will be issued, or has been or will be in the possession of any person for the purpose of issue, in Hong Kong or elsewhere that is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Shares that are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors. No person allotted Shares may sell, or offer to sell, such securities in circumstances that amount to an offer to the public in Hong Kong within six months following the date of issue of such securities.

The contents of this document have not been reviewed by any Hong Kong regulatory authority. You are advised to exercise caution in relation to the offer. If you are in doubt about any contents of this document, you should obtain independent professional advice.

(b) Singapore

This document and any other materials relating to the Shares have not been, and will not be, lodged or registered as a prospectus in Singapore with the Monetary Authority of Singapore. Accordingly, this document and any other document or materials in connection with the offer or sale, or invitation for subscription or purchase, of Shares, may not be issued, circulated or distributed, nor may the Shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore except pursuant to and in accordance with exemptions in Subdivision (4) Division 1, Part 13 of the Securities and Futures Act 2001 of Singapore (the "SFA") or another exemption under the SFA.

This document has been given to you on the basis that you are an "institutional investor" or an "accredited investor" (as such terms are defined in the SFA). If you are not such an investor, please return this document immediately. You may not forward or circulate this document to any other person in Singapore.

Any offer is not made to you with a view to the Shares being subsequently offered for sale to any other party in Singapore. On-sale restrictions in Singapore may be applicable to investors who acquire Shares. As such, investors are advised to acquaint themselves with the SFA provisions relating to resale restrictions in Singapore and comply accordingly.

(c) New Zealand

This document has not been registered, filed with or approved by any New Zealand regulatory authority under the Financial Markets Conduct Act 2013 (the "FMC Act").

The Shares are not being offered or sold in New Zealand (or allotted with a view to being offered for sale in New Zealand) other than to a person who:

(i) is an investment business within the meaning of clause 37 of Schedule 1 of the FMC Act;

(ii) meets the investment activity criteria specified in clause 38 of Schedule 1 of the FMC Act;

(iii) is large within the meaning of clause 39 of Schedule 1 of the FMC Act;

(iv) is a government agency within the meaning of clause 40 of Schedule 1 of the FMC Act; or

(v) is an eligible investor within the meaning of clause 41 of Schedule 1 of the FMC Act.

7.10 Discretion regarding the Offer

Gold Hydrogen may withdraw the Offer at any time before the issue and allotment of Shares to Successful Applicants under the Offer. If the Offer, or any part of it, does not proceed, all relevant Application Monies will be refunded (without interest). The Lead Manager and Gold Hydrogen also reserve the right to close the Offer or any part of it early, extend the Offer or any part of it, accept late Applications either generally or in particular cases, reject any Application, or allocate to any Applicant fewer Shares than those applied for.

7.11 Summary of rights and liabilities attaching to Shares and other material provisions of the Constitution

(a) Introduction

The rights and liabilities attaching to ownership of Shares arise from a combination of the Constitution, statute, the ASX Listing Rules and general law. A summary of the significant rights, liabilities and obligations attaching to the Shares and a description of other material provisions of the Constitution are set out below. This summary is not exhaustive nor does it constitute a definitive statement of the rights and liabilities of Shareholders. The summary assumes that Gold Hydrogen is admitted to the Official List.

(b) Voting at a general meeting

At a general meeting of Gold Hydrogen, every Shareholder present in person or by proxy, representative or attorney has one vote on a show of hands and, on a poll, one vote for each Share held (with adjusted voting rights for partly paid shares). If the votes are equal on a proposed resolution, the chairperson of the meeting has a casting vote, in addition to any deliberative vote.

(c) Meetings of members

Each Shareholder is entitled to receive notice of, attend and vote at general meetings of Gold Hydrogen and to receive all notices, accounts and other documents required to be sent to Shareholders under the Constitution, Corporations Act and the ASX Listing Rules. Gold Hydrogen must give at least 28 days' written notice of a general meeting.

(d) Dividends

The Board may pay any interim and final dividends that, in its judgement, the financial position of Gold Hydrogen justifies. The Board may also pay any dividend required to be paid under the terms of issue of a Share, and fix a record date for a dividend and the timing and method of payment.

(e) Transfer of Shares

Subject to the Constitution and to any restrictions attached to a Shareholder's Share, Shares may be transferred in accordance with the ASX Settlement Operating Rules, the Corporations Act (and Regulations) and ASX Listing Rules or by a written transfer in any usual form or in any other form approved by the Board and permitted by the relevant laws and ASX requirements. The Board may decline to register a transfer of Shares or apply a holding lock to prevent a transfer in accordance with the Corporations Act or the ASX Listing Rules.

(f) Issue of further Shares

The Board may, subject to the Constitution, Corporations Act and the ASX Listing Rules, issue, allot or grant Options for, or otherwise dispose of, Shares in Gold Hydrogen on such terms as the Board decides.

(g) Winding up

If Gold Hydrogen is wound up, then subject to the Constitution, the Corporations Act and any rights or restrictions attached to any Shares or classes of shares, Shareholders will be entitled to a share in any surplus property of Gold Hydrogen in proportion to the number of Shares held by them. If Gold Hydrogen is wound up, the liquidator may, with the sanction of a special resolution, divide among the Shareholders the whole or part of Gold Hydrogen's property and decide how the division is to be carried out as between Shareholders or different classes of shareholders.

(h) Non-marketable parcels

In accordance with the ASX Listing Rules, the Board may sell Shares that constitute less than a marketable parcel by following the procedures set out in the Constitution.

(i) Proportional takeover provisions

The Constitution contains provisions requiring Shareholder approval in relation to any proportional takeover bid. These provisions will cease to apply unless renewed by Shareholders passing a special resolution by the third anniversary of either the date those rules were adopted or the date those rules were last renewed.

(j) Variation of class rights

The procedure set out in the Constitution must be followed for any variation of rights attached to the Shares.

Under that rule, and subject to the Corporations Act and the terms of issue of a class of shares, the rights attached to any class of Shares may be varied:

(i) with the consent in writing of the holders of 75% of the issued Shares included in that class; or

(ii) by a special resolution passed at a separate meeting of the holders of those Shares.

(k) Directors – appointment and removal

Under the Constitution, the Board is comprised of a minimum of three Directors and a maximum of nine Directors, unless the Shareholders pass a resolution varying that number at a general meeting. Directors are elected or re-elected at annual general meetings of Gold Hydrogen.

No Director (excluding a managing director) may hold office without re-election beyond the third annual general meeting following the meeting at which the Director was last elected or re-elected. The Board may also appoint any eligible person to be a Director either to fill a casual vacancy on the Board or as an addition to the existing Directors, who will then hold office until the conclusion of the next annual general meeting of Gold Hydrogen following their appointment.

(l) Directors – voting

Questions arising at a meeting of the Board must be decided by a majority of votes of the Directors present at the meeting and entitled to vote on the matter. In the case of an equality of votes on a resolution, the chairperson of the meeting has a casting vote in addition to his or her deliberative vote, unless there are only two Directors present or entitled to vote in which case the chairperson of the meeting does not have a second or casting vote and the proposed resolution is taken as lost.

(m) Directors – remuneration

Under the Constitution, the Board may decide the remuneration from Gold Hydrogen to which each Director is entitled for his or her services as a Director. However, the total aggregate amount provided to all Non-Executive Directors for their services as Directors must not exceed in any financial year the amount fixed by Gold Hydrogen in general meeting.

The remuneration of a Director (who is not a managing director or an executive Director) must not include a commission on, or a percentage of, profits or operating revenue. The current maximum aggregate sum of Non-Executive Director remuneration is set out in Section 6.3(b). Any change to that maximum aggregate amount needs to be approved by Shareholders.

Directors may be paid for all travelling and other expenses the Directors incur in attending to Gold Hydrogen's affairs, including attending and returning from general meetings of Gold Hydrogen or meetings of the Board or of committees of the Board. Any Director who performs extra services or makes any special exertions for the benefit of Gold Hydrogen, which, in the opinion of the Board, are outside the scope of ordinary duties of a Director, may be remunerated for the services (as determined by the Board) out of the funds of Gold Hydrogen.

These amounts will not form part of the maximum aggregate sum of Non-Executive Director remuneration. Directors' remuneration is discussed in Section 6.3(b).

(n) Powers and duties of Directors

The business and affairs of Gold Hydrogen are to be managed by or under the direction of the Board, which (in addition to the powers and authorities conferred on it by the Constitution) may exercise all powers and do all things that are within Gold Hydrogen's power and the powers that are not required by law or by the Constitution to be exercised by Gold Hydrogen in general meeting.

(o) Preference shares

Gold Hydrogen may issue preference shares including preference shares which are, or at the option of Gold Hydrogen or holder are, liable to be redeemed or convertible to ordinary shares. The rights attaching to preference shares are those set out in the Constitution unless other rights have been approved by special resolution of Gold Hydrogen.

(p) Indemnities

Gold Hydrogen, to the extent permitted by law, indemnifies each Director and officer of Gold Hydrogen on a full indemnity basis against all liability incurred by the Director or officer in or arising out of the conduct of the business of Gold Hydrogen or in or arising out of the discharge of the duties of the officer.

8. Investigating Accountant's Report

BDO

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Level 10, 12 Creek Street
Brisbane QLD 4000
GPO Box 457 Brisbane QLD 4001
Australia

The Directors
Gold Hydrogen Ltd
GPO Box 801
Brisbane QLD 4001

14 November 2022

Dear Directors,

INDEPENDENT LIMITED ASSURANCE REPORT

Introduction

BDO Audit Pty Ltd ('BDO') has been engaged by Gold Hydrogen Ltd ('the Company' or 'Gold Hydrogen Ltd') to prepare this Independent Limited Assurance Report ('this Report') for inclusion in a prospectus proposed to be issued, in relation to the initial public offering of shares in the Company, on or about 15 November 2022 ('Prospectus') and listing on the Australian Securities Exchange ('ASX') ('the Offer').

Unless stated otherwise in this Report, expressions defined in the Prospectus have the same meaning in this Report.

Our limited assurance engagement has been carried out in accordance with auditing or other standards and practices generally accepted within Australia. This Report cannot be assumed to have been compiled with practices or standards applicable in other jurisdictions.

Scope

Statutory Historical Financial Information

BDO has been engaged to review the following statutory historical financial information ('the Statutory Historical Financial Information') included in the Prospectus, being:

- Statutory historical statement of financial position as at 30 June 2021 and 30 June 2022.
- Statutory historical statement of profit or loss and other comprehensive income for the four month period ended 30 June 2021 and the year ended 30 June 2022.
- Statutory historical statement of cash flows for the four month period ended 30 June 2021 and the year ended 30 June 2022.

The Statutory Historical Financial Information has been prepared in accordance with the stated basis of preparation, being the recognition and measurement principles contained in Australian Accounting Standards and Gold Hydrogen Ltd's adopted accounting policies.

The Statutory Historical Financial Information has been extracted from the financial report of Gold Hydrogen Ltd for the year ended 30 June 2022, which was audited by BDO Audit Pty Ltd. The audit was conducted in accordance with Australian Auditing Standards.

The Statutory Historical Financial Information is presented in the public document in an abbreviated form, insofar as it does not include all of the presentation and disclosures required by Australian Accounting Standards and other mandatory professional reporting requirements applicable to general purpose financial reports prepared in accordance with the *Corporations Act 2001*.

Pro Forma Historical Financial Information

BDO has been engaged to review the following pro forma historical financial information ('the Pro Forma Historical Financial Information') included in the Prospectus, being:

- The pro forma historical statement of financial position as at 30 June 2022.

The Pro Forma Historical Financial Information has been derived from the Statutory Historical Financial Information of Gold Hydrogen Ltd, after adjusting for the effects of pro forma adjustments described in Section 4.4 of the Prospectus. The stated basis of preparation is the recognition and measurement principles contained in Australian Accounting Standards and Gold Hydrogen Ltd's adopted accounting policies, applied to the historical financial information and the event(s) or transaction(s) to which the pro forma adjustments relate, as described in Section 4.4 of the Prospectus, as if those event(s) or transaction(s) had occurred as at the date of the Statutory Historical Financial Information. Due to its nature, the Pro Forma Historical Financial Information does not represent the company's actual or prospective financial position, financial performance, and/or cash flows.

Directors' Responsibility

The directors of Gold Hydrogen Ltd are responsible for:

- The preparation and presentation of the Statutory Historical Financial Information and the Pro forma Historical Financial Information, including the selection and determination of the pro forma adjustments made to the Statutory Historical Financial Information and included in the Pro forma Historical Financial Information; and
- The information contained within the Prospectus.

This includes responsibility for such internal controls as the directors determine are necessary to enable the preparation of the Statutory Historical Financial Information and Pro Forma Historical Financial Information to be free from material misstatement, whether due to fraud or error.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on whether anything has come to our attention that the Statutory Historical Financial Information and Pro Forma Historical Financial Information, based on the procedures performed, and Gold Hydrogen Ltd has not properly compiled the evidence we have obtained, in all material respects, in accordance with the stated basis of preparation.

We have conducted our engagement in accordance with the Standard on Assurance Engagement ASAE 3450 *Assurance Engagements involving Corporate Fundraisings and/or Prospective Financial Information*, issued by the Auditing and Assurance Standards Board.

Our limited assurance procedures consisted of making enquiries, primarily of persons responsible for financial and accounting matters, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of supporting documentation and agreeing or reconciling with underlying records and applying analytical and other review procedures. A limited assurance engagement is substantially less in scope than an audit conducted in accordance with Australian Auditing Standards and consequently does not enable us to obtain reasonable assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Our engagement did not involve updating or re-issuing any previously issued audit on any financial information used as a source of the Financial Information.

Conclusions

Statutory Historical Financial Information

Based on our review, which is not an audit, nothing has come to our attention that causes us to believe that the Statutory Historical Financial Information, as described in Section 4.2 of the Prospectus, and comprising the statutory historical statement of financial position as at 30 June 2022 the statutory historical statement of profit or loss and other comprehensive income and the statutory historical statement of cash flows for the year then ended, are not presented fairly, in all material respects, in accordance with the stated basis of preparation, as described in Section 4 of the Prospectus.

Pro Forma Historical Financial Information

Based on our review, which is not an audit, nothing has come to our attention that causes us to believe that the Pro Forma Historical Financial Information, as described in Section 4.4 of the Prospectus, and comprising the pro forma historical statement of financial position as at 30 June 2022, is not presented fairly in all material respects, in accordance with the stated basis of preparation as described in Section 4 of the Prospectus.

Restriction on Use

Without modifying our conclusions, we draw attention to Section 4.1 of the Prospectus, which describes the purpose of the Financial Information, being for inclusion in the Prospectus. As a result, the Financial Information may not be suitable for use for another purpose. We disclaim any liability for use of this Report, or reliance on the Financial Information by any other persons or for any other purpose than that set out in Section 4.1 of the Prospectus.

Consent

We have consented to the inclusion of this Report in the Prospectus in the form and context in which it is included. At the date of this Report, our consent has not been withdrawn. However, BDO has not authorised the issue of the Prospectus. BDO makes no representation regarding, or responsibility for, any other statements, material in (or omissions from) the Prospectus.

Liability

The liability of BDO is limited to the inclusion of this Report in the Prospectus. BDO makes no representation regarding, and takes no responsibility for, any other statements, or material in, or omissions from, the Prospectus.

General Advice Warning

This Report has been prepared, and included the document to provide investors with general information only and does not take into account the objectives, financial situation or needs of any specific investor. It is not intended to take the place of professional advice and investors should not make specific investment decisions in reliance on information contained in this Report. Before acting or relying on any information, an investor should consider whether it is appropriate for their circumstances having regard to their objectives, financial situation or needs.

Declaration of Interest

BDO does not have any interest in the outcome of proposed listing, or any other interest that could reasonably be regarded as being capable of affecting its ability to give an unbiased conclusion in this matter. BDO will receive normal professional fees for the preparation of this Report.

If you require any additional information and/or clarification on any matter please contact us.

BDO Audit Pty Ltd

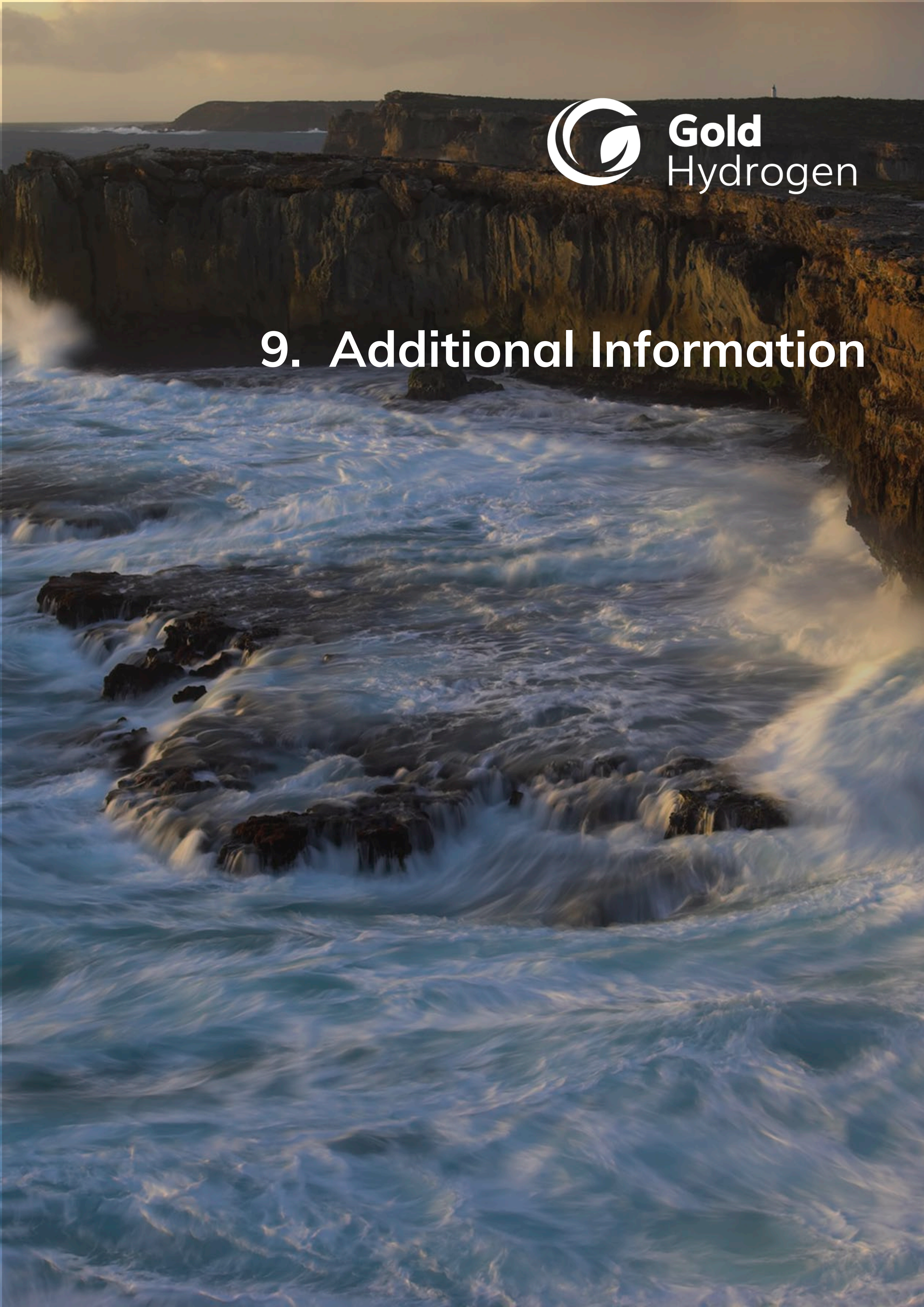
BDO

A J Whyte

Director

Brisbane

9. Additional Information



9. Additional Information

9.1 Registration

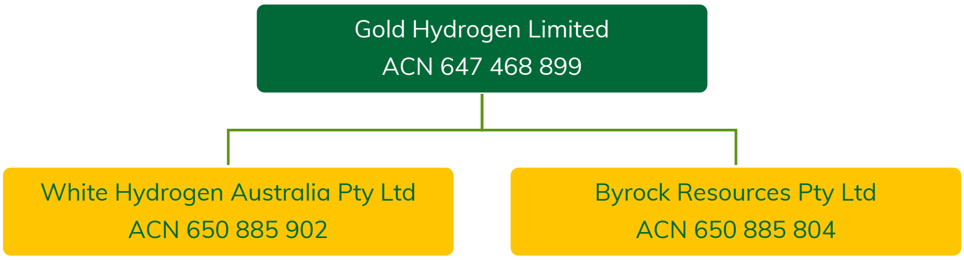
Gold Hydrogen was registered in the State of Victoria, Australia on 28 January 2021.

9.2 Company tax status and financial year

Gold Hydrogen is and will be subject to tax at the Australian corporate tax rate on its taxable income and Gold Hydrogen's financial year ends on 30 June annually.

9.3 Corporate structure

The following diagram shows the entities in the corporate structure of the Group on Completion:



A summary of the activities of each entity in the Group is as follows:

Name	Place and date of incorporation	Summary of activities at the Prospectus Date
Gold Hydrogen Limited **ACN 647 468 899**	Victoria, Australia 28 January 2021	Parent entity with 100% control over on Completion the Group. Owner of tenement PEL 687.
White Hydrogen Australia Pty Ltd **ACN 650 885 902**	South Australia, Australia 9 June 2021	Wholly owned subsidiary of Gold Hydrogen on Completion and owner of tenement PELA 699, PELA 700, PELA 701, PELA 702, PELA 703 and PELA 704.
Byrock Resources Pty Ltd **ACN 650 885 804**	New South Wales, Australia 9 June 2021	Wholly owned subsidiary of Gold Hydrogen on Completion and owner of tenement PELA 688.

9.4 Other material arrangements

(a) Lease

Gold Hydrogen is party to a lease agreement for part of the 14th floor of the building constructed on Lot 1 on Survey Plan 182811 having title reference 50609597, known as 110 Eagle Street, Brisbane, Queensland.

The term of the lease is three years, being the period 1 July 2022 to 30 June 2025. There is one option to renew the term of the lease for one year.

The rent at commencement of the lease was $79,375 plus GST. The rent will increase by 3.5% on each anniversary of the lease during the initial term. If Gold Hydrogen exercises the option to renew the lease the rent at the commencement of the extension period will be subject to a Market Rent Review.

Gold Hydrogen provided a bank guarantee equal to 4 months' rent ($29,104) at commencement of the lease. Outgoings are payable and Gold Hydrogen's proportion for calculating outgoings is 2.32%.

There was existing fitout in the premises at commencement of the lease, that had been abandoned by the previous tenant. The landlord gives no warranty regarding the suitability of that fitout, its condition or ownership. If Gold Hydrogen uses the existing fitout it is at the risk that a third party may claim title to that fitout and seek its removal. Otherwise there are no special conditions or unusual terms contained in the lease.

(b) Incentive agreement

Gold Hydrogen is a party to a fitout and incentive agreement in connection with the lease referred to in Section 9.4(a) above.

Due to the premises previously being fitted out, referred to in Section 9.4(a), Gold Hydrogen was not required to undertake any fitout. Pursuant to the agreement Gold Hydrogen receives an incentive in the form of a rent moratorium which is not considered to be material.

In the event that Gold Hydrogen defaults in its obligations under the lease the incentive may be suspended and in the lease is terminated as a consequence of that default some or all of the incentive received may be repayable.

Schedules to the agreement are also incomplete as documents required to be attached in those schedules have not been. Consequently there may some ambiguity regarding the terms of the agreement, however we consider that this issue would not prevent Gold Hydrogen enforcing the agreement.

(c) Research services agreement

Gold Hydrogen is a party to an agreement with the CSIRO, pursuant to which the CSIRO will undertake a research project to gather existing data relevant for the characterisation of the Yorke Peninsula's hydrogen systems, and the implementation of a structural model for the area between 1 July 2022 and 30 May 2024.

Pursuant to the agreement the CSIRO will use existing data and new data acquired during the project from existing well samples, exploration and surveys to develop a geographical model of hydrogen in the Yorke Peninsular, South Australia and define and rank zones of interest.

Subject to the level and extent of work programs undertaken, the maximum amount of fees payable under the agreement is $967,550.

(d) Convertible Note Deeds

Gold Hydrogen has entered into 121 Convertible Note Deeds, pursuant to which Gold Hydrogen has issued 5,500,000 notes that:

(i) may, at Gold Hydrogen's election, be converted into Shares in accordance with the applicable conversion formula or redeemed at their issue price;

(ii) convert into Shares in accordance with the applicable conversion formula, upon Gold Hydrogen carrying out an initial public offering of its Shares and being admitted to the Official List of ASX;

(iii) convert into Shares in accordance with the applicable conversion formula, in the event of a company sale;

(iv) will be redeemed at their issue price in the event of a mandatory redemption event.

Between the issue date of the notes and either redemption or conversion of the notes, Gold Hydrogen must pay interest to the noteholders at a rate of 12% per annum. At Gold Hydrogen's election the interest may be paid to the noteholder in cash or capitalised and converted into Shares at the same time as the notes.

(e) Tax Master Services Agreement

Gold Hydrogen has entered into an agreement with Deloitte for the provision of tax compliance and tax consulting services as requested by the Group. Pursuant to the terms of the agreement each statement of work between Deloitte and a group entity is a separate contract and the agreement contains the standard conditions that will apply to each statement of work.

The agreement expires on 31 December 2024 and may be extended for a further two years by agreement between the parties.

As Deloitte's fees are dependent upon the amount of work involved in each engagement under the agreement, charged on a time and material basis, it is not possible to determine or advise on the actual cost of services to be provided. On that basis the agreement on its own does not meet the materiality threshold. Further, not all statements of work, as independent contracts will meet the materiality threshold. However Gold Hydrogen considers the agreement to be material on the basis that during its term the aggregate value of all statements of work may exceed the materiality threshold.

(f) Share Sale Agreements in relation to sell down by NFM and MS

NFM and MS have entered into agreements with various counterparties pursuant to which they agreed to sell down 6,063,955 Shares in aggregate between them for an aggregate sum of $2,112,000 prior to listing.

The aggregate number of Shares being sold by NFM and MS constitutes approximately 7.30% of their aggregate pre-IPO shareholding.

Gold Hydrogen expects the ASX to classify the Shares sold by NFM and MS as part of the sell down as being subject to the restricted securities provisions of the ASX Listing Rules for 24 months after listing on the ASX.

(g) Xcalibur Agreement

This agreement between Gold Hydrogen and Xcalibur is for an aerial survey of approximately 18,200 line kilometres at 500 metre spacing covering the whole of the area of PEL 687.

The work is required to be undertaken by a qualified Geophysical operator to maintain the survey equipment and experienced survey pilots. An aircraft maintenance technician must also be supplied, if required.

Pursuant to the agreement, Xcalibur must conduct the survey and provide Gold Hydrogen with the survey data and reports and Gold Hydrogen obtains title to all intellectual property to the deliverables under the agreement, subject to having paid the contract fees.

The minimum total fees payable under the agreement are $2,229,360. The actual fees payable by Gold Hydrogen may exceed this amount depending on the final details of the survey.

9.5 Litigation and claims

As at the Prospectus Date, there are no current, pending or threatened civil litigation, arbitration proceedings or administrative appeals, or criminal or governmental prosecutions of a material nature in which Gold Hydrogen is directly or indirectly concerned which is likely to have a material adverse impact on the business or financial position of Gold Hydrogen.

9.6 ASIC relief and ASX waivers and confirmations

Gold Hydrogen has sought a modification of section 707(3) and (4) of the Corporations Act from ASIC to the extent necessary to:

(a) permit Shares issued in connection with listing (pursuant to arrangements entered into prior to lodgement of the Prospectus with ASIC) to holders of notes to be able to be sold within 12 months of their issue without the requirements for a future disclosure document (or cleansing notice) being prepared in connection with that sale; and

(b) permit Shares issued after listing (pursuant to arrangements entered into prior to lodgement of the Prospectus with ASIC) to holders of Director and Manager Options to be able to be sold within 12 months of their issue without the requirements for a future disclosure document (or cleansing notice) being prepared in connection with that sale.

Gold Hydrogen has not sought any other exemptions, modifications or relief from ASIC in relation to the Offer.

Gold Hydrogen has sought a confirmation from ASX that:

(a) Gold Hydrogen is generally suitable for admission to the Official List of the ASX; and

(b) the Director and Manager Options are appropriate and equitable for the purposes of ASX Listing Rule 6.1.

Gold Hydrogen has not sought any other waivers, relief or confirmation from ASX in relation to the Offer.

9.7 Consents

Each of the parties listed below, to the maximum extent permitted by law, expressly disclaims all liabilities in respect of this Prospectus, and takes no responsibility for any statements in or omissions from this Prospectus, other than the reference to its name in the form and context in which it is named and a statement included in this Prospectus with its consent, as specified below.

None of the parties listed below has made any statement that is included in this Prospectus or any statement on which a statement made in this Prospectus is based, except as specified below.

(a) The Lead Manager has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as the Lead Manager and Underwriter to the Offer in the form and context in which they are named.

(b) Gadens has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as Australian legal adviser (other than in relation to taxation and stamp duty matters) to Gold Hydrogen in relation to the Offer in the form and context in which they are named and to the inclusion of its Solicitor's Tenement Report as set out in Annexure B in the form and context in which it appears.

(c) BDO has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as Investigating Accountant and Auditor to Gold Hydrogen in relation to the Offer in the form and context in which it is named and to the inclusion in this Prospectus of its Investigating Accountant's Report in Section 8 in the form and context in which it appears.

(d) Teof Rodrigues & Associates Pty Ltd has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as the Technical Expert in the form and context in which they are named and to the inclusion of the Technical Expert Report as set out in Annexure A in the form and context in which they appear, and to the inclusion of the statements in the Chairman's Letter, Section 1.2, Section 1.4, Section 3.1, Sections 3.3(c), 3.3(d) and 3.3(e) of this Prospectus in the form and context in which they appear which are based on the information in the Technical Expert Report.

(e) Frost and Sullivan Australia Pty Ltd has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as the Industry Expert in the form and context in which they are named and to the inclusion of the Industry Expert Report as set out in Section 2 in the form and context in which it appears, and to the inclusion of the statements in the Chairman's Letter and Section 1.1 of this Prospectus in the form and context in which they appear which are based on the information in the Industry Expert Report.

(f) Link Market Services Limited has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as the Share Registry to Gold Hydrogen in the form and context in which they are named.

(g) AMETS has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as the creator of Figure 1 in the form and context in which they are named.

(h) Total Seismic has given, and has not withdrawn prior to the Prospectus Date, its written consent to be named in this Prospectus as the creator of Figure 7 and Figure 15 in the form and context in which they are named.

(i) Luke Titus has given, and has not withdrawn prior to the Prospectus Date, his written consent to be named in this Prospectus as having approved, compiled or modified Figure 1, Figure 2, Figure 5, Figure 6, Figure 8, Figure 9, Figure 10, Figure 11, Figure 12, Figure 13 and Figure 14 in the form and context in which he is named.

9.8 Australian taxation considerations

The acquisition and disposal of Shares in Gold Hydrogen will have tax consequences, which will differ depending on the individual financial affairs of each investor.

All potential investors in Gold Hydrogen are urged to obtain independent financial advice about the consequences of acquiring Shares from a taxation viewpoint and generally.

9.9 Governing law

This Prospectus and the contracts that arise from the acceptance of the Applications under this Prospectus are governed by the laws applicable in Queensland, Australia and each Applicant under this Prospectus submits to the exclusive jurisdiction of the courts of Queensland, Australia.

9.10 Statement of Directors

This Prospectus has been authorised by each Director of Gold Hydrogen, who has consented to its lodgement with ASIC and its issue and has not withdrawn that consent.

9.11 Costs of the Offer

The costs of the Offer are expected to be approximately $1,351,129 (exclusive of GST where applicable). These costs have been, or will be, borne by Gold Hydrogen from the proceeds of the Offer.

10. Glossary

10. Glossary

Term	Meaning
AAS or Australian Accounting Standards	Australian Accounting Standards and other authoritative pronouncements issued by the AASB.
AASB	Australian Accounting Standards Board.
Accumulation	An individual body of Natural Hydrogen in a Reservoir. An accumulation occurs when gas Migrates into and remains Trapped in a Reservoir. Accumulate and Accumulated have a corresponding meaning.
Adelaide Superbasin or Adelaide Geosyncline or Adelaide Rift Complex	A thick pile of sedimentary rocks and minor volcanic rocks that were deposited on the eastern margin of Australia during the time of breakup of the supercontinent Rodinia (previously known as the Adelaide Geosyncline and Adelaide Rift Complex) is a major Neoproterozoic to middle Cambrian geological province in central and south-east South Australia, western New South Wales, and western Victoria.
Air-corrected	The gas composition of any gas can be characterized by listing the pure substances it contains, and stating for each substance its proportion of the gas mixture's molecule count. When gas samples are taken, they can sometimes be contaminated with air. An air-corrected composition is calculated to determine what the gas concentrations would be if the contamination air were removed. This is also referred to as air-free.
American Beach Oil 1	Natural Hydrogen occurrence well located within PEL 687, seven miles to the south-west of Penneshaw, Kangaroo Island, in the Kanmantoo Trough.
AMETS	Australian Mining and Exploration Title Services Pty Ltd ACN 140 504 098
Applicant	A person or entity who submits an Application.
Application	An application to subscribe for Shares offered under this Prospectus.
Application Form	The application form attached to or accompanying this Prospectus (including the electronic form provided by an online application facility).
Application Monies	The amount accompanying an Application Form submitted by an Applicant.
Application Tenements	The Exploration Licence Applications and the Storage Licence Applications.
Archean	The period from 4,000 million years ago to 2,500 million years ago.
ASIC	Australian Securities and Investments Commission.
ASX	ASX Ltd ACN 008 624 691.
ASX Listing Rules	The rules of the ASX that govern the admission, quotation and removal of securities from the ASX Official List.
ASX Recommendations	The ASX Corporate Governance Council's Corporate Governance Principles and Recommendations (4th Edition).
ASX Settlement Operating Rules	The operating rules of ASX as amended from time to time.
AUD	Australian dollar.
Auditor	BDO.

Term	Meaning
Bach Ho Oil field	A major oil field in the Cuu Long Basin of the East Sea located offshore due east of the Mekong delta region of Vietnam. The field contains major reserves hosted within highly fractured granitic Basement rocks.
Baratta Trough	A Fault bounded Basin located as shown in Figure 2.
Barossa Complex	The Basement rock formation situated near PEL 687 as shown in Figure 8.
Basement	The rock layer below which economic gas or liquids Reservoirs are not expected to be found, sometimes called economic basement. Basement is usually older, deformed igneous or metamorphic rocks, which seldom develops the porosity and permeability necessary to serve as a gas or liquids Reservoir, and below which sedimentary rocks are not common. Basement rocks typically have different density, acoustic velocity, and magnetic properties from overlying rocks.
Basin	A depression, or dip, in the Earth's surface. Basins are shaped like bowls, with sides higher than the bottom.
BDO	BDO Audit Pty Ltd ACN 134 022 870.
Berri Basin	A subsurface Basin of marine to freshwater shelf sedimentary rocks concealed below the Murray Basin in NSW, SA and Victoria, and is known only from drilling. Seismic surveys indicate maximum thickness about 600 m in the southern part of the Renmark Trough (in which the Berri Basin is located). Its location is shown in Figure 2.
Best Estimate	With respect to resources categorization, the most realistic assessment of recoverable quantities if only a single result were reported. If probabilistic methods are used, there should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate. In this context, 'best' basically means 'mid' case.
Board or Board of Directors	The Board of Directors of Gold Hydrogen.
BoD	Basis of design.
Bore	See Well.
Broken Hill Block	A rock formation located in far western New South Wales.
Broker	Any ASX participating organisation selected by the Lead Manager, Gold Hydrogen or financial advisers to act as a broker to the Offer.
Broker Firm Offer	The offer of Shares under this Prospectus to Australian resident retail clients of Brokers who have received a firm allocation from their Broker provided that such clients are not in the United States as described in Section 7.3.
Byrock	Byrock Resources Pty Ltd ACN 650 885 804
Cambrian	The period from about 541 million years ago to 485.4 million years ago. It is commonly divided into early, middle and late periods.
Carbonate	A class of sedimentary rock whose chief mineral constituents (95% or more) are calcite and aragonite (both $CaCO_3$) and dolomite [$CaMg(CO_3)_2$], a mineral that can replace calcite during the process of dolomitization. Limestone, dolostone or dolomite, and chalk are carbonate rocks. Although carbonate rocks can be clastic in origin, they are more commonly formed through processes of precipitation or the activity of organisms such as coral and algae. Carbonates form in shallow and deep marine settings, Evaporitic Basins, lakes, and windy deserts. Carbonate rocks can serve as hydrocarbon Reservoir rocks, particularly if their porosity has been enhanced through dissolution. They rely on fractures for permeability.

Term	Meaning
CEO	Chief Executive Officer.
Cenozoic	The Earth's current geological era, from 66 million years ago to present.
Central Trough	The Central Trough is a geological term for an area associated with the Morgan Fault. The Central Trough and the Morgan Fault are one in the same. Morgan Fault is more commonly used. Its location is shown in Figure 2.
CFO	Chief Financial Officer.
Chance of Commerciality	The estimated probability that the project will achieve commercial maturity to be developed. For Prospective Resources, this is the product of the chance of geologic discovery and the chance of development.
Chance of Development	The estimated probability that a known Accumulation, once discovered, will be commercially developed.
Chance of Geologic Discovery	The estimated probability that exploration activities will confirm the existence of a significant Accumulation of potentially recoverable Natural Hydrogen.
Clast	Fragments of pre-existing minerals and rock.
Clastic	Clastic rocks are composed of fragments, or Clasts, of pre-existing minerals and rock. A Clast is a fragment of geological detritus, chunks and smaller grains of rock broken off other rocks by physical weathering.
COO	Chief Operating Officer.
Conglomerate	A Clastic sedimentary rock that is composed of a substantial fraction of rounded to subangular gravel-size Clasts. A conglomerate typically contains a Matrix of finer-grained sediments, such as sand, silt, or clay, which fills the spaces between the Clasts. The Clasts and Matrix are typically cemented by calcium Carbonate, iron oxide, silica, or hardened clay.
CHESS	ASX's Clearing House Electronic Subregister System, operated in accordance with the ASX Listing Rules and ASX Settlement Operating Rules.
Closing Date	The date on which the Offer closes, being 9 December 2022, or another date nominated by Gold Hydrogen in consultation with the Lead Manager.
Company or Gold Hydrogen	Gold Hydrogen Limited ACN 647 468 899.
Completion or Completion of the Offer	The Completion of the Offer, being the date on which Shares are issued or transferred to Successful Applicants in accordance with the terms of the Offer.
Constitution	The Constitution of Gold Hydrogen.
Contingent Resources	Those quantities of Natural Hydrogen estimated, as of a given date, to be potentially recoverable from known Accumulations by application of development projects, but which are not currently considered to be commercially recoverable owing to one or more contingencies.
Corporations Act	*Corporations Act 2001* (Cth).
CSIRO	The Commonwealth Scientific and Industrial Research Organisation ABN 41 687 119 230.
Cuu Long Basin	A Basin situated off the south coast of Vietnam.

Term	Meaning
Dead Sea	Dead Sea, salt lake, c. 1,010 km² (390 mi²), extending c. 70 km (45 mi) in the Jordan trough of the Great Rift Valley between the Ghor on the north and Wadi Arabah on the south, on the border between Israel and the West Bank and Jordan. The shore of the Dead Sea, historically about 395 m (1,295 ft) below sea level but now some 30m (100 ft) lower, is the lowest dry point on Earth.
Delamerian Orogeny	A structural Orogeny event that affected the southern and eastern margins of the Basin in the middle to late Cambrian. The Delamerian Orogeny occurred possibly between about 514 million years ago and 500 million years ago, beginning near the end of the Cambrian and continuing into the Ordovician.
DEM	The State of South Australia acting through the Department of Energy and Mining.
Director	A member of the Board.
Discovered	A resource Accumulation where one or several exploratory Wells through testing, sampling and/or logging have demonstrated the existence of a significant quantity of potentially recoverable Natural Hydrogen and thus have established a known Accumulation. In this context, 'significant' implies that there is evidence of a sufficient quantity of Natural Hydrogen to justify estimating the in-place volume demonstrated by the Well(s) and for evaluating the potential for commercial recovery.
Dissolved gas	A gas that has been dissolved into another material, usually a liquid. This creates a solution, a mixture, where the gas is the minor component, and the other material is the main component.
Donnington Suite	The Basement rock formation situated near PEL 687 as shown in Figure 8.
ESG	Environmental, Social and Governance.
Evaporites	A class of sedimentary minerals and sedimentary rocks that form by precipitation from evaporating aqueous fluid. Common evaporite minerals are halite, gypsum and anhydrite, which can form as seawater evaporates, and the rocks limestone and dolostone. Certain evaporite minerals, particularly halite, can form excellent cap rocks or Seals for Natural Hydrogen Traps because they have minimal porosity and they tend to deform plastically (as opposed to brittle fracturing that would facilitate leakage). Evaporitic has a corresponding meaning.
Existing Shareholders	Being the shareholders holding Shares of Gold Hydrogen immediately prior to Completion.
Exploration Licence Applications	Seven (7) Petroleum Exploration Licence Applications (PELAs) in South Australia, being PELAs 688, 699, 700, 701, 702, 703 and 704, which cover approximately 67,512 km² and are subject to Native Title agreement.
Exposure Period	The period specified in section 727(3) of the Corporations Act, being a minimum period of seven days after lodgement of the Original Prospectus with ASIC, during which an Application must not be accepted. The Exposure Period was subsequently extended by ASIC for a further period of seven days.
Fault	A fracture in rock mass, with the movement of one side past the other.
Fluid inclusions	A fluid inclusion is a microscopic bubble of liquid and/or gas that is Trapped within a crystal. As minerals often form from a liquid or aqueous medium, tiny bubbles of that liquid can become Trapped within the crystal, or along healed crystal fractures. These small inclusions range in size from 0.01 mm to 1 mm and are usually only visible in detail by microscopic study.
Fractured Basement	Fractured Basement Reservoirs are most commonly defined as metamorphic and igneous rocks unconformably overlain by a sedimentary sequence, where Faulting has led to the creation of a natural fracture network where gas can Accumulate.

Term	Meaning
Free gas	A naturally occurring gas that is not dissolved in liquid or fluid. It tends to form a gas cap beneath the top Seal on the Reservoir Trap.
Gawler Craton	The Gawler Craton covers approximately 440,000 km² of central South Australia. Its pre-Cambrian crystalline Basement crustal block was cratonised ca. 1550–1450 Ma. Prior to 1550 Ma the craton comprised a number of active Proterozoic Orogenic belts extending back in time to at least 2450 Ma.
Geophysicist	A scientist trained in the study of the physics of the Earth, particularly its electrical, gravitational, and magnetic fields and propagation of elastic (Seismic) waves within it. In the petroleum industry, geophysicists perform a variety of functions, chiefly the processing and interpretation of Seismic data and generation of subsurface maps on the basis of Seismic data. Such interpretations enhance understanding of subsurface geology.
Geophysics	The study of the physics of the Earth. Geophysical has a corresponding meaning.
Gravestock 1	Possible Natural Hydrogen occurrence Well located within PEL 687. It is the most recent Well to be drilled on Yorke Peninsula in 2007.
Gravity-magnetic survey	Gravity surveys are used either alone or in combination with magnetotelluric, magnetic, and induced polarization and resistivity surveys to determine the location and size of the major Source rock Structures containing Accumulations of gas. A magnetic survey, one of the tools used by exploration Geophysicists in their search for mineral-bearing ore bodies or even gas-bearing sedimentary Structures and by archaeologists to locate and map the remains of buried Structures.
Ground water	The water present beneath the Earth's surface in rock and soil pore spaces and in the fractures of rock formations.
Group	Gold Hydrogen and its related bodies corporate which at Listing will comprise Gold Hydrogen and wholly owned subsidiaries Byrock and WH.
GSEL	Gas storage exploration licence granted by the State government of South Australia.
GSELA	Gas storage exploration licence application lodged with the State government of South Australia.
GST	Goods and Services Tax.
Hematite	The mineral form of ferric oxide (Fe_2O_3). The hematite ore used as a weighting material in drilling muds has a crystal structure that grinds to a particle size suitable for use in drilling fluids. To check for potential wear, an abrasion test is usually run on hematite as a quality control pilot test.
Hiltaba Suite	The Basement rock formation situated near PEL 687 as shown in Figure 8.
Hurricane Energy	Hurricane is an AIM-listed, UK-based oil exploration and production company focused on naturally Fractured Basement Reservoirs.
Hutchison Migmatite	The Basement rock formation situated near PEL 687 as shown in Figure 8.
Hydrolysis	Any chemical reaction in which a molecule of water breaks one or more chemical bonds.
IASB	International Accounting Standards Board.
IAT	Integrated Approvals Team.
IFRS	International Financial Reporting Standards.
Industry Expert	Frost & Sullivan Australia Pty Limited ACN 096 869 108.

Term	Meaning
Industry Expert Report	The Independent Market Report by the Industry Expert set out in Section 2.
Institutional Investor	Investors who are: • in Australia, a "wholesale client" for the purpose of section 761G of the Corporations Act and either a "professional investor" or "sophisticated investor" under sections 708(11) and 708(8) of the Corporations Act; • institutional investors in certain other jurisdictions, as agreed between the Lead Manager and Gold Hydrogen, to whom offers or invitations in respect of securities can be made without the need for a lodged or registered prospectus or other form of disclosure document or filing with, or approval by, any governmental agency (except one which Gold Hydrogen is willing, in its absolute discretion, to comply provided that such investors are not in the United States).
Institutional Offer	The invitation to Institutional Investors under this Prospectus to acquire Shares as described in Section 7.4.
Integrated Approval Team	The group of companies engaged to assist Gold Hydrogen, together with the Gold Hydrogen team, in obtaining government approvals required to enable the work program to be carried out.
Investigating Accountant	BDO.
Investigating Accountant's Report	The report provided by the Investigating Accountant set out in Section 8.
IOGC-U deposit	Iron oxide, gold ore, copper and uranium deposit.
Ionizing radiation or Ionising radiation	Includes nuclear radiation, and consists of subatomic particles or electromagnetic waves that have sufficient energy to ionize atoms or molecules by detaching electrons from them. Ionizing radiating (or Ionising radiating) has a corresponding meaning.
IPO	Initial Public Offering.
Iron-rich	Are sedimentary rocks which contain 15% (of weight) or more iron. However, most sedimentary rocks contain iron in varying degrees.
Isostasy	Isostasy is the rising or settling of a portion of the Earth's Lithosphere that occurs when weight is removed or added in order to maintain equilibrium between buoyancy forces that push the Lithosphere upward and gravity forces that pull the Lithosphere downward.
Jurassic	The period from about 199.6 million to 145.5 million years ago.
Kanmantoo Group	A label for the kind of rocks found predominantly along the eastern side of the southern Mount Lofty Ranges, including Fleurieu Peninsula and Kangaroo Island.
Kanmantoo Platform	The Kanmantoo Platform, also known as the Kanmantoo Province, covers the area containing Cambrian Kanmantoo Group rocks in south-eastern South Australia including the southern part of the Murray Basin. The province also includes the Kanmantoo Trough.
Kanmantoo Trough	The Kanmantoo Trough is a Fault controlled Basin in the Kanmantoo Platform that developed during the early Cambrian along the eastern margin of the Neoproterozoic to early Cambrian Adelaide Rift Complex.
kTonnes	Thousands of tonnes.

Term	Meaning
Kulpara Formation	A rock formation on or around the Yorke Peninsula and northern Kangaroo Island, comprised of a marine shelf to Basinal Carbonate, with Dolomite which is massive to thick-bedded, vuggy and locally stromatolitic, and Limestone which is thick bedded, vuggy, locally oolitic with intraclasts and fossiliferous.
Lachlan Orogen	A geological subdivision of the east part of Australia, covering an area of approximately 200,000 km^2. It is located in the south-eastern parts of New South Wales and Victoria.
Lead Manager	Morgans Corporate Limited ACN 010 539 607 (AFSL 235 407)
Listing	Admission of Gold Hydrogen to the Official List of ASX.
Lithology	The macroscopic nature of the mineral content, grain size, texture, and colour of rocks. Lithological has a corresponding meaning.
Lithosphere	The brittle outer layer of the Earth that includes the crust and uppermost mantle. It is made up of six major and several minor Tectonic plates that move around on the softer asthenosphere of the Earth. The lithosphere of the oceans tends to be thinner (in some oceanic areas, less than 50 km thick) and more dense than that of the continents (more than 120 km thick in places like the Himalayas) because of Isostasy. The movement of the plates of the lithosphere results in convergence, or collisions, that can form mountain belts and subduction zones, and divergence of the plates and the creation of new crust as material wells up from below separating plates. The lithosphere and asthenosphere are distinguished from the crust, mantle and core of the Earth on the basis of their mechanical behaviour and not their composition. Lithospheric has a corresponding meaning.
Ma	A point in time a million years from the present. For example, 5 Ma is 5 million years from the present.
Magnetite	A mineral and one of the main iron ores, with the chemical formula Fe_2+Fe_3+2O_4.
Matrix	The matrix of a rock is the finer-grained mass of material in which larger grains, crystals, or clasts are embedded.
Mesoproterozoic	The period from about 1,600 million years ago – 1,000 million years ago.
MFB or Massive Fractured Basement	Massive Fractured Basement (i.e. a very large Fractured Basement). These types of Reservoirs would typically have an exceedingly high number of microfractures, fractures, joints, and associated Faults. The Reservoir behaviour of a MFB is entirely dominated by the fracture network and present throughout regardless of depth or even relative position to Structures.
Migrate	For gas to move from their Source rock into Reservoir rocks. The movement of newly generated gas out of their Source rock is primary migration, also called expulsion. The further movement of the gas into Reservoir rock in a gas Trap or other area of Accumulation is secondary migration. Migration typically occurs from a Structurally low area to a higher area because of the relative buoyancy of gas in comparison to the surrounding rock. Migration can be local or can occur along distances of hundreds of kilometres in large sedimentary basins, and is critical to the formation of a viable Natural Hydrogen system.
Minlaton 1	See Ramsay Oil Bore 1.
Minlaton Formation	A rock formation on the Yorke Peninsula composed of red-brown and minor grey siltstone, Sandstone, silty Carbonate and basal Conglomerate.
Minlaton Northwest 1	Possible Natural Hydrogen occurrence Well located within PEL 687.

Term	Meaning
Morgan Fault	A Fault likely to have originated as a Structure on the eastern side of the Kanmantoo Trough controlled by north–south to south-southeast-trending, west dipping extensional Faults, extending south-eastward into western Victoria. It is located in the Central Trough, as shown in Figure 2.
MS	Michelle Simonds Pty Ltd ACN 609 580 332 as trustee for the Michelle Simonds Family Trust. MS is an associate of Luke Titus.
Murray Basin	The Cenozoic Murray Basin is a low-lying saucer-shaped Basin up to 600 metres thick. It is a closed Ground water Basin which is a vital resource for agriculture and population centres. The Basin also contains economic strand-line deposits of heavy minerals. Its location is shown in Figure 2.
Native Title	Native title is the recognition by Australian law of Aboriginal and Torres Strait Islander people's traditional rights and interests in land and waters held under traditional law and custom.
Natural Hydrogen	Naturally occurring hydrogen found on or in the Earth is a resource that is generated through natural processes in the Earth's subsurface. Also referred to as molecular or white or gold hydrogen, which distinguishes it from green hydrogen, which is produced through electrolysis from renewable energy sources, and from grey, brown or black hydrogen, which is produced from fossil energy sources or processes. Natural Hydrogen in its raw or un-processed state as obtained directly from the Earth's subsurface is made up of a significant proportion of hydrogen plus potentially other impurities that may include other gases such as nitrogen, carbon dioxide and methane.
Natural Hydrogen Energy Ltd	US based Natural Hydrogen exploration company.
Neoproterozoic	The period from about 1 billion to 538.8 million years ago.
NFM	NFM Enterprises Pty Ltd ACN 635 908 431 as trustee for the McDonald Family Trust. NFM is an associate of Neil McDonald.
Non-air corrected	When gas samples are taken, they can sometimes be contaminated with air. Non-air corrected gas compositions include contamination air, i.e. there is no calculation applied to determine what the gas concentrations would be if the contamination air were removed.
NTA	*Native Title Act 1993* (Cth)
Offer	The Offer of Shares under this Prospectus.
Offer Period	The period from 1 December 2022 to 9 December 2022.
Offer Price	$0.50 per Share.
Offer Proceeds	The total number of Shares under the Offer multiplied by the Offer Price.
Official List	The official list of the ASX.
OGRC	Oil and Gas Reserves Committee.
Olympic Dam Mine	A large poly-metallic underground mine located in South Australia, 550 km (340 mi) NNW of Adelaide.
Opening Date	The date on which the Offer opens.
Ordovician	The period of time from about 485.4 million years ago to 443.8 million years ago.

Term	Meaning
Orogeny	Orogeny is the primary mechanism by which mountains are formed on continents. An orogeny is an event that takes place at a convergent plate margin when plate motion compresses the margin. An orogenic belt or orogen develops as the compressed plate crumples and is uplifted to form one or more mountain ranges. An orogenic belt, or orogen, is a zone of the Earth's crust affected by orogeny.
Otway Basin	The late Jurassic to Cenozoic Otway Basin forms part of the southern Australian passive margin and contains at least 10 km of volcaniclastic/Siliciclastic fluvial-lacustrine rocks, and Siliciclastic/calcareous marine rocks. Its location is shown in Figure 2.
Outcrop	An outcrop or rocky outcrop is a visible exposure of bedrock or ancient superficial deposits on the surface of the Earth.
OZ SEEBASE® 2021	A regional, depth-to-basement model developed and licensed by Geognostics Australia Pty Ltd with the input and support of government and industry.
Padthaway Ridge	A linear cluster of early Paleozoic granite intrusions. Its location is shown in Figure 2.
Paleo-equator	Position of the Earth's equator in the geologic past as defined for a specific geologic period and based on geologic evidence.
Paleoproterozoic	The period from about 2,500 million years ago to 1,600 million years ago.
Paleozoic	The period from about 541 million years ago to 251.902 million years ago.
Parara Limestone	Nodular limestone with minor mottled argillaceous limestone and thin calcareous.
PEL	Petroleum exploration licence granted by the State government of South Australia.
PEL 687	PEL 687 located in Yorke Peninsula and Kangaroo Island in the State of South Australia which has been granted to Gold Hydrogen under the PGEA.
PELA	Petroleum exploration licence application lodged with the State government of South Australia.
Penola Trough	A Trough located in the Otway Basin.
PGEA	Petroleum and Geothermal Energy Act 2000 (SA).
Potassium	A chemical element with the symbol K (from Neo-Latin kalium) and atomic number 19. Potassium is a silvery-white metal that is soft enough to be cut with a knife with little force. Potassium metal reacts rapidly with atmospheric oxygen to form flaky white potassium peroxide in only seconds of exposure.
ppm	Parts per million.
Privacy Act	Privacy Act 1998 (Cth).
PRMS	The Petroleum Resources Management System. A system developed for consistent and reliable definition, classification, and estimation of hydrocarbon resources.
Prospective Resources	Those quantities of Natural Hydrogen estimated, as of a given date, to be potentially recoverable from undiscovered Accumulations by application of future development projects.
Prospectus	This document (including the electronic form of this Prospectus) and any supplementary or replacement prospectus in relation to this document.
Prospectus Date	The date on which this Prospectus was lodged with ASIC, being 29 November 2022.
Proterozoic	The period from about 2,500 million years ago to 541 million years ago.

Term	Meaning
Radiolysis	The dissociation of molecules by Ionizing radiation.
Ramsay Oil Bore 1	Natural Hydrogen occurrence Well within PEL 687, 10 km east of the Minlaton township on Yorke Peninsula, also known as Minlaton 1 Bore.
Ramsay Project	Gold Hydrogen's exploration project being undertaken on 100% owned and operated granted PEL 687 in South Australia.
Recent	Used to describe the most recent time in Earth's history, when human activity started to have an impact on the Earth's climate and ecosystems.
Renmark Trough	A Trough located within the Kanmantoo Platform as shown in Figure 2.
Reserves	Reserves are those quantities of Natural Hydrogen anticipated to be commercially recoverable by application of development projects to known Accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: They must be discovered, recoverable, commercial, and remaining (as of a given date) based on the development project(s) applied.
Reservoir	A subsurface body of rock having sufficient porosity and permeability to store and transmit fluids. Sedimentary rocks are the most common reservoir rocks because they have more porosity than most igneous and metamorphic rocks and form under temperature conditions at which Natural Hydrogen can be preserved. A reservoir is a critical component of a complete Natural Hydrogen system.
Sandstone	A Clastic sedimentary rock whose grains are predominantly sand-sized. The term is commonly used to imply consolidated sand or a rock made of predominantly quartz sand, although sandstones often contain feldspar, rock fragments, mica and numerous additional mineral grains held together with silica or another type of cement.
Schlumberger	Schlumberger Australia Pty Ltd ACN 002 459 225.
Seal	A relatively impermeable rock, commonly Shale, anhydrite or salt, that forms a barrier or cap above and around Reservoir rock such that fluids cannot migrate beyond the Reservoir. A seal is a critical component of a complete Natural Hydrogen system.
Seismic	Pertaining to waves of elastic energy, such as that transmitted by P-waves and S-waves, in the frequency range of approximately 1 to 100 Hz. Seismic energy is studied by scientists to interpret the composition, fluid content, extent and geometry of rocks in the subsurface.
Settlement	The settlement of the Offer.
Shale	A fine-grained, fissile, detrital sedimentary rock formed by consolidation of clay- and silt-sized particles into thin, relatively impermeable layers. It is the most abundant sedimentary rock.
Shareholder	A holder of a Share.
Share	A fully paid ordinary share in the capital of Gold Hydrogen.
Share Registry	Link Market Services Limited ACN 083 214 537.
Siliciclastics	Silica-based, non-carbonaceous sediments that are broken from pre-existing rocks, transported elsewhere, and redeposited before forming another rock. Examples of common siliciclastic sedimentary rocks include Conglomerate, Sandstone, siltstone, and Shale. Carbonate rocks can also be broken and reworked to form other types of Clastic sedimentary rocks.
Source rocks	Rock that is Iron-rich and/or radioactive which if in the presence of water could generate Natural Hydrogen.

Term	Meaning
SPE	Society of Petroleum Engineers. A not-for-profit professional organization whose stated mission is to collect, disseminate, and exchange technical knowledge concerning the exploration, development and production of oil and gas resources and related technologies for the public benefit; and to provide opportunities for professionals to enhance their technical and professional competence.
Spencer Shelf	The Spencer Shelf region sits on the eastern margin of the Gawler Craton within the Adelaide Superbasin and is generally located on the Yorke Peninsula of South Australia. Its location is shown in Figure 2.
SPUD	The commencement of drilling.
Stansbury Basin	The Stansbury Basin extends across Yorke Peninsula, Gulf St Vincent, Fleurieu Peninsula and Kangaroo Island in South Australia, and contains up to 6 km of Cambrian sedimentary rocks. Its location is shown in Figure 2.
Storage Licence Applications	Four (4) Gas Storage Exploration Licence Applications (GSELAs) in South Australia, being GSELAs 755, 756, 757 and 758, which cover approximately 8,107 km², are clear of Native Title and are coincident with PEL 687.
Stratigraphy	A branch of geology concerned with the study of rock layers (strata) and layering (stratification). It is primarily used in the study of sedimentary and layered volcanic rocks. Stratigraphy has three related subfields: lithostratigraphy (Lithologic stratigraphy), biostratigraphy (biologic stratigraphy), and chronostratigraphy (stratigraphy by age). Statigraphical has a corresponding meaning.
Stratigraphic setting	The stratigraphy for a location or region.
Stresses	The force applied to a body that can result in deformation, or strain, usually described in terms of magnitude per unit of area, or intensity.
Structural	Pertaining to structure, the geometry and spatial arrangement of rocks. The structure or deformation can include many mechanisms, such as folding, Faulting, and fracturing. Structure can usually be interpreted in terms of the deformation of the crust of the Earth as continents and Tectonic plates move and collide. Structure has a corresponding meaning.
Structural setting	The geological structure for a location or region.
Stuart Shelf	The Stuart Shelf region sits on the eastern margin of the Gawler Craton within the Adelaide Superbasin. Its location is shown in Figure 2.
St. Vincent Basin	A Basin underlying the area between the Mt Lofty Ranges and the Yorke Peninsula in South Australia.
Sub-crop	If part of a geological formation is close to the surface, it is a sub-crop.
Successful Applicants	A person who submits an Application to subscribe for Shares offered under this Prospectus, which is successful.
Superposition	The Stratigraphic principle that, in the case of undeformed, flat-lying strata, younger layers are deposited atop older ones, such that the top layer is youngest and underlying layers increase in age with depth.
Tasman Line	The Tasman Line is defined as the boundary between Outcrops of pre-Cambrian crustal elements to the west and Paleozoic crustal elements to the east. It separates the older Broken Hill Block from the younger Lachlan Orogen.
Technical Expert	Teof Rodrigues & Associates Pty Ltd ACN 605 351 433.
Technical Expert Report	The Prospective Resources Report, PEL 687, SA out in Annexure A.

Term	Meaning
Technical Team	The group of companies engaged to assist Gold Hydrogen, together with the Gold Hydrogen team, in performing the technical work required to enable the work program to be carried out.
Tectonics	Also known as plate tectonics, the unifying geologic theory developed to explain observations that interactions of the brittle plates of the Lithosphere with each other and with the softer underlying asthenosphere result in large-scale changes in the Earth. The theory of plate tectonics initially stemmed from observations of the shapes of the continents, particularly South America and Africa, which fit together like pieces in a jigsaw puzzle and have similar rocks and fossils despite being separated by a modern ocean. Tectonic has a corresponding meaning.
Total Seismic	Total Seismic Pty Ltd ACN 611 211 164.
Trap	A configuration of rocks suitable for containing hydrocarbons and Sealed by a relatively impermeable formation through which hydrocarbons will not Migrate. Traps are described as structural traps (in deformed strata such as folds and Faults) or Stratigraphic traps (in areas where rock types change, such as unconformities, pinch-outs and reefs). A trap is an essential component of a Natural Hydrogen system. Trapped has a corresponding meaning.
Troubridge Basin	A Basin overlying the Cambrian units of the Stansbury Basin. Its location is shown in Figure 2.
Trough	A linear Structural depression that extends laterally over a distance.
Underwriting Agreement	The underwriting agreement between the Company and Lead Manager dated on or about 15 November 2022.
Uranium	A chemical element with the symbol U and atomic number 92. It is a silvery-grey metal in the actinide series of the periodic table. A uranium atom has 92 protons and 92 electrons, of which 6 are valence electrons. Uranium is weakly radioactive because all isotopes of uranium are unstable.
Vanadium	A chemical element with the symbol V and atomic number 23. It is a hard, silvery-grey, malleable transition metal. The elemental metal is rarely found in nature, but once isolated artificially, the formation of an oxide layer (passivation) somewhat stabilizes the free metal against further oxidation.
Wallaroo Group	The Basement rock formation situated near PEL 687 as shown in Figure 8.
Website	www.goldhydrogen.com.au.
Well	An excavation or structure created in the ground by digging, driving, or drilling to access resources.
WH	White Hydrogen Australia Pty Ltd ACN 650 885 902.
Xcalibur	Xcalibur Aviation (Australia) Pty Ltd ACN 008 685 336.

11. Corporate Directory

Directors

Alexander John Gosse Downer
(Non-Executive Chairman)

Neil John McDonald
(Executive Director and CEO)

John Luke Titus
(Executive Director and COO)

Roger Hamilton Cressey
(Executive Director, Commercial & Operations)

Katherine Elizabeth Barnet
(Non-Executive Director)

Company Secretary

Karl Mathew Schlobohm
(Company Secretary and CFO)

Registered Office

Suite 3, Level 14, 110 Eagle Street
Brisbane, QLD 4000

Legal Adviser

Gadens

Level 11, 111 Eagle Street
Brisbane, QLD 4000

Investigating Accountant and Auditor

BDO Audit Pty Ltd

Level 10, 12 Creek Street
Brisbane, QLD 4000

Lead Manager and Underwriter

Morgans Corporate Limited

Level 29, Riverside Centre,
123 Eagle Street
Brisbane, QLD 4000

Industry Expert

Frost and Sullivan Australia Pty Ltd

Level 36, Governor Phillip Tower
1 Farrer Place
Sydney, NSW 2000

Share Registry

Link Market Services Limited

Level 21, 10 Eagle Street
Brisbane, QLD 4000

Technical Expert

Teof Rodrigues & Associates Pty Ltd

18 Lefkas Court,
Seaton, SA 5023

Gold Hydrogen

Annexure A: Technical Expert Report

GOLD HYDROGEN

PROSPECTIVE RESOURCES REPORT, PEL 687, SA

Prepared by Teof Rodrigues, Paul Strong & Greg Horton

10 October 2021

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EXECUTIVE SUMMARY

PEL 687

- ***Existing samples of naturally occurring hydrogen recovered.***
- ***4 prospective areas identified.***
- ***Unrisked Prospective Best Estimate Resource of 1.3 billion kilograms of natural hydrogen at typical geological and development risk for immature projects. The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.***
- ***First phase of Exploration and Appraisal work programs identified to mature a portion of Prospective Resources to Contingent Resources and advance to production licence.***
- ***Low impact exploration work program identified for the PEL 687 project area.***
- ***Critical development challenges identified and being proactively addressed.***
- ***This Report produced in accordance with SPE – PRMS 2018 guidelines.***

Overview, geology and existing natural hydrogen occurrences

Samples of naturally occurring hydrogen gas have been recovered from existing historical wells drilled in PEL 687 on the Yorke Peninsula and Kangaroo Island in South Australia.

Four prospective areas for natural hydrogen have been identified within PEL 687, the Ramsay Prospect and Maitland Lead on Yorke Peninsula, and the Kanmantoo Prospect and Navigator Lead on Kangaroo Island. A summary of the total Prospective Resources estimated for these opportunities is shown in **Table 1**.

Hydrogen has been recovered in samples in the American Beach Oil 1 well on Kangaroo Island and the Minlaton Oil Bore 1 on Yorke Peninsula, the latter recorded as Ramsay Oil Bore 1 in the SARIG database prepared by the Government of South Australia.

It is postulated that the natural hydrogen on Yorke Peninsula and Kangaroo Island is likely sourced from radiolysis and hydrolysis reactions from iron-rich Paleo-Meso-Neoproterozoic rocks in the presence of water, whereby water percolates through the subsurface and reacts with iron oxides in silicates, oxidising them to magnetite and hydrogen.

Table 1 Prospective Resources for PEL 687

Gold Hydrogen Prospective Resources of Hydrogen in kTonnes – 10 October 2021								
PEL	**SPE PRMS Sub-class**	**1U Low Estimate**	**2U Best Estimate**	**3U High Estimate**		**Pg**	**Pd**	**Pc**
687	Prospect	165	1135	8050		22%	49%	11%
	Lead	42	178	770		19%	39%	8%
	Total PEL 687	**207**	**1313**	**8820**		**22%**	**48%**	**10%**

Notes:

(1) The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

(2) Estimates are assessed to comply with the ASX Listing Rules for Prospective Resources and SPE-PRMS 2018 with the understanding that naturally occurring hydrogen may be considered a gas with energy content and can be used stand-alone and/or blended with sales gas. “U” implies Prospective Resources.

(3) Per ASX LRs5.28.4&5 estimates are unrisked and aggregated arithmetically by category, hence caution that the aggregate low estimate may be a very conservative estimate and the aggregate high estimate may be a very optimistic estimate due to the portfolio effects of arithmetic summation.

(4) Probabilistic methods are used to prepare the estimates. The distribution of the estimates is the “full distribution” and has not been truncated by application of the MEPS (minimum economic pool size) concept.

(5) The Reference Point is at the wellhead/edge of lease so the estimates have no deduction for flare, vent or fuel consumed in operations.

(6) Pg (Chance of Geological Discovery), Pd (Chance of Development) and Pc (Chance of Commerciality = PgxPd) are calculated as a weight average of the P50’s of the H2 (kTonnes) of the prospects.

(7) Pg incorporates Play Risk and Prospect Risk.

(8) Pd incorporates an assessment across all SPE-PRMS Commerciality Criteria (ie not just economics).

(9) Information in the table and throughout the Report is rounded. Some totals in the tables may not add due to rounding.

The volumes in Table 1 have been derived from the estimates of recoverable raw gas shown in **Table 2** and the Prospective Resources for each of the prospects and leads in **Table 3**.

Work Programs & Development Plans

Gold Hydrogen has initially identified 5-6 exploration wells to advance a portion of the Prospective Resources to Contingent Resource, two to three of which would be located close to wells drilled and reported to have intersected a potential hydrogen accumulation, namely Ramsay Oil Bore 1 on Yorke Peninsula and American Beach Oil 1 on Kangaroo Island. In addition, certain identified and complementary low impact technical, geological and engineering works are necessary prior to new drilling and coring.

Table 2 Areas and volumes of recoverable raw gas for the individual prospects and leads in PEL 687

Area	Prospect	Reservoir	Area, sq km			Recoverable Gas, Bcf		
			P90	P50	P10	P90	P50	P10
Yorke Peninsula	Ramsay	Fractured Basement	50	343	2358	66.1	496.3	3726.8
Yorke Peninsula	Ramsay	Cambrian Limestone	4	18	80	5.3	37.3	262.3
Yorke Peninsula	Maitland	Fractured Basement	25	71	200	3.9	13.7	48.9
Kangaroo Island	Navigator	Fractured Basement	25	93.5	350	19.5	86.8	386.0
Kangaroo Island	Kanmantoo	Fractured Meta-Sediments	40	141	500	18.0	76.3	323.9
Total			144	667	3488	112.7	710.4	4747.9
Note that the sum of the P90s is likely to be too low and the sum of the P10s is likely to be too high.								

Table 3 Prospective Resources for individual prospects

Gold Hydrogen Prospective Resources of Hydrogen in kTonnes – 30 September 2021									
PEL	Prospects	SPE PRMS Sub-class	1U Low Estimate	2U Best Estimate	3U High Estimate		Pg	Pd	Pc
687	All Prospects		207	1313	8820		22%	48%	10%
Yorke Peninsula									
PEL 687	**Ramsay FB**	**Prospect**	**124**	**931**	**6989**		**22%**	**50%**	**11%**
PEL 687	**Ramsay Lst**	**Prospect**	**10**	**70**	**492**		**26%**	**50%**	**13%**
PEL 687	**Maitland**	**Lead**	**7**	**26**	**92**		**17%**	**35%**	**6%**
Kangaroo Island									
PEL 687	**Navigator**	**Lead**	**34**	**152**	**678**		**19%**	**40%**	**8%**
PEL 687	**Kanmantoo**	**Prospect**	**32**	**134**	**569**		**25%**	**40%**	**10%**

The conversion factors from standard cubic ft (scf) raw gas to kg hydrogen for Ramsay FB, Lst and Maitland is 0.00188 kg H2/scf and for Kanmantoo and Navigator is 0.00176 kgH2/scf.

The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

Risks

Exploration wells need to be drilled, evaluated and tested to determine the presence, producibility, extent and thus discovery of hydrogen from the geological reservoirs. This Report documents if an exploration well near the Ramsay Oil Bore 1 successfully tested hydrogen from the Massive-Fractured Basement it could be reasonably expected that the extent of the accumulation could cover approximately 10 sq km – the P99 of the probabilistic distribution for the area of the reservoir in the Ramsay Prospect – equating to a circle around the well of about 1.8km radius. The P99 estimate on the probabilistic distribution for the size of the resource is around 11 Bcf of raw gas or 21 kTonnes of hydrogen for the MFB in the Ramsay Prospect based on pre-drill estimates of the target geological reservoirs.

There are both geological and potential development risks associated with these opportunities. These risks relate to the presence, producibility and potential volumes of hydrogen, but also due to the location of the resource within agricultural areas and the proximity to National Parks on both Yorke Peninsula and Kangaroo Island, requiring significant landholder and community engagement. The worldwide, National and South Australian Government and industry efforts to secure hydrogen as an alternative energy source provides confidence that any technical and social concerns may be overcome.

It is also recommended that Gold Hydrogen continue its proactive efforts to address the technical, infrastructure, market, and social issues to improve the chance of development in the event commercial quantities of naturally occurring hydrogen are discovered.

1. INTRODUCTION

Teof Rodrigues & Associates (TR&A) has been engaged by Gold Hydrogen Pty Ltd to review the available data related to the South Australian Petroleum Exploration Licence 687 covering the southern Yorke Peninsula and Kangaroo Island (Figure 1). This permit covers an area of about 7820 km^2 (approx), and it is thought that a significant area could contain a hydrogen resource.

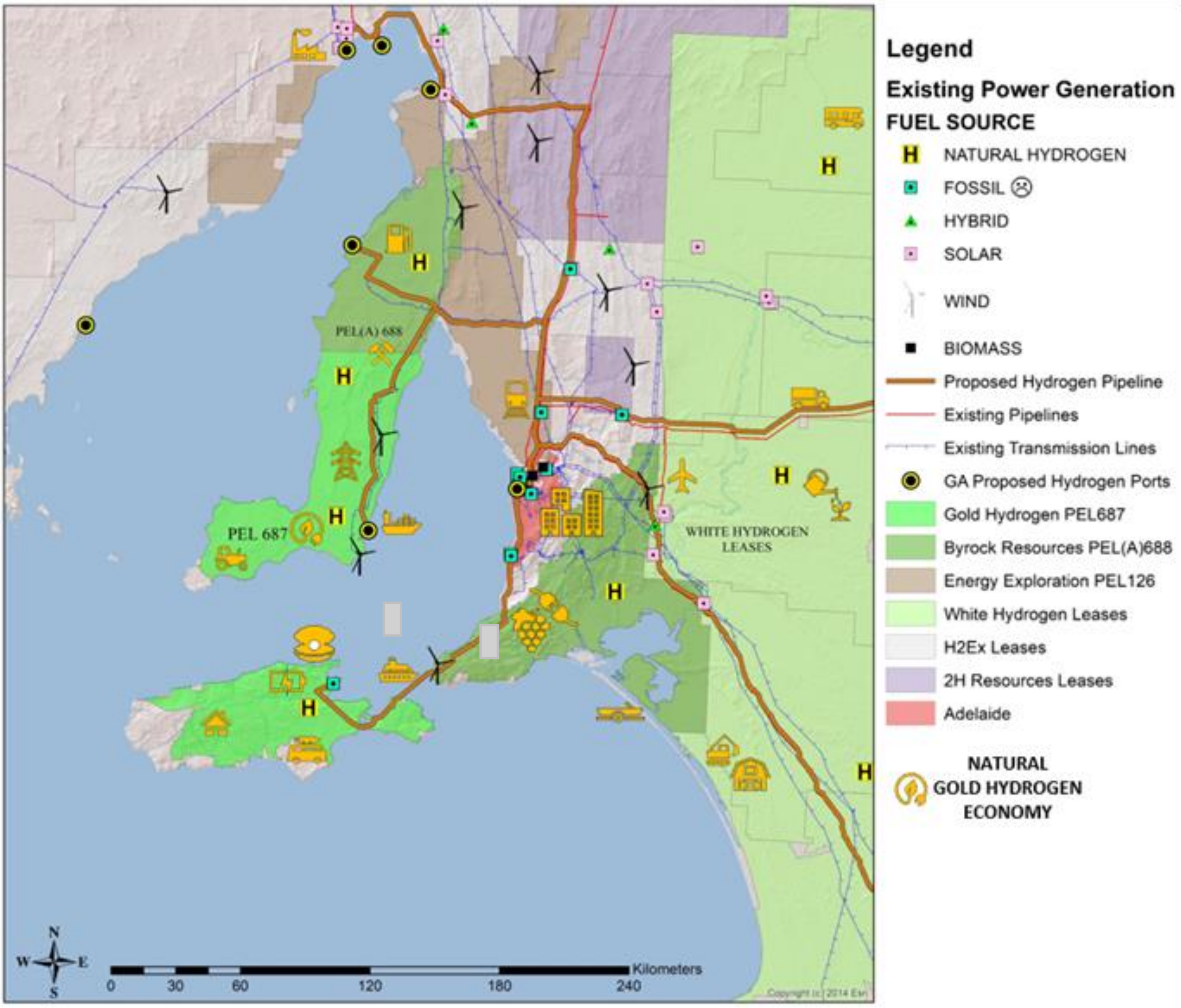


Figure 1 Location of Petroleum Exploration Licence 687 over Yorke Peninsula and Kangaroo Island in South Australia

The objective of this report is to present the range of Prospective Resources related to hydrogen existing naturally in the subsurface. The Prospective Resources estimates evaluated in this Report for Gold Hydrogen are based on SPE (Society of Petroleum Engineers) - PRMS (Petroleum Resources Management System) 2018 Guidelines and the requirements of the ASX Listing Rules Chapter 5 as they apply to Oil and Gas Entities as if Gold Hydrogen was listed on the ASX.

Hydrogen occurring naturally in the subsurface may seem to be a rare occurrence, however exploration efforts worldwide have focused predominantly on the discovery of hydrocarbons (oil and gas). There is evidence of hydrogen occurring naturally, notably in Mali where hydrogen production is fed to fuel cells that power a town.

Any resources interpreted to be present in the subsurface are termed Prospective Resources until a discovery test has been satisfied. This can only be done through drilling a well and testing any gas discovered. However, prior to drilling, some key critical factors must be proposed and understood to exist such that hydrogen is generated and trapped in an accumulation or multiple accumulations.

The key critical factors when estimating Prospective Resources are:

- Source and Generation of gas
  - The generation of hydrogen on Yorke Peninsula and Kangaroo Island is proposed to be from hydrolysis and radiolysis of the Proterozoic rocks
- A Reservoir to store the gas
  - The primary Reservoir is proposed to be the Massive Fractured Basement (MFB)
  - The secondary reservoir is the Cambrian Limestone which overlies the Fractured Basement
- A Seal covering the Reservoir to prevent escape of gas
  - The seal is understood to be fine grained Cambrian limestones
- A Trap where a suitable configuration exists for an accumulation to have developed
  - An unconventional fracture system is the trap within the Basement on Yorke Peninsula and Kangaroo Island
  - A conventional anticlinal trap is expected in the secondary target Cambrian limestone

In estimating the Prospective Resources for any of the prospects and leads identified within PEL 687, the reference point has been assumed to be the end of the well lease following any potential discovery of hydrogen. The midstream component could exist in various forms depending on what technology would be considered to commercialise the hydrogen, notably for power generation or ammonia for fertiliser manufacture. Both uses would be beneficial for the communities of Yorke Peninsula and Kangaroo Island. The technology adopted for the Upstream component related to the exploration and appraisal of the asset would be very similar to the drilling and testing for oil and gas, where there is an abundance of technical knowledge within Australia.

For the Development Plan, the materials exposed to hydrogen for a lengthy period would have to be capable of withstanding the seepage of hydrogen into the material. For example, hydrogen is known to cause the embrittlement of steel. Given the focus on hydrogen across the globe, it is likely that material suitable for hydrogen will be developed. The composite material used within the fuel cells could be considered.

There are a number of uncertainties associated with the asset and these are quantified and will be addressed in the forward work program covered in this Report.

2. GEOLOGY

REGIONAL GEOLOGY

PEL 687 is covered by the following geological basins:

Geological Basin	Geological Eon/Era	Geological Period	Age in millions of years before Present	Relevance to Hydrogen Prospectivity
St Vincent	Cainozoic	Tertiary and Quaternary	~55 to Recent	Seal for reservoir/s
Troubridge	Late Palaeozoic	Permian	~299 to 251	Seal for reservoir/s
Stansbury	Early Palaeozoic	Early to Middle Cambrian	~540 to 510	Seal for reservoir/s. Cambrian Limestone reservoirs.
Spencer Shelf, Torrens Hinge Zone and Kanmantoo Trough	Neoproterozoic		~1000 to 542	Source of hydrogen. Massive Fractured Basement reservoir
Gawler Craton	Archean to Meso-Proterozoic		~3150 to 1450	Source of hydrogen. Massive Fractured Basement reservoir

Figure 2 shows the Location of the Spencer Shelf and other subdivisions of the Adelaide Rift Complex with respect to the Gawler Craton and Curnamona Province.

The Gawler Craton contains Meso-Neoarchean to earliest Paleoproterozoic Basement complexes that comprise ca. 3150 Ma granites and granite gneisses, along with ca. 2555–2480 Ma supracrustal sequences that include mafic and felsic volcanics with possible continental arc affinities, mafic and ultramafic volcanics, including a ca. 2520 Ma komatiite succession. These basement complexes are overlain by Paleoproterozoic volcano-sedimentary successions deposited between ca. 2000 and ca. 1740 Ma. Intrusive magmatism and associated localized deformation occurred at ca. 1850 Ma although deposition of the volcano-sedimentary rocks was terminated during a major tectono-metamorphic event at ca. 1735–1690 Ma known as the Kimban Orogeny. Post-orogenic magmatism and localized basin formation occurred after this event.

The Paleoproterozoic to Mesoproterozoic transition (Figure 3) was a time of significant magmatism, with the juvenile, arc-related intrusions of the ca. 1635–1604 Ma St Peter Suite forming in the south-western region of the Gawler Craton and widespread bimodal volcanic and intrusive activity during formation of the ca. 1595–1575 Ma Gawler Range Volcanics and Hiltaba Suite. The latter event was associated with regionally partitioned deformation and metamorphism that is generally referred to as the Kararan Orogeny.

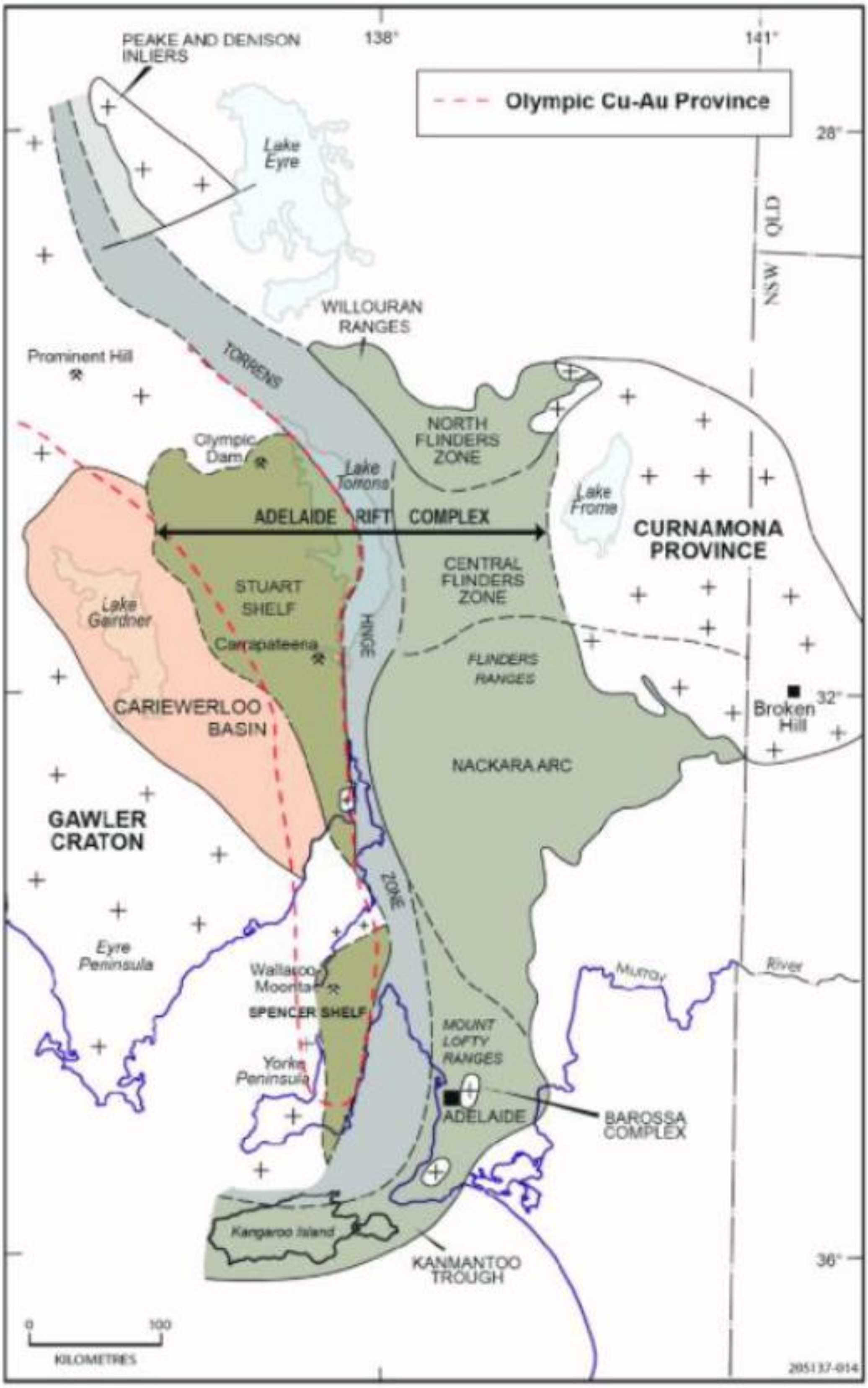


Figure 2 Location of the Spencer Shelf and other subdivisions of the Adelaide Rift Complex with respect to the Gawler Craton and Curnamona Province

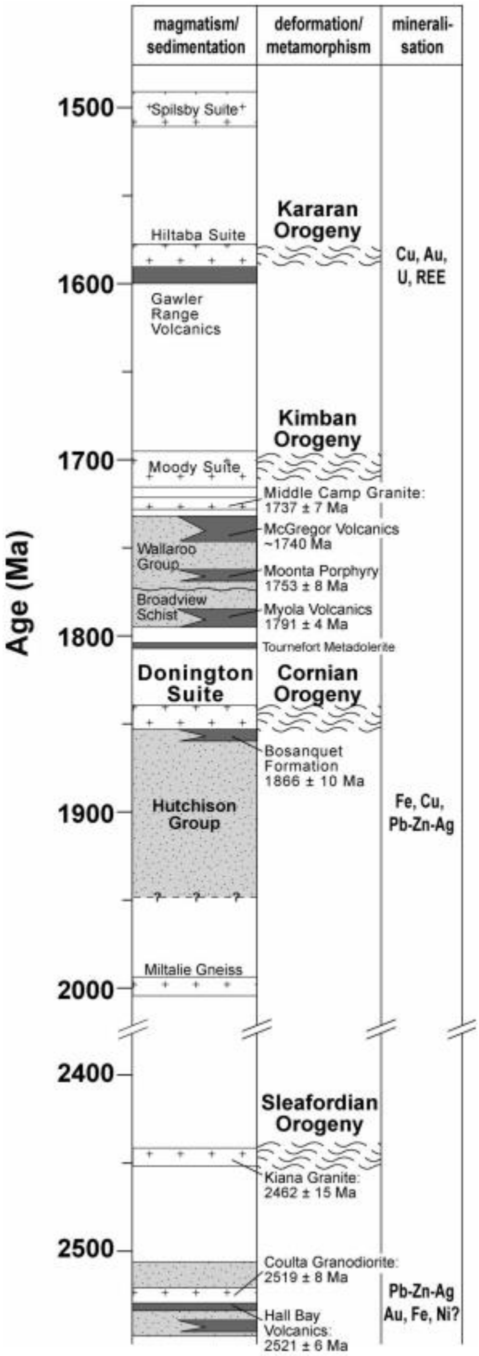


Figure 3 Palaeo-Mesoproterozoic stratigraphic column in the Spencer Shelf area

This major orogenic event was widespread across the Gawler Craton and has been shown to include examples of ultra-high temperature metamorphism in the northern Gawler Craton and deformation during magmatic emplacement in the southern Gawler Craton. The ca. 1595–1575 Ma event also saw the formation of the IOCG deposits in the Olympic Cu-Au Province and a series of gold-dominated, structurally controlled mesothermal deposits. Reworking along major shear zones together with localized deformation and metamorphism occurred subsequently between ca. 1515 Ma and ca. 1450 Ma. It is likely these preserved Gawler Archean and/or Proterozoic sediments could be one of the sources for hydrogen in the Petroleum Exploration Licence.

The term “Basement” is generally used to indicate crystalline rocks that are older than Cambrian in age (>542Ma), when the first lifeforms are found in the fossil record, but it is also used to mean the base of intervals from which hydrocarbons can be economically extracted. The granitic suites and metamorphosed sediments of the Neoproterozoic and older on Yorke Peninsula and Kangaroo Island are termed Basement in this report. It is likely they are the sources for hydrogen in the region, and where fractured may also act as reservoirs.

The Cambrian Stansbury Basin (Figure 4) lies unconformably over the Neoproterozoic and older Basement. Marine sediments crop out on northern Yorke Peninsula, Fleurieu Peninsula, and the north coast of Kangaroo Island, primarily as limestones and carbonate shales, or micrites. To the east and south in the Kanmantoo Trough equivalent rocks are deformed, metamorphosed, and intruded by granite, and effectively act as Fractured Basement. Figure 5 shows a summary of the geology of the Stansbury Basin, and Figure 6 a cross-section across the basin.

The Troubridge Basin is a Permian sedimentary basin extending from the Coorong area across Fleurieu Peninsula and Kangaroo Island to Yorke Peninsula (Figure 4). Permian sediments of the Troubridge Basin are estimated to be up to 600m thick in glacially scoured valleys, several of which are preserved on Fleurieu Peninsula.

Tertiary sediments of the St Vincent Basin accumulated in compressional foreland troughs following the separation of Australia and Antarctica. Depositional patterns were strongly controlled by older structural trends. A maximum thickness of 600m of Tertiary and Quaternary sediments has been recorded.

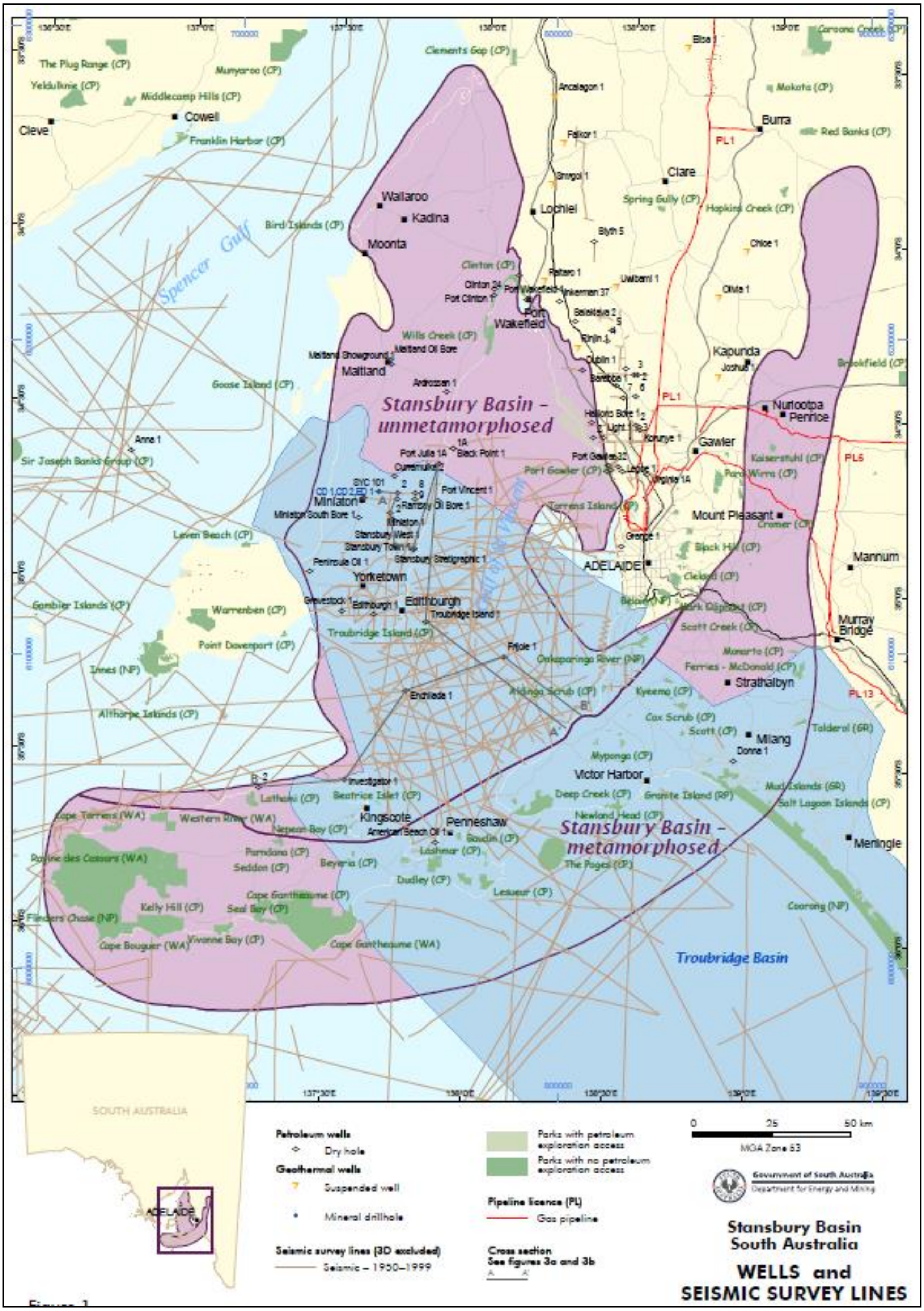


Figure 4 Outlines of the Stansbury and Troubridge Basins

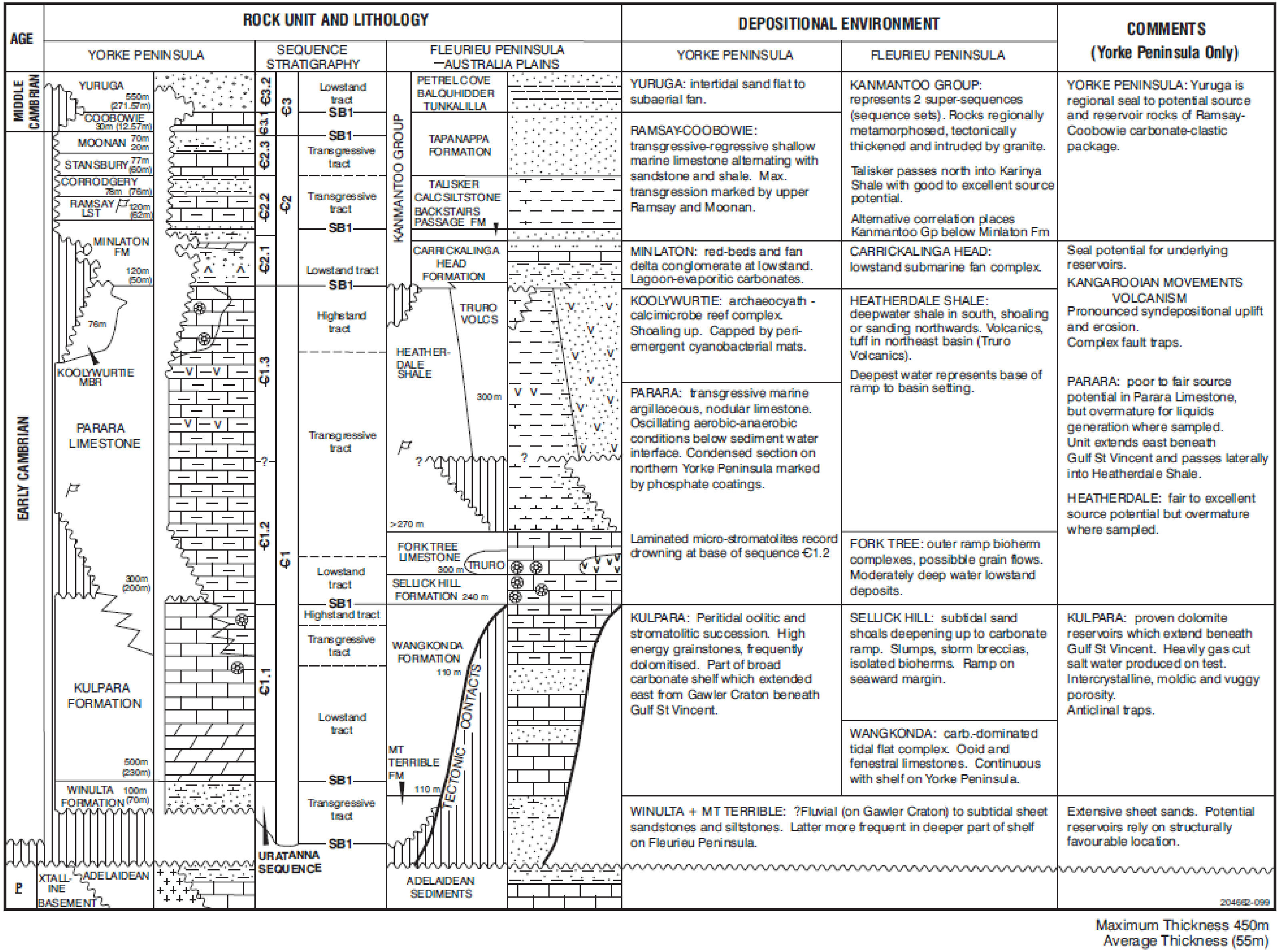


Figure 5 Geological summary of the Stansbury Basin (SA Department for Energy and Mining)

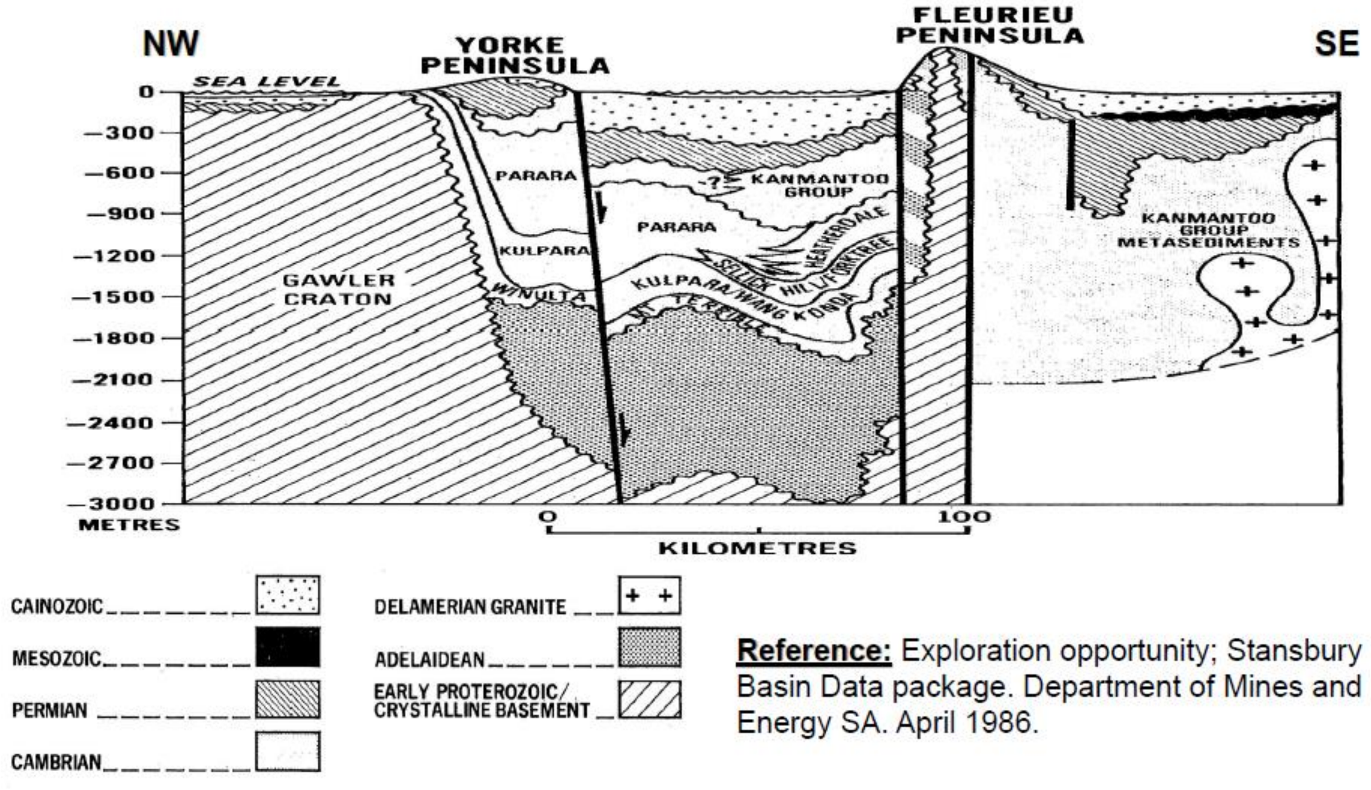


Figure 6 Regional structural cross-section across the Stansbury Basin

SOURCE OF HYDROGEN

Hydrogen has been recovered in samples in the American Beach Oil 1 well on Kangaroo Island and the Minlaton Oil Bore on Yorke Peninsula, the latter recorded as Ramsay Oil Bore 1 in the SARIG database prepared by the Government of South Australia.

It is postulated that the hydrogen on Yorke Peninsula and Kangaroo Island is likely sourced from radiolysis and hydrolysis reactions from iron-rich Paleo-Meso-Neoproterozoic rocks in the presence of water, whereby water percolates through the subsurface and reacts with iron oxides in silicates, oxidising them to magnetite and hydrogen. Hydrogen generation can be further sourced from radiolysis reactions of water and water-bearing minerals within the Pre-Cambrian section; natural radioactive bombardment from the decay of uranium, thorium and potassium will emit α, β, and γ radiation over time and long-term radiolysis will result in greater accumulated radioactivity and hydrogen generation.

This process has been demonstrated elsewhere in the world. On Yorke Peninsula, Boreham et al (2021) [1] suggested that the Tickera Granite of the Hiltaba Suite is likely to have been the source of the hydrogen in

[1] Boreham, CJ, Edwards, DS, Czado, K, Rollet, N, Wang, L, van der Wielen, S, Champion, D, Blewett, R, Feitz, A, and Henson, PA, 2021: Hydrogen in Australian natural gas: occurrences, sources and resources. The APPEA Journal, 61, 163-191

Ramsay Oil Bore 1, described as an intensely foliated orange granite, a white leucogranite, and a red granite at outcrop in the Point Riley area.

RESERVOIRS

Two potential reservoirs for hydrogen have been identified on Yorke Peninsula and Kangaroo Island: the Massive Fractured Basement is considered the primary target; and Cambrian limestone and sandstone are considered as secondary targets.

Massive Fractured Basement

Fractured Basement is the primary reservoir target for hydrogen in PEL 687.

The Massive Fractured Basement (MFB) play that extends >5.0-km in depth is considered as a likely reservoir for hydrogen on both Yorke Peninsula and Kangaroo Island. These types of reservoirs would typically have an exceedingly high number of microfractures, fractures, joints, and associated faults. The reservoir behaviour of a MFB is entirely dominated by the fracture network and present throughout regardless of depth or even relative position to structures.

Gas samples were taken in American Beach Oil 1 drilled in 1921 seven miles to the south-west of Penneshaw, Kangaroo Island, in the Kanmantoo Trough. This contained a small proportion of methane but much hydrogen, and was derived from Kanmantoo Group quartz-mica-schists and phyllites, indicating that metasediments can host hydrogen gas in the region.

The term “Basement” is generally used to indicate old, crystalline rocks that are older than Cambrian in age (>540Ma), when the first lifeforms are found in the fossil record, but it is also used to mean the base of intervals from which hydrocarbons can be economically extracted. However, these fracture networks have also been proven to provide the essential porosity and permeability for commercial volumes of natural resources and sufficient extraction rates or even injection. For example, in India and Vietnam significant volumes of hydrocarbons have been produced from fractured Basement, with oil columns over 1,000m in the Cuu Long Basin in Vietnam.

The Basement consists of several different Paleo-Meso-Neoproterozoic rock types across Yorke Peninsula and Kangaroo Island, such as granite, gneissic granitoids and metamorphosed sediments (metasediments). On the southern side of the Snelling-Cygnet fault zone on Kangaroo Island the Cambrian Kanmantoo Group is considered as Basement as it has been significantly metamorphosed. What is common to all these rock types is that they are in a geological setting where they are structurally located on a major lithospheric boundary, a bend in the Tasman line of the Delamerian orogeny, and within the setting of the tectonically active horst-graben Adelaide extensional rift (Figure 2), which is ideal for setting up severely faulted and fractured Basement.

Cambrian Limestone and Sandstone

Hydrogen gas was recovered in three samples taken in the Minlaton Oil Bore (or Ramsay Oil Bore 1) drilled in 1931, located 10km east of the Minlaton township on Yorke Peninsula. The samples were taken at depths of 790ft (240.79m), 860ft (262.13m) and 1,666ft (507.8m), all from Cambrian limestone, indicated as being within the Parara Limestone in the SA Department for Energy and Mines PEPS well database.

Even though the hydrogen has been recovered from the Cambrian on Yorke Peninsula it is considered as a secondary target in PEL 687; there is insufficient seismic data to define the conventional trap that the gas may be contained in, and hence the potential size of the resource.

The dolomitised limestone of the Early Cambrian Kulpara Formation may be the principal potential reservoir on Yorke Peninsula and northern Kangaroo Island, reaching 500m in thickness in the Stansbury Basin. Core porosity ranges up to 13% and permeability reaches 340 millidarcies. Brine recovered on test ranges from 13 000 to 157 000 ppm sodium chloride in Stansbury West 1, suggesting connate pore water and unbreached structures still exist. Porosity is also indicated on wireline logs in the Koolywurtie reef complex which is up to 73m thick (where not eroded by Minlaton Formation conglomerate) and may have originally extended from Ardrossan to Kangaroo Island (100km or more).

Gravestock 1 was the most recent well to be drilled on Yorke Peninsula, in 2007. The Kulpara Limestone was 296m thick, although not all of it showed good reservoir potential. The best interval was 41m thick in the middle of the interval.

The best reservoir section in Gravestock 1 was the Early Cambrian Parara Limestone immediately overlying the Kulpara Formation, with the Well Completion Report indicating two intervals (617m – 654m and 691m – 698m) with very good porosity on the wireline logs and in the rock cuttings samples. The upper portion of the Parara is low visible porosity finely recrystallised limestone. Drill cuttings from sucrosic dolostone over the interval 617m to 654m show intergranular and vuggy porosity with loose dolomite rhombs. The wireline logs over this 37m (121ft) interval show very good porosity, with log values consistently at 20%. The basal 8m (26ft) is a dolomitic sandstone which has good visible sucrosic intergranular and microvuggy porosity in the cuttings. The wireline logs show this interval to be highly porous, with log values ranging from 15% to 25%, with the petrophysical interpretation suggesting that gas was present, although no gas shows were recorded during drilling. This could be because the gas was hydrogen rather than methane, with the mudlogging unit not set up for recording the presence of hydrogen.

Sandstones such as the Stokes Bay Sandstone on Kangaroo Island may also provide suitable reservoirs.

SEALS FOR RESERVOIRS

Several suitable seals for potential hydrogen reservoirs occur on Yorke Peninsula and Kangaroo Island.

Cambrian

Thick micrites of the Parara Limestone are expected to act as excellent seals for reservoir limestones below on Yorke Peninsula and northern Kangaroo Island. Regional seal was once provided by thick red beds of the Yuruga Formation, but Permian glacial topography may have locally breached some traps.

Potential sandstone reservoirs on Kangaroo Island (Stokes Bay Sandstone) and extensions beneath western Gulf St Vincent may pass eastward into impermeable shales which act as semi-regional seals.

Permian

Permian sediments of the Troubridge Basin cover a large part of Yorke Peninsula, with over 400m intersected in Edithburgh 1. They are predominantly of glacial type, with the whole of the peninsula covered glaciers or by Permian seas into which glacial debris was dropped. In some areas the Cape Jervis Formation forms a blanket of sediment, and in others significant thicknesses are preserved in glacially eroded troughs or local tectonic depressions.

The rocks include boulder till, claystones and siltstones which act as excellent seals.

Tertiary

Tertiary rocks of the St Vincent Basin cover only a small proportion of the Yorke Peninsula, but the Eocene and Oligo-Miocene beds are prominent in the cliffs along the east coast where their distribution is controlled by north-south faulting which also still strongly influences topography. Everywhere they rest unconformably on the older rocks and are essentially horizontal, and add extra sealing capability to underlying Cambrian and/or Permian sediments for potential reservoirs.

The Eocene Blanche Point Marls and Muloowurtie Clays are the main potential seals, although they are interbedded with sandstones and so in some areas their sealing capability may be compromised.

TRAPS

Massive Fractured Basement

It is expected that the Basement beneath Yorke Peninsula and Kangaroo Island has been fractured by earth movements, and that the fractures would act as a suitable reservoir for hydrogen gas that has been generated. The fracture system itself acts as the trap for the gas so would be termed an unconventional trap, as opposed to a conventional trap which would be structural or stratigraphic in nature.

There is significant uncertainty related to unconventional traps in that the extent of connectivity between fractures is difficult to identify. Consequently, in the event of discovering hydrogen within a fractured Basement system appraisal drilling and testing would be required in order to determine the potential size of the resource.

Cambrian Limestone and Sandstone

A trap for hydrogen within a suitable reservoir within the Cambrian on Yorke Peninsula would be conventional, that is a structural trap either anticlinal in form or a fault block, or stratigraphic in nature where the reservoir pinches out and is sealed by suitable fine grained rocks or the porosity within the reservoir has been filled with cement deposited by fluids percolating through the reservoir.

A hydrocarbon trap in a prospective or producing basin is usually defined using seismic data to determine the subsurface structure. However, the definition of a potential Cambrian trap in PEL 687 is currently very difficult due to the lack of seismic data that has been acquired on Yorke Peninsula. In the event of a discovering and flowing hydrogen in the Cambrian at the Ramsay prospect seismic data would need to be acquired in order to determine the extent of the structure and hence the size of the discovered resource.

PROSPECTS AND LEADS

Four prospective areas for hydrogen have been identified within PEL 687, shown in Figure 7:

- Ramsay Prospect on southern Yorke Peninsula
    - Primary target of Massive Fractured Basement
    - Secondary target of Cambrian Limestone, from which hydrogen gas was recovered in three samples taken in the Minlaton Oil Bore (or Ramsay Oil Bore 1) drilled in 1931

- Kanmantoo Prospect on Kangaroo Island
    - Primary target of Massive Fractured Basement, from which hydrogen gas was recovered in American Beach Oil 1 drilled in 1921
- Maitland Lead on Yorke Peninsula - Primary target of Massive Fractured Basement
- Navigator Lead on Kangaroo Island - Primary target of Massive Fractured Basement

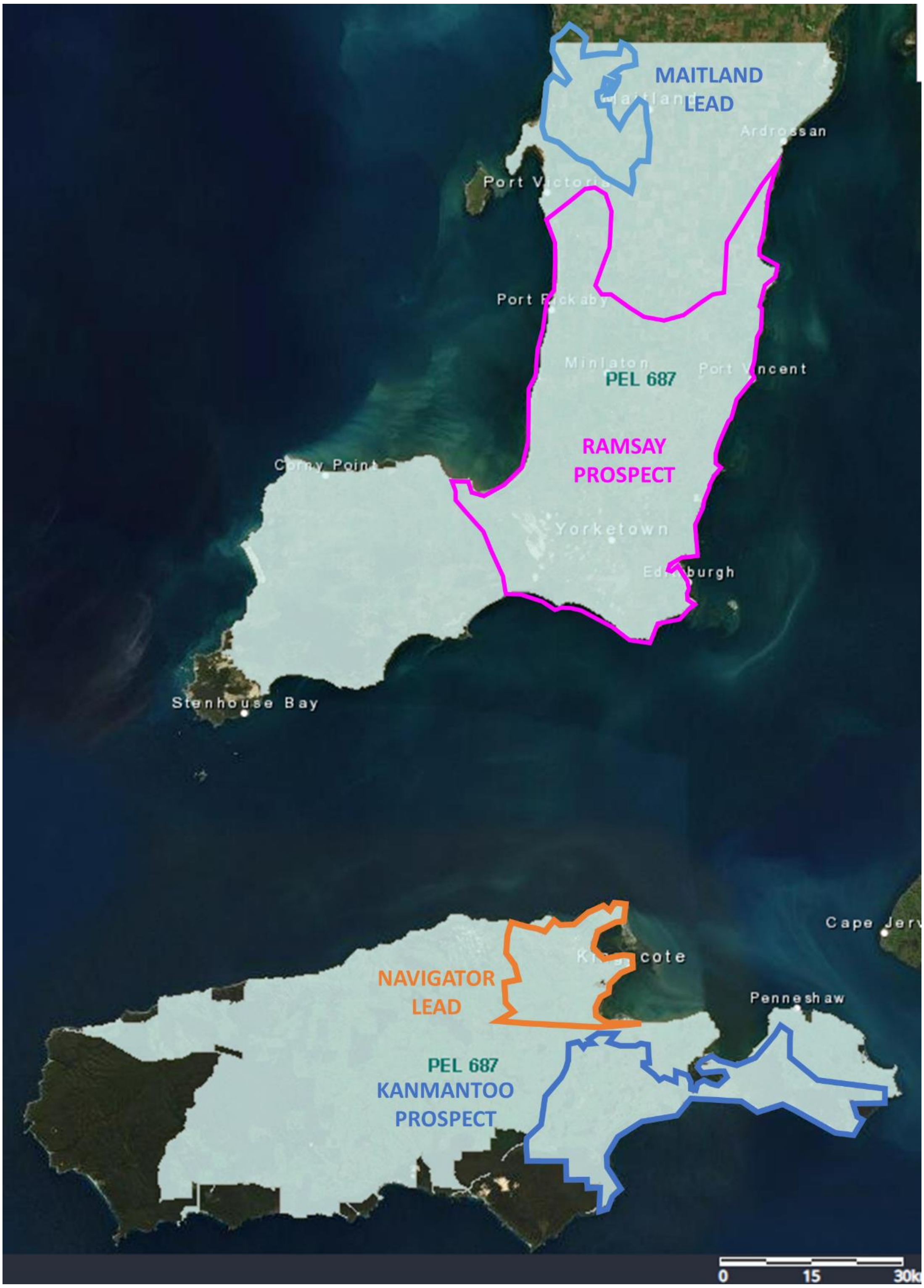


Figure 7 Prospects and leads identified in PEL 687

3. RESERVOIR ENGINEERING

The summary of the technical data used to estimate the recoverable raw gas and products produced at the Reference Point is presented in **Table 4**. The source and calculations supporting the data are detailed in Appendix C.

Table 4 Summary Technical Data

PEL 687: Compositions, 1/Bg and Products /scf of Recoverable Raw Gas for each Prospect, Porosity, Recovery Factor					
	Fractured Basement				Cambrian Lst
Air corrected:	**Ramsay**	**Maitland**	**Kanmantoo**	**Navigator**	**Ramsay**
CH4	5.1%	5.1%	4.5%	4.5%	5.1%
H2	**79.5%**	**79.5%**	**74.5%**	**74.5%**	**79.5%**
CO2	0.367%	0.4%	3.7%	3.7%	0.367%
N2	15.0%	15.0%	17.4%	17.4%	15.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Datum Depth (m)	750	75	250	450	600
Datum Presssure (psia)	1122	125	384	679	901
Datum Temperature (deg F)	108	56	69	69	96
Z factor	1.04	1.01	1.01	1.03	1.03
1/bg cu ft/scf	67	9	25	43	53
Heating Value kJ/scf raw gas					
CH4	54	54	47	47	54
H2	252	252	236	236	252
Total	306	306	283	283	306
CH4 kg/scf raw gas	0.00081	0.00081	0.00071	0.00071	0.00081
H2 kg/scf raw gas	**0.00188**	**0.00188**	**0.00176**	**0.00176**	**0.00188**
Porosity	**1 to 3% refer Science Direct Fracture Porosity**				**15 to 27% per Gravestock 1**
Recovery Factor	**60-80% refer Aguilera and SPE Material**				

Key observations include:

- High H2% ranging from 74.5% to 79.5% for all prospects
- Low CO2% ranging from 0.4% (Ramsay prospect and Maitland lead on Yorke Peninsular) to 3.7% (Kanmantoo prospect and Navigator lead on Kangaroo Island)

- A wide depth range whereby the prospects less than 250 m deep, and shallow areas of the deeper prospects, will have relatively lower volumes and flow rates which may lead to challenging economics. This assumes the reservoirs are normally pressured. Overpressuring would enhance volumes and flow rates and is a potential upside not included in this evaluation.
- Moderate to high recovery factors (60 to 80%) associated with assumed fractured reservoirs for the Fractured Basement, high porosity from Gravestone 1 for the Ramsay prospect Cambrian Limestone, and gas expansion drive with no water encroachment issues.

The compositions for each prospect were derived from the Pre-Cambrian samples from American Beach Oil 1 and Cambrian samples from Ramsay Oil Bore 1 as shown in Table 5. Only one composition for each prospect was used for all calculations and estimates due to the overall consistency of data. The only viable source of the gas is from the Pre-Cambrian due to the iron content and conditions for hydrogen to be produced. The averaging process is detailed in Appendix C. The calculations for air correction were checked and found to be acceptable.

Table 5 Shallow existing natural hydrogen occurrences and associated gas compositions, Yorke Peninsula and Kangaroo Island, SA

Location	American Beach Borehole		Ramsay Borehole		
Depth (m)	187.4	289.5	240.8	262.1	507.8
Sample Composition					
CO2 (%)	5.3	0.5	0.2	0.8	0
O2 (%)	4.3	3.6	0	2.4	1.2
C2 (%)	0.5	0.0	0	0	0
CO (%)	0	0.0	0	0	0
H2 (%)	**51.3**	**68.6**	**76**	**64.4**	**84**
CH4 (%)	2.6	4.7	7.5	7	0
N2 (%) by difference	36	22.6	16.3	25.4	14.8
Air Corrected Values					
CO2 (%)	6.8	0.6	0.2	0.9	0
H2 (%)	**65.6**	**83.3**	**76**	**73.1**	**89.3**
CH4 (%)	3.3	5.7	7.5	7.9	0
N2 (%)	24.3	10.4	16.3	18.1	10.7

These samples provide the primary evidence of predominantly Hydrogen gas being reservoired in the prospects and leads.

Datum depths, pressures and temperatures were estimated for each prospect and lead and used to calculate 1/Bg which is the critical factor converting gas at reservoir conditions to surface conditions (refer Appendix C). Typically, deeper reservoirs are reservoired at higher pressure so there is a greater conversion to surface conditions. It is assumed conservatively that the reservoirs are normally pressured. If they are "over pressured" due to a wide range of depths for a reservoir such as Ramsay FB or due to the geological maturation process, then the calculated OGIP would be higher. Care will be required when drilling to confirm the reservoir pressure range.

POROSITY

For the Fractured Basement, porosities of 1% to 3% were assumed based on data from "science direct" (https://www.sciencedirect.com/topics/engineering/fracture-porosity) with examples provided in Table 6.

Table 6 Examples of Porosity for fractured reservoirs

Field	Porosity Range (%)
Beaver gas field	0.05-5
Austin chalk	0.2
General statement	1
South African karst zone	1-2
CT scan examples	1.53-2.57
Epoxy injection examples	1.81-9.64
Monterey	0.01-1.1

For the Ramsay Prospect Cambrian Limestone actual log-derived porosities from Gravestock 1 were used (ie 15-27%).

RECOVERY FACTOR

Recovery Factors ranging from a P90 of 60% to a P10 of 80% are assumed in the success case of discovery for all prospects and leads in both the Pre-Cambrian (Primary Target) and Cambrian (Secondary Target). For the Pre-Cambrian, this is based on the summary in Table 7.

Table 7 Recovery factors in naturally fractured reservoirs (after Aguilera and material provided by SPE (Society for Petroleum Engineers))

Drive Mechanism	Recovery Efficiency, %					
	Oil Reservoirs Storage Ratio			Gas Reservoirs Storage Ratio		
	A[a]	B[b]	C[c]	A[a]	B[b]	C[c]
Solution gas (*depletion*)	10 to 20	20 to 30	30 to 35	70 to 80	80 to 90	>90
Solution gas plus gas-cap expansion plus water influx	35 to 45	45[d] to 55	55 to 65			
Strong waterdrive				15 to 25	25 to 35	35 to 45

[a]Storage mostly in matrix, with small amount in fractures. [b]Storage about 50/50 in matrix and fractures. [c]All storage in fractures.
[d]In some areas, 25% might be a more appropriate lower limit (personal communication with Ed Holstein, 2 March 2002).

The primary target in all prospects is the Pre-Cambrian, with the success case of a hydrogen gas discovery from “fractured basement” and thus be Type C with no or limited water drive. In this situation all the storage is in the fractures and none is in the matrix (ie the porosity is solely the porosity of the fractures). The drive mechanism is assumed to be gas expansion drive. Hence a high recovery factor is expected; the table suggests >90%, however a range of 60% to 80% is considered reasonable for a probabilistic assessment over large areas with limited data available.

For the secondary target Cambrian Limestone in the Ramsay Prospect, the recovery factor is also assumed to be 60% to 80% since the porosities are so high (15-27 %).

The recovery factors need to be based on a defined project commensurate with the maturity of the project. This is discussed in Section 8 Development Plan.

UNCERTAINTY MANAGEMENT PLAN

There are many uncertainties across the geological, petroleum engineering and commercial spectrum and these will need to be dealt with in detail in the pre-drilling, drilling and post-drilling data gathering activities for the exploration and follow-up appraisal wells. Notably, however, the tools and methods to gather the data are routine and should only need tailoring to the specific targets and uncertainties to be addressed. The details of these are beyond the scope of this Report.

Pre-Drilling	
Uncertainty	**Management**
Presence of Hydrogen	Need to drill, test and sample
Presence of seal	Drill and identify from wireline logs
Where is the hydrogen reservoired?	Drilling, logging, testing and sampling
Overpressure	Care will be taken in the well planning to ensure overpressure is neutralised
Thickness	Drilling and logging
Porosity	Drilling and logging
Extent of the Reservoir	Acquisition of seismic data, calibration with well data, appraisal drilling and integration of long-term production
Rock properties	Drilling, coring and integrating with wireline logs
Location of wells	Drill twins to the existing reported shows
Drive Mechanism	Testing and Mid Term Production
Fractures	Drilling and Selected Logs such as FMI
Permeability	Drilling & Testing, Cores & Logs
Connectivity of the Reservoir	Extended production test
Location of Well sites	Field visit & Negotiation with Stakeholders
Materials for wells and Infrastructure	Standard rigs and equipment sufficient for exploration and appraisal drilling and subsequent short-term testing
Market for the Hydrogen	Reference point chosen as the lease boundary. Mid-stream assumed to be a separate Company
Gas In Place and Recovery	Appraisal Drilling and Testing

Post-Exploration and Appraisal Drilling	
Uncertainty	**Management**
Connectivity of the Reservoir	Confirmed by production performance
Gas in Place and Recovery	More data points and material balance through production
Extent of the Reservoir	Seismic and calibrating with well data, appraisal drilling and integrating long-term production
Location of wellsites	Negotiation with stake holders
Types of wells	Better understanding of the depth of the reservoir(s), most likely to be horizontal/high-angle
Drive Mechanism	Mid Term Production
Fractures	Fractures
Permeability	Drilling & Testing, Cores & Logs
Materials for wells and Infrastructure	Development wells and surface equipment will have to have materials that can withstand long term exposure to hydrogen. This is technology under development.
Market for the Hydrogen	Reference point chosen as the lease boundary. Mid-stream assumed to be a separate Company

4. PROSPECTIVE RESOURCES

METHODOLOGY OF RESOURCE ESTIMATION

Prospective Resources are those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from undiscovered accumulations (Society of Petroleum Engineers).

The volumes of Prospective Resources of a reservoir or prospect are usually estimated probabilistically rather than deterministically, as the concept of probability distributions is an integral part of petroleum exploration risk analysis, and hydrogen behaves in the same way as petroleum. In this report the Gross Interval method of probabilistic estimation has been used.

Details of the methodology used are discussed in Appendix B.

PROSPECTIVE RESOURCES IN THE RAMSAY PROSPECT FRACTURED BASEMENT

The input parameters applied to the estimate for the Massive Fractured Basement play in the Ramsay Prospect on Yorke Peninsula are shown in Table 8 together with the reasoning behind their use.

Table 8 Input parameters applied for the probabilistic estimate of Prospective Resources for the Fractured Basement in the Ramsay prospect on Yorke Peninsula

Input Parameters		Input Statistics		Reasoning
	Units	P90	P10	
Porosity	%100	0.01	0.03	Range around estimate of 2%
Sh	%100	0.8	0.9	Approximate estimate
1/Bg		67	67	Calculated at the estimated P50 depth of the prospect, 750m
Gross Interval	Metres	50	150	Reasonable range based on hydrogen production from fractured Basement
Connected Gas	%100	0.6	0.8	Variability and connectivity of fracture network
Pool Area	Sqr km	50	2358	P90=fault block around Ramsay Oil Bore P10=area of good Cambrian, Permian, and /or Tertiary seal
Raw Recovery Factor	%100	0.6	0.8	General range for recovery from gas reservoirs

Figure 8 shows the outlines of the areas used as the inputs to the probabilistic estimate of the Prospective Resources in the Ramsay Prospect. For an estimate of Prospective Resources exploration wildcats usually have P10/P90 ratios greater than 20 – 30, with only Near Field Exploration opportunities falling below 20. In this case the P10/P90 ratio is 47; this may be on the large side given that there have been recoveries of hydrogen in Ramsay Oil Bore 1, albeit from Cambrian limestone rather than Fractured Basement. However, the range should be wide due to the uncertainty of the presence and distribution of hydrogen on the Yorke Peninsula.

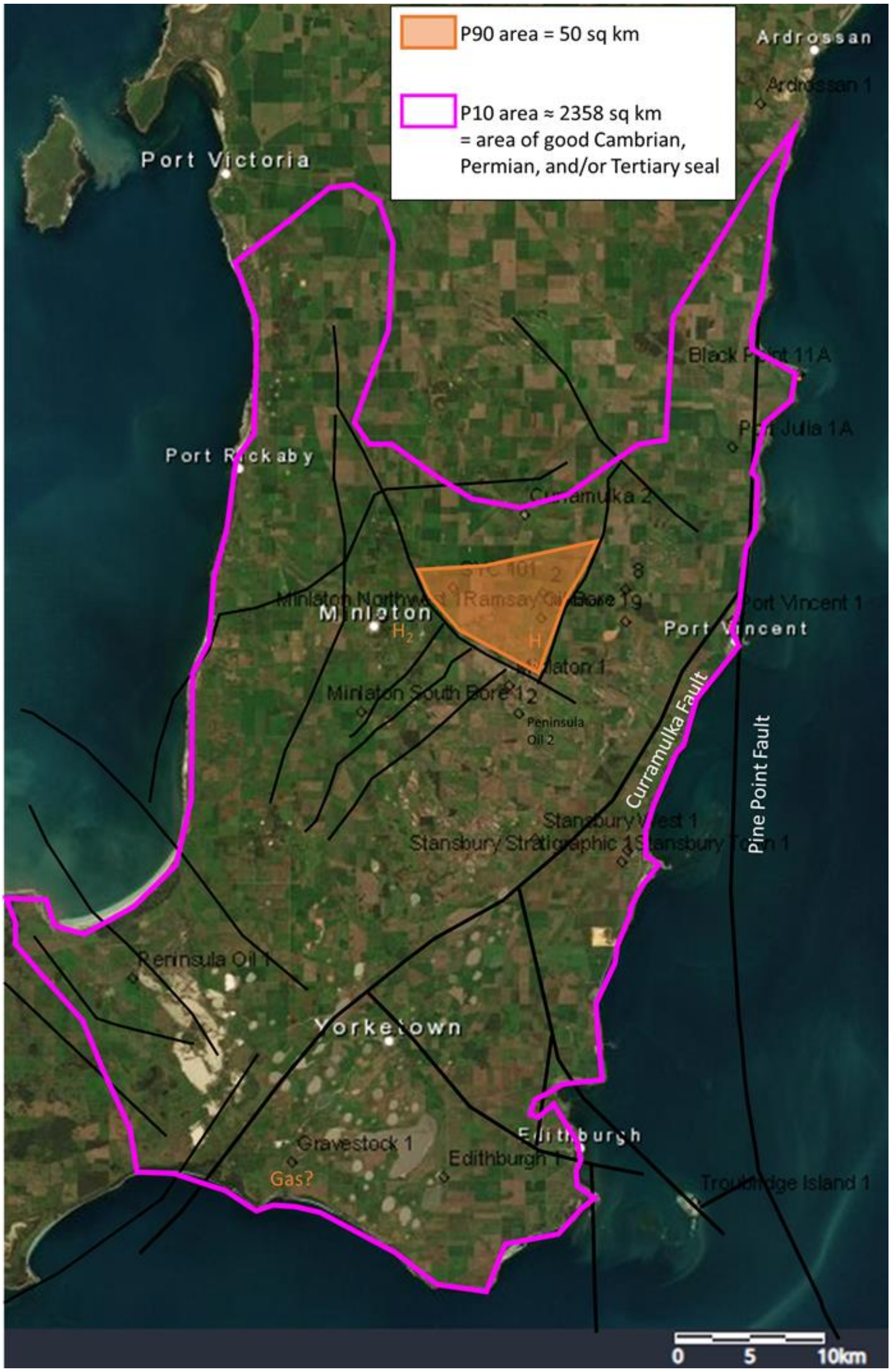


Figure 8 Areas applied for the probabilistic estimate of Prospective Resources for the Fractured Basement in the Ramsay Prospect, Yorke Peninsula

The P90, P50 and P10 values from the resulting probabilistic estimates of the Prospective Resources for the Fractured Basement in the Ramsay Prospect are shown in Table 9.

Table 9 Probabilistic estimate of the Prospective Resources for the Fractured Basement in the Ramsay Prospect, Yorke Peninsula

Input Parameters		Input Statistics		Calculated Lognormal Distribution		
Output Parameters	**Units**	**P90**	**P10**	**P90**	**P50**	**P10**
Porosity	% 100	0.01	0.03	0.01	0.02	0.03
Sh	% 100	0.8	0.9	0.8	0.85	0.9
1/Bg		67	67	67.00	67.00	67.00
OGIP Yield	mcm/km-sqd-m			566.7	984.7	1710.9
Gross Interval	Metres	50	150	50.0	86.6	150.0
Connected Gas	% 100	0.6	0.8	0.60	0.69	0.80
Average Net Pay	Metres			34.0	60.0	105.9
Pool Area	Sqr km	50	2358	50.0	343.4	2358.0
Net Rock Volume	km-sqd-m			2764	20602	153559
OGIP	bcf			**89.2**	**716.4**	**5753.4**
Raw Recovery Factor	% 100	0.6	0.8	0.6	0.7	0.8
Raw Gas Yield	mcm/km-sqd-m			385	682	1207
Untruncated Rec Raw Gas	bcf			**66.1**	**496.3**	**3726.8**
Prospective Resources Products				**P90**	**P50**	**P10**
H_2	kTonnes			**124**	**931**	**6989**

The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

The Untruncated Recoverable Gas volumes shown in Table 9 are all within PEL 687. The upside of the distribution, ie above the P10, would extend into the offshore and further north into PELA 688.

PROSPECTIVE RESOURCES IN THE OTHER PROSPECTS AND LEADS IDENTIFIED ON YORKE PENINSULA AND KANGAROO ISLAND

The inputs and probabilistic Prospective Resource estimates for the Cambrian Limestone in the Ramsay Prospect and the Massive Fractured Basement in the Kanmantoo Prospect and the Maitland and Navigator Leads identified in PEL 687 are shown in Appendix B.

GEOLOGICAL RISKING

Once the range of resources has been estimated, the chance of success or probability of finding hydrogen, must be assessed, firstly at the play level and then for individual prospects. Details of the methodology used are discussed in Appendix B.

MASSIVE FRACTURED BASEMENT PLAY

The play risk for the Fractured Basement play has been estimated as follows:

1. The play has not been proven as yet, but the presence of hydrogen in 2 samples in Pre-Cambrian metasediments in American Beach Oil 1 suggests there is a good chance that the play occurs.
2. Ptrap = 0.9 = suitable Cambrian, Permian and Tertiary seals occur over most of PEL 687; demonstration of traps has yet to be proven but is likely given the presence of hydrogen in Ramsay Oil Bore 1 and American Beach Oil 1
3. Pres = 0.9 = a fracture system in Basement is likely but needs to be demonstrated
4. Pch = 0.9 = high likelihood due to 2 samples of hydrogen in American Beach Oil 1, but not proven in play; good Basement granite source rocks occur over much of the area, with moderate metasediment source rocks over the rest
5. Therefore, Ppl = 0.9 x 0.9 x0.9 = 0.729

RAMSAY PROSPECT FRACTURED BASEMENT

The prospect risk for the Fractured Basement play in the Ramsay Prospect has been estimated as follows:

a. Pcl = 0.5 = a suitable closure at the Ramsay prospect may or may not occur; there is little seismic data to demonstrate a closure, but the regional geology suggests that a closure could exist
b. Prs = 0.7 = Fractured Basement is likely to occur at the Ramsay prospect but there is uncertainty of producibility of the reservoir
c. Psl = 0.95 = very high chance of a suitable seal occurring over the Ramsay Prospect, which is covered by suitable Cambrian, Permian and/or Tertiary sealing facies

d. Pch = 0.9 = it is likely that the hydrogen encountered in the Cambrian limestone in Ramsay Oil Bore 1 was generated by the granites of the Hiltaba Suite, interpreted to constitute the Basement at the Ramsay Prospect

e. Therefore, Pg = 0.5 x 0.7 x0.95 x 0.9 = 0.299

Therefore, overall chance of success for the Fractured Basement in the Ramsay Prospect:

= 0.729 x 0.299 = **0.218**, or 1 in 5

GEOLOGICAL RISKING FOR THE OTHER PROSPECTS AND LEADS IDENTIFIED ON YORKE PENINSULA AND KANGAROO ISLAND

The play risk and prospect risk for the Cambrian Limestone in the Ramsay Prospect and the prospect risks for the Massive Fractured Basement in the Kanmantoo Prospect and the Maitland and Navigator Leads identified in PEL 687 are shown in Appendix B.

5. WORK PROGRAM

Gold Hydrogen has identified an Exploration work program initially comprising 5 to 6 Exploration wells, two to three of which would be located close to wells drilled and reported to have intersected a potential hydrogen accumulation, namely Ramsay Oil Bore 1 on Yorke Peninsula and American Beach Oil 1 on Kangaroo Island.

The discovery process for each exploration well would aim to establish a "significant quantity of potentially recoverable" hydrogen and this would require penetration by a well and gathering sufficient data through testing, sampling, and/or logging of the accumulation to provide confidence in the presence of hydrogen and evidence of producibility (refer Appendix A Fig A5). The data would aim to establish an area and thus quantity of hydrogen that is discovered and may be considered Contingent Resources, providing the requirements of Contingent Resources are met. Any area beyond the limit of what is considered discovered for a particular well would remain Prospective Resources and require revaluation of the estimates, Pg and Pd as appropriate.

The presence of hydrogen during drilling would be evident through the mud logging unit (specially configured to detect hydrogen), and drilling would continue until the gas shows diminish. One of the key uncertainties is the thickness of the hydrogen accumulation in the Basement rock. The Prospective Resources estimates are based on a range of 50-150m compared to a Basement thickness of > 5 km, so gathering data that can assist determining the thickness of the hydrogen accumulation is critical.

The appropriate wireline logs would be run in the well(s) to obtain the reservoir parameters and the fracture density of the Basement rocks. The wells would then be tested for a minimum 2-week period with gauges in the well to determine the connectivity of the reservoir. The pressure data would provide an indication of what the connected gas in place is likely to be. The shut-in phase of the well test would provide reservoir characteristics of the investigated volume of reservoir rock. From all of this data an assessment of discovery would be made and the initial quantity considered discovered estimated.

Following the initial Exploration phase, the appraisal program would begin, most likely after the acquisition of a seismic program such that the well data can be integrated with it to understand whether or not optimum drilling locations could be identified. In addition, development concepts such as Deviated or Horizontal wells could be tested to determine if they can be implemented safely and efficiently, so that deliverability and drainage improvements could be realised. The key objective of the appraisal wells would be to gather sufficient data such that the development program could be planned to minimise the impact on the Environment and disturbance to the Landholders.

The Exploration wells would be vertical and the rig used would be fit-for-purpose design for the deepest of the Exploration wells, being about 2000 metres. A coring, logging and testing program would be planned which may require a side-track upon discovery to cut a core for further studies on the rock characteristics. Flexibility would have to be built into the testing program such that the permeability inferred from the logging program would be used to design the area of investigation for the test. There would be other opportunities to fine tune the testing program during the appraisal program.

A seismic program would be key in understanding the potential areas of high fracture density. The results of the appraisal program would also provide additional calibration points such that selection of the optimal development locations and spacing would be enhanced. The Development program would also be influenced by the market factors and the location of the midstream and downstream plants.

Typical hydrogen uses could be for local hydrogen power plants, provision for fuel cells used for trucking and farm vehicles, and for the manufacture of ammonia for fertilisers. In addition, if the resource is proven to be significant, export of compressed hydrogen could be considered. This report assumes a Reference Point at the lease of the well(s). The asset owners may in the future include the midstream and the downstream which could change the location of the Reference Point.

6. RESOURCES MATURATION

In the event of discovery of hydrogen and passing the discovery test, as per SPE PRMS guidelines, the size of the resource would need to be determined.

As a starting point the P99 of the probabilistic distribution would likely approximate the discovered resource around each discovery well. For example, if an exploration well near the Ramsay Oil Bore 1 successfully tested hydrogen from the Massive Fractured Basement it could be reasonably expected that the extent of the accumulation could cover approximately 10 sq km – the P99 of the probabilistic distribution for the area of the reservoir in the Ramsay Prospect – equating to a circle around the well of about 1.8km radius.

The P99 estimate on the probabilistic distribution for the size of the resource is around 11 bcf of raw gas or 21 kTonnes of hydrogen for the MFB in the Ramsay Prospect using the range of reservoir parameters shown in Appendix B. However, once a discovery has been made the reservoir parameters such as thickness of the reservoir and porosity would be known and would provide much a more realistic determination of the discovered resource size.

The discovered resource would need to be estimated around each hydrogen discovery well, which would be assessed independently. Even if successful exploration wells were drilled relatively close together – for example close to Ramsay Oil Bore 1 and Minlaton Northwest 1 on Yorke Peninsula, both reported to have recovered hydrogen, approximately 10 km apart – there is no certainty that the wells would be in communication with each other until significant testing and appraisal drilling had been conducted. If the wells were drilled closer together but still not within overlapping P99 areas, then it may be reasonable to interpolate the area in between as “discovered”. Obviously if the wells were drilled further apart, then it would not be reasonable to interpolate the area in between to be “discovered”.

As exploration and appraisal proceed it would be expected that sufficient data is gathered and integrated to gain enough confidence to move from exploration and appraisal Prospective Resources and Contingent Resources towards deriving technically mature feasible development plan(s) to allow consideration of Reserves, as long as all other commerciality criteria have been met. This process is described in Appendix A. Note there is likely to be elements of a “technology under development” process required to ensure hydrogen is handled appropriately, such as the drilling of deviated/extended reach horizontal wells if required in the plan.

7. DEVELOPMENT PLAN

DEVELOPMENT CONCEPTS

Four development concepts have been used to illustrate the types of development that may be applicable to developing the prospects in the event of discovery and maturation to reserves. Unfortunately, there are no “proven analogies” available since there is so much uncertainty in associated with the nature of the reservoir that may be discovered. However, other than Concept A which is development via vertical wells only, the other concepts incorporate deviated/horizontal wells and pad drilling to overcome known potential issues such as limited connectivity of the fractures with each other and the wellbore; and the size of the foot print of any development. Fracture stimulation is not considered necessary since the reservoir is expected to be naturally fractured.

The concepts are based on a well spacing of 1 sq km which is often used in unconventional reservoir development plans. The concepts employed and well spacing will need to be optimised after discovery as part of the field delineation and appraisal plan. The concepts are likely to be different in different parts of each field. The four concepts are illustrated in Figure 9.

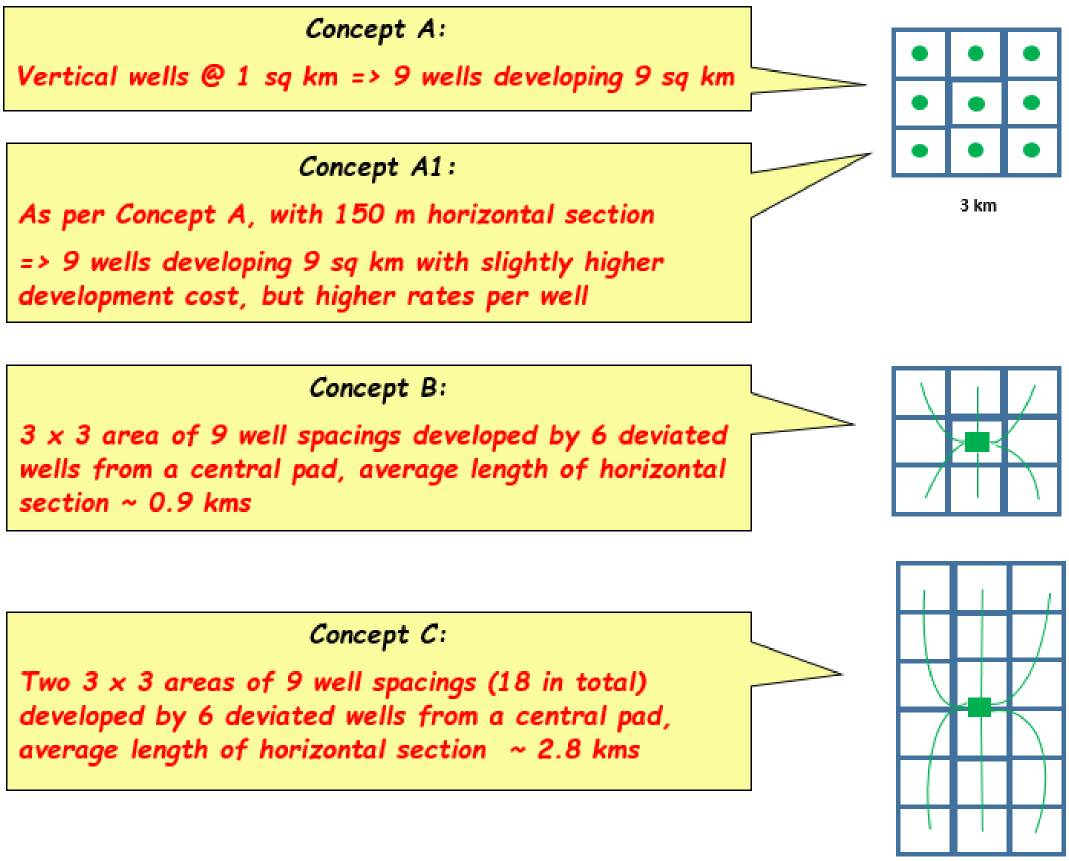


Figure 9 Development concepts

Based on the cost assumptions used, Concepts B and C not only have smaller footprints, but also have lower per 1 sq km development costs and the potential for higher recovery and flow rates than Concepts A and A1. (In this evaluation the recovery is assumed to NOT improve with Concepts B and C vs A and A1. In the event fracture connectivity is an issue, it is considered likely that the recovery in Concepts A and A1 would be lower and that this may be alleviated by Concepts B and C.)

The smaller footprint comes from have central pads in Concepts B and C, rather than a lease for each individual well, as well as less surface disturbance to install flowlines and access roads.

The downside at this time is that whilst the technologies are Established Technology in reservoirs in other areas, they will need to undergo a Technology Under Development process for application in the subject reservoirs to attain Established Technology for the Project(s) - refer Technical Challenges below.

The completions are assumed to be open hole through the FB and that there is no wellbore collapse or water encroachment issues to deal with. This is especially important for Development Concepts B and C.

TECHNICAL CHALLENGES

There are 2 main technical challenges to overcome for the development concepts. Firstly, the challenge of overcoming any issue associated with the development, production and transport of hydrogen. Secondly, the challenge is to technically and economically develop the fields with Concepts B and C.

Both are expected to be overcome due to the strong track record the industry has for dealing with such issues, however in the context of the Pd (Chance of Development) of the projects at this time, there is risk that they will not be overcome and that is reflected in the respective Pd's for each project.

Challenge 1: Development, Production and Transport of hydrogen

This is an issue of all hydrogen production projects, not just associated with developing naturally occurring hydrogen. Hydrogen is unique in that it is the smallest molecule and thus is able to interact with metals and weaken them via a process of embrittlement. It is also highly flammable. Hydrogen embrittlement occurs when metals become brittle as a result of the introduction and diffusion of hydrogen into the material. With the world-wide focus on using hydrogen as an alternative to fossil fuels, there is significant effort being made to address these safety issues generally. For the nature of the projects considered here, the issues will need to be solved for the casing and production tubing and other downhole equipment, the surface equipment, compressors, processing facilities and pipelines etc. Gold Hydrogen is engaging with industry experts to address these issues.

Challenge 2: Implement Development Concepts B and C

Drilling deviated/horizontal wells is more difficult in shallow reservoirs and in reservoirs that comprise “hard” rock. There may be areas of the fields that are too shallow or the rock is too hard to economically drill, or too hard to drill in a socially acceptable manner. For example, “air hammer” drilling may be technically feasible and economic, however the operation may be too noisy to implement in some areas. Not-with-standing these issues, the industry has had an excellent record in developing technologies to handle such challenges. Gold Hydrogen is engaging with industry experts to address these issues.

8. CHANCE OF DEVELOPMENT

CHANCE OF DEVELOPMENT, Pd

The estimates of Chance of Development, Pd, for each of the prospects and leads as at the Effective Date of this Report are presented in Table 10. The detailed reasoning and methodology are presented in Appendix F (which also draws upon Appendix A and E).

Table 10 Pd, Chance of Development at date of this Report

Prospect	Pd	*SPE-PRMS Subclass	Comment
Ramsay FB	**50%**	**PRs: Prospect**	Main issues reflected in Pd are technical in relation to well construction and addressing H2 issues, plus some infrastructure, transport and external issues, though they are considered less of an issue than for the other prospects. Refer Appendix A, D and E.
Ramsay Lst	**50%**	**PRs: Prospect**	
Maitland	**35%**	**PRs: Lead**	Maitland is similar situations across all commerciality criteria to Ramsay FB except economics due to the higher development costs/kg as a result of it's relatively shallow depth.
Kanmantoo	**40%**	**PRs: Prospect**	Kanmantoo and Navigator have more development constraint risks than Ramsay, less infrastructure and marketing options and higher development costs due to being shallower. In addition, being on an island may increase development costs/kg further than currently reflected in the estimates.
Navigator	**40%**	**PRs: Lead**	

***The PR sub-class assigned includes consideration of Pg, Chance of Geologic Discovery and Pd**

The key issues contributing to the Pd for each prospect and a summary of the steps being taken by Gold Hydrogen to address them are presented in **Table 11**. Gold Hydrogen is commended for taking proactive steps to address them at the onset of their project activities. At this time, the Pd's are "lower to mid-range" and have the potential to increase significantly if the results of their mitigation plans turn out to be positive.

Table 11 Key Issues impacting Pd, Chance of Development and Actions at date of this Report

#	Criterion	Description	Comment	Action being taken
1	Technical	Dealing with hydrogen effects on well construction, production, processing and transportation of the produced gas.	Dealing with H2 effects of embrittlement and flammability are issues being addressed across all H2 industry initiatives so is not unique to Gold Hydrogen.	De-risked through working with Schlumberger New Energy; Gold Hydrogen will be signing an MOU with them in the coming weeks. Presentation from them coming to review how they can help support upstream to downstream operations. CSIRO downstream – Allison Horte; Industrial chemist; collaborative research on storage, handling; processing and types of sales points for each
2	Technical	Implementing deviated/horizontal extended reach drilling	Deviated/horizontal extended reach drilling would reduce the surface foot print and assist addressing community concerns, as well as improve recovery and economics.	Gold Hydrogen are in the process of engaging Fendley consultancy: drilling and completions professionals.
3	Infrastructure and Market	Specification of products and processing requirements and thus cost to meet these requirements.	There is no doubt that there is a market for H2 and gas for blending with sales gas, however the raw gas stream is not pure H2 and may require processing to achieve required specifications.	MOU or non-binding MOUs will be explored; Gold Hydrogen have had some interest already from the trucking sector, but have not entered into any formal discussions CSIRO downstream are being contacted to facilitate understanding of processing requirements. Note: there are 3rd party operators that specialise in purchasing raw gas produced at the wellhead/edge of lease.
4	Economics	Economics based on a full cash flow analysis that includes the results of (1) – (3) and refined Reference Points.	The Development Cost approach used in this Report is satisfactory for screening at this stage of the maturity of the project. However, a more fulsome economic evaluation should be prepared to base future investments.	Gold Hydrogen will undertake further inhouse cashflow modelling based on this Report and consider using the likes of KPMG or Worley to provide investment evaluation support.
5	External	Positive response from the SA Govt/DEM on what is specifically planned.	Per Appendix A and the fact that PELs have/will likely be granted is a good sign of Govt support as well as the overall H2 strategy, but	Gold Hydrogen plan to meet with the SA Govt once they have received this Report in draft form.

#	Criterion	Description	Comment	Action being taken
			support for specific activities and developments needs to be formally indicated.	A website is being generated about the business to communicate transparently. The SA Govt has a website with all lease information and well data.
6	External	Positive response from local and broader community.	This will be critical and will largely be supported by positive progress in (1)-(5) above.	Gold Hydrogen is in discussions with 'All Land Services'. This business has SA landman and lawyers and has indicated in detail the nature of the issues that need to be addressed by Gold Hydrogen. Gold Hydrogen has plans to undertake a Hydrology Study by local SA hydro firm and an Environmental Study & Report by local SA enviro firm.

The list in **Table 11** is by no means exhaustive but is critical at this stage of the project(s). As the project(s) mature additional issues will need to be addressed. Those, however, are more specifically in relation to field activities that SA in particular, in the Cooper Basin, has a wealth of experience to draw upon.

As explained in Appendix F, the Pd was estimated for Ramsay FB, with Pd's for the other prospects benchmarked against Ramsay FB.

In making these assessments, favourable allowance has been made for the world-wide effort to commercialise hydrogen technology and use as an alternate fuel to fossil fuels. This is supported by the Australian and SA Government Hydrogen strategies. These strategies are designed to overcome any technology gap, market, infrastructure and external issues in particular. Gold Hydrogen has advised that they are actively progressing engagement with all groups to address maturing the commerciality issues associated with the fields.

DEVELOPMENT CONSTRAINTS

The development constraints determined for each of the prospects are summarised in **Table 12** (refer Appendix E) and are taken into account in the estimation of Pd, Chance of Development above.

Table 12 Guide to Development Risks

<table>
<tr><th>Prospect</th><th>Location</th><th>Risk for development*</th><th>Comment*</th></tr>
<tr><td>Ramsay (FB and Lst)</td><td>Lower central Yorke Peninsula</td><td>“Medium”
Predominantly 2, some 4, no 3 or 1</td><td rowspan="2">No guarantee to be developable and high due diligence and requirements will need to be met.</td></tr>
<tr><td>Maitland</td><td>Northern west Yorke Peninsula</td><td>”</td></tr>
<tr><td>Navigator</td><td>Northern central Kangaroo Island</td><td>“High”
Predominantly 3, some 4, no 2 or 1</td><td rowspan="2">Higher due diligence and requirements will need to be met however it should not be construed that development would not be approved, though it will be difficult.</td></tr>
<tr><td>Kanmantoo</td><td>Southern central Kangaroo Island</td><td>“</td></tr>
</table>

*This assessment is based on the Constraints Layering contained within the South Australia’s Hydrogen Export Modelling Tool (the “Tool”). This data is a guide only for development associated with Hydrogen export from renewable sources, however it is considered reasonable to use it in the context of the exploration and development activities Gold Hydrogen are planning to undertake.

The disclaimer for the Tool specifically cautions that:

1. Do not construe that a project within a “low risk” part of the layer is guaranteed to be developable, and
2. Similarly, do not construe a project within a “high risk” part of the layer is undevelopable.

In addition, it was clarified (informally via a phone conversation to a SA Govt officer) that even some “No Go” areas could be developable. It was explained that essentially the layering provides a guide to the level of due diligence and requirements that will need to be met to get approvals for whatever activity is planned**. So, this means not all of an area may be “No Go”.** The National Parks themselves would be “No Go”, however accessing under them from deviated wells likely would be permissible as long as the requirements for the actual pad drilling site were met.

This means that Gold Hydrogen will have to be proactive in ensuring that they understand all the legislation relating to their activities and the local and broader community expectations to be given approval to undertake them. TRA understanding is that Gold Hydrogen are well aware of their responsibilities and are engaging with appropriate groups to address the associated technical and social issues.

9. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Samples of hydrogen gas have been recovered from wells drilled on Yorke Peninsula and Kangaroo Island in South Australia, namely Ramsay Oil Bore 1 and American Beach Oil 1 respectively, although these wells were drilled nearly 100 years ago. The presence and producibility of hydrogen from the geological reservoirs needs to be determined to understand the opportunity for producing hydrogen as an alternative energy source in South Australia.

Four prospective areas for hydrogen have been identified within PEL 687, the Ramsay Prospect and Maitland Lead on Yorke Peninsula, and the Kanmantoo Prospect and Navigator Lead on Kangaroo Island. Prospective Resources have been estimated for these opportunities indicating there could be a significant hydrogen source in the region.

There are significant risks associated with this opportunity. These risks relate to the presence, producibility and potential volumes of hydrogen, but also due to the location of the resource within agricultural areas and the proximity to National Parks on both Yorke Peninsula and Kangaroo Island, requiring significant landholder and community engagement. The worldwide, National and South Australian Government and industry efforts to secure hydrogen as an alternative energy source provides confidence that any technical and social concerns may be overcome.

To advance a portion of the Prospective Resources to Contingent Resources Gold Hydrogen would need to undertake an Exploration program comprising 5 to 6 Exploration wells, two to three of which would be located close to wells drilled and reported to have intersected a potential hydrogen accumulation, namely Ramsay Oil Bore 1 on Yorke Peninsula and American Beach Oil 1 on Kangaroo Island.

RECOMMENDATIONS

(1) Gold Hydrogen adopts the estimates of Prospective Resources for PEL 687 presented in this Report.

(2) Gold Hydrogen to continue their proactive efforts to address the technical, infrastructure, market and social issues to improve the chance of development in the event discoveries of naturally occurring hydrogen are made.

APPENDIX A

APPLICATION OF SPE PRMS GUIDELINES & ASX LISTING RULES

Appendix A – Application of SPE-PRMS Guidelines & ASX Listing Rules

Introduction

Hydrogen gas behaves in the same way as hydrocarbon gas. Because of this, the application of hydrocarbon (or petroleum) industry methodologies, used in the evaluation of hydrocarbon projects, are appropriately applied and utilised for the evaluation of a hydrogen project.

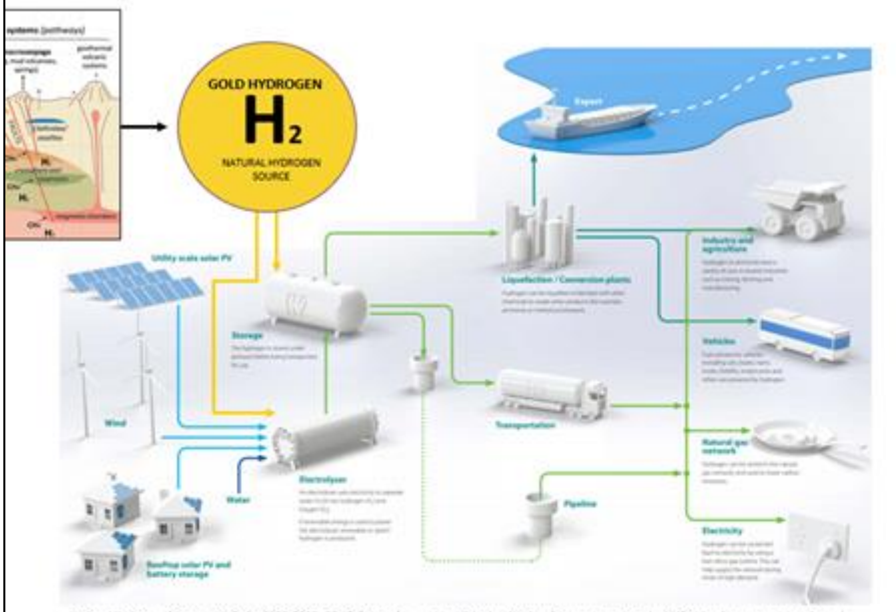
The Prospective Resources estimates evaluated in this Report for Gold Hydrogen are based on SPE (Society of Petroleum Engineers) - PRMS (Petroleum Resources Management System) 2018 Guidelines and the requirements of the ASX Listing Rules Chapter 5 as they apply to Oil and Gas Entities as if Gold Hydrogen was listed on the ASX.

It needs to be noted that per SPE-PRMS *"petroleum"* refers to *"a naturally occurring mixture of hydrocarbons in the gaseous, liquid, or solid phase. Petroleum may also contain non-hydrocarbon compounds, common examples of which are carbon dioxide, nitrogen, hydrogen sulfur. … ",* and does not refer specifically to "hydrogen".

Notwithstanding this, in this Report naturally occurring hydrogen is considered in the same way as hydrocarbon since hydrogen has energy content and can be mixed with "sales gas" or used stand alone as are hydrocarbons. The other non-hydrocarbon compounds do not have energy content and even though they may have commercial value and may be included in any commercial evaluation, they are not included in any resources estimates per SPE-PRMS (refer SPE-PRMS 3.2.4).

The SA Government recognises naturally occurring hydrogen as "petroleum" for the purposes of applying its rules and regulations (such as required under Gold Hydrogen's PEL687) and with the wider definition of "regulated substance" that is expected to be recognised under the proposed Energy Resources Act. This ensures a proper regulatory framework for any entity proposing to explore, develop and produce naturally occurring hydrogen. The main act currently applying is the Petroleum and Geothermal Act 2000 which is undergoing a process (at the time of writing the Report) to retitle to Energy Resources Act with additional requirements notably to address the implications of climate change and reflect the broader scope of the Act to include future fuels (e.g., hydrogen). (Refer the discussion paper "Bill to create new Energy Resources Act").

This fits with the SA Government hydrogen strategy presented in the report titled "A Hydrogen Roadmap for South Australia" dated 11 September 2017. Figure A1 shows Gold Hydrogen is well positioned to fit with this strategy.



National Hydrogen Strategy (NHS) for 2020-2030. COAG Energy Council established a Working Group to carry out the NHS's development across 'six work streams' that consider: hydrogen exports, hydrogen for transport, hydrogen in the gas network, hydrogen for industrial users, hydrogen to support electricity systems, and associated crosscutting issues. If successful, Gold Hydrogen, could provide a 'seventh work stream' for consideration: local extraction of natural sources of molecular hydrogen.

Source: South Australia's Hydrogen Action Plan, Department for Energy and Mining, Government of South Australia, September 2019

Figure A1: Gold Hydrogen fit with marketing opportunities for Hydrogen Production

In addition to the support for exploring and developing naturally occurring hydrogen by the granting of PEL 687 already, this roadmap and the accompanying legislative changes provide some confidence for whole of government support for exploration, development and production of naturally occurring hydrogen which enhances the "chance of discovery", Pg, and the "chance of development", Pd, and thus the "chance of commerciality", Pc, of the Prospective Resources of naturally occurring hydrogen. This needs to be tested with the SA Govt and Gold Hydrogen plans to present plans to them within the foreseeable future.

SPE-PRMS 2018

In the interests of transparency for all stakeholders and best practice reporting, this Report utilises SPE-PRMS project maturity sub-classes to classify the maturity of the Prospective Resources presented and, upon successful discovery and meeting the requirements for Contingent Resources, the maturity of the project(s) and their respective Contingent Resources.

This is consistent with SPE-PRMS 2018 recommendations and facilitates compliance with SPE-PRMS 2.2.2.5 which requires "*Quantities in different classes and sub-classes cannot be aggregated without considering the varying degrees of technical uncertainty and commercial likelihood involved with the classification(s)* *and without considering the degree of dependency between them (see Section 4.2.1, Aggregating Resources Classes)."*

The Prospective Resources as of the Effective Date of this Report are in the "Prospect" and "Lead" sub-classes. The proposed work program aims to drill the prospects and if successful claim Contingent Resources for at least part of the Prospective Resources and mature the leads to prospects as project activities are progressed.

The relevant SPE-PRMS 2018 figure ie (2.1) showing the sub-classes and key "tests" in the maturity process to Reserves is presented below (Figure A2).

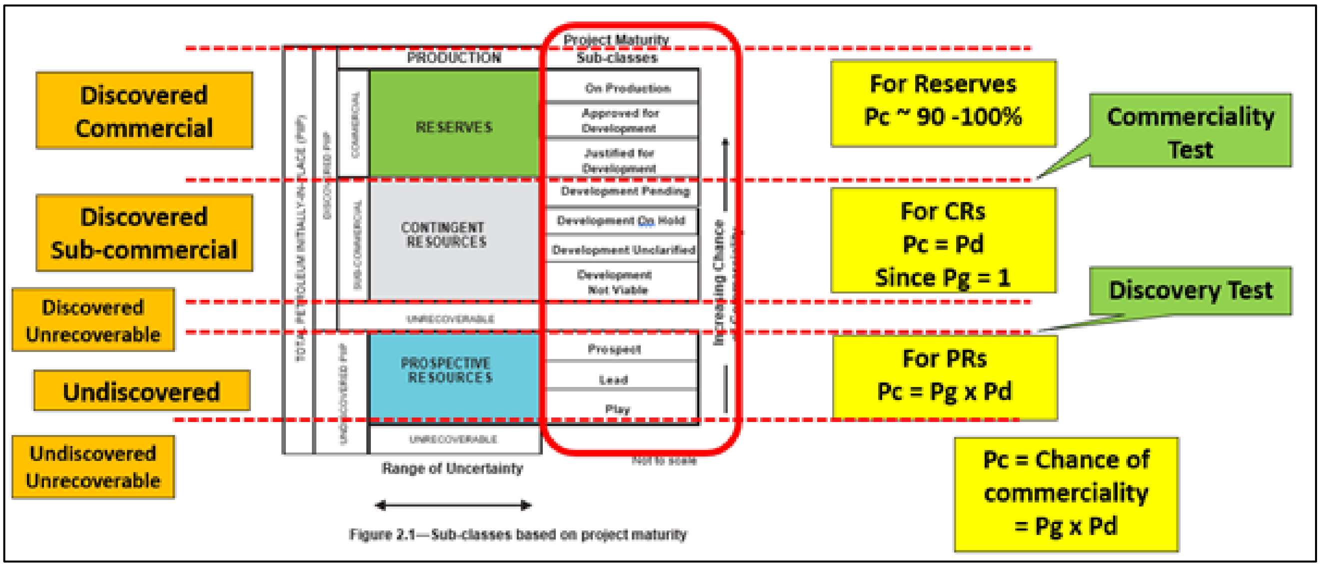


Figure A2: SPE-PRMS 2018 Sub-classes and key "tests"

Navigation of projects and their associated resources through this framework is shown in the following flowchart (Figure A3).

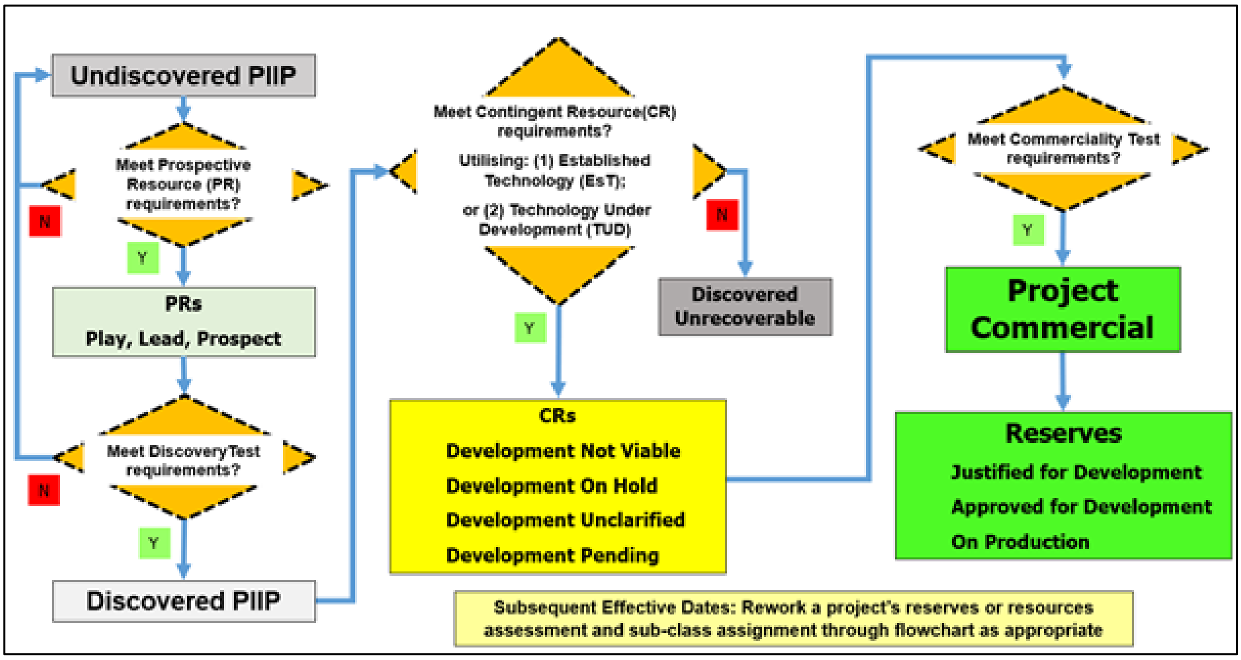


Figure A3: Overview of a project moving from Undiscovered Petroleum Initially In Place (PIIP) though to Reserves

At the Effective Date of this Report, the Prospective Resources meet the requirements of the "Lead" and "Prospect" sub-classes for PEL 687 as shown in the following flowchart (Figure A4).

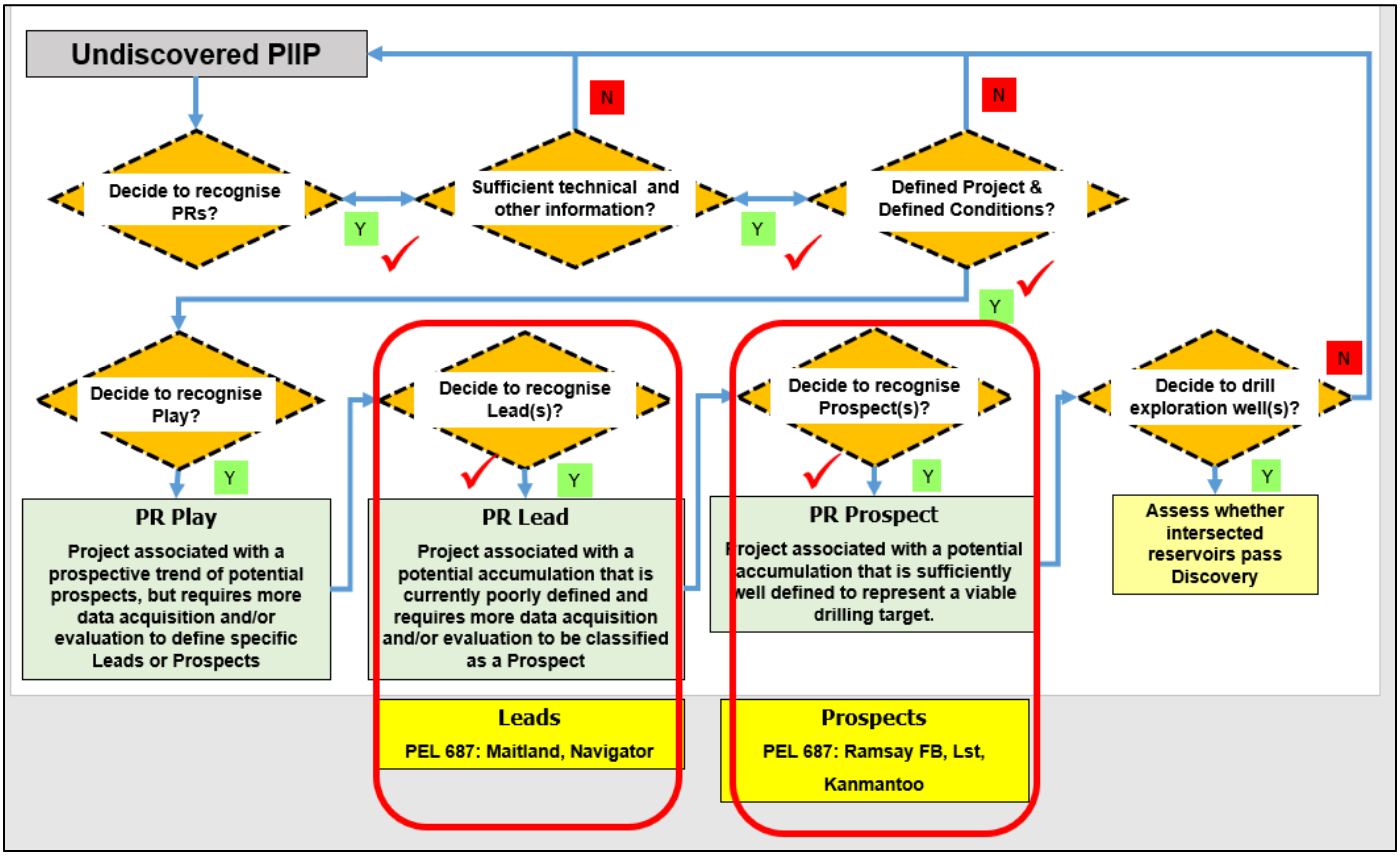


Figure A4: SPE-PRMS 2018 Prospective Resources Play to Prospect maturation flowchart

When the Prospective Resources mature to a "Prospect", typically the decision to drill an exploration well is made on the basis of a positive result of a decision tree that assesses whether the potential benefit of a successful development outweighs the cost of drilling an unsuccessful exploration well. Sometimes an exploration well is drilled for strategic or licence requirement reasons. This evaluation is beyond the scope of this Report at this time.

A key consideration of the exploration drilling program is ensuring sufficient information is obtained to pass “Discovery” in the relevant reservoirs and provide information on the extent of what has been discovered. This is overviewed in the following flowchart (Figure A5).

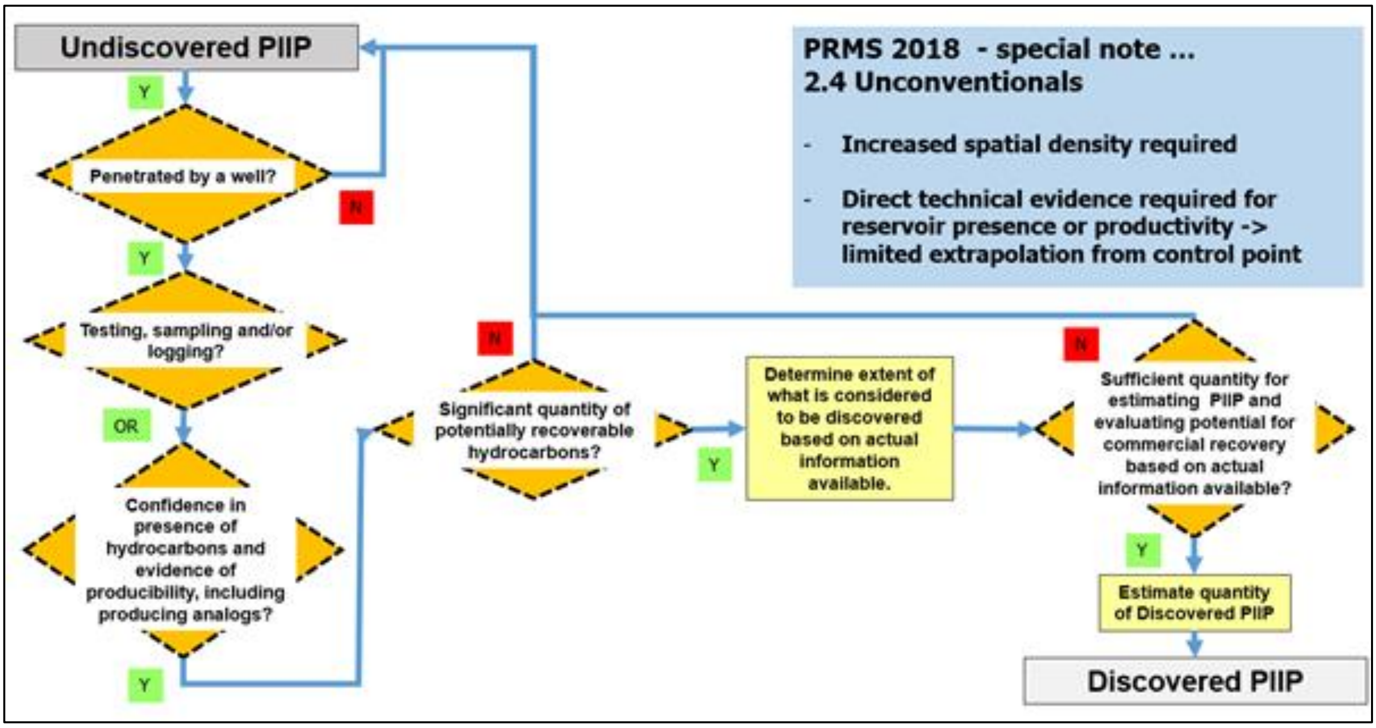


Figure A5: SPE-PRMS 2018 requirements for Discovery

Passing “Discovery” does not automatically confer Contingent Resources for a project and this is shown in the following two flowcharts. Importantly for a project targeting naturally occurring hydrogen, whilst the recovery technologies employed are typically Established Technology generally within the Oil and Gas industry, some are not Established Technology for the Project and will require a Technology Under Development process within Contingent Resources to mature the technology sufficiently to satisfy the first commerciality criteria requirement for Reserves, namely, *“evidence of a technically mature, feasible development plan”* (SPE-PRMS 2.1.2.1 A.) Furthermore, typically the technology referred to in the SPE-PRMS definitions is “recovery technology” only, whereas for naturally occurring hydrogen, the technology will need to be established for any surface facilities and infrastructure, including transportation infrastructure.

Presuming that the project has the potential to become commercial with reasonable commercial conditions, this process is shown in Figure A6.

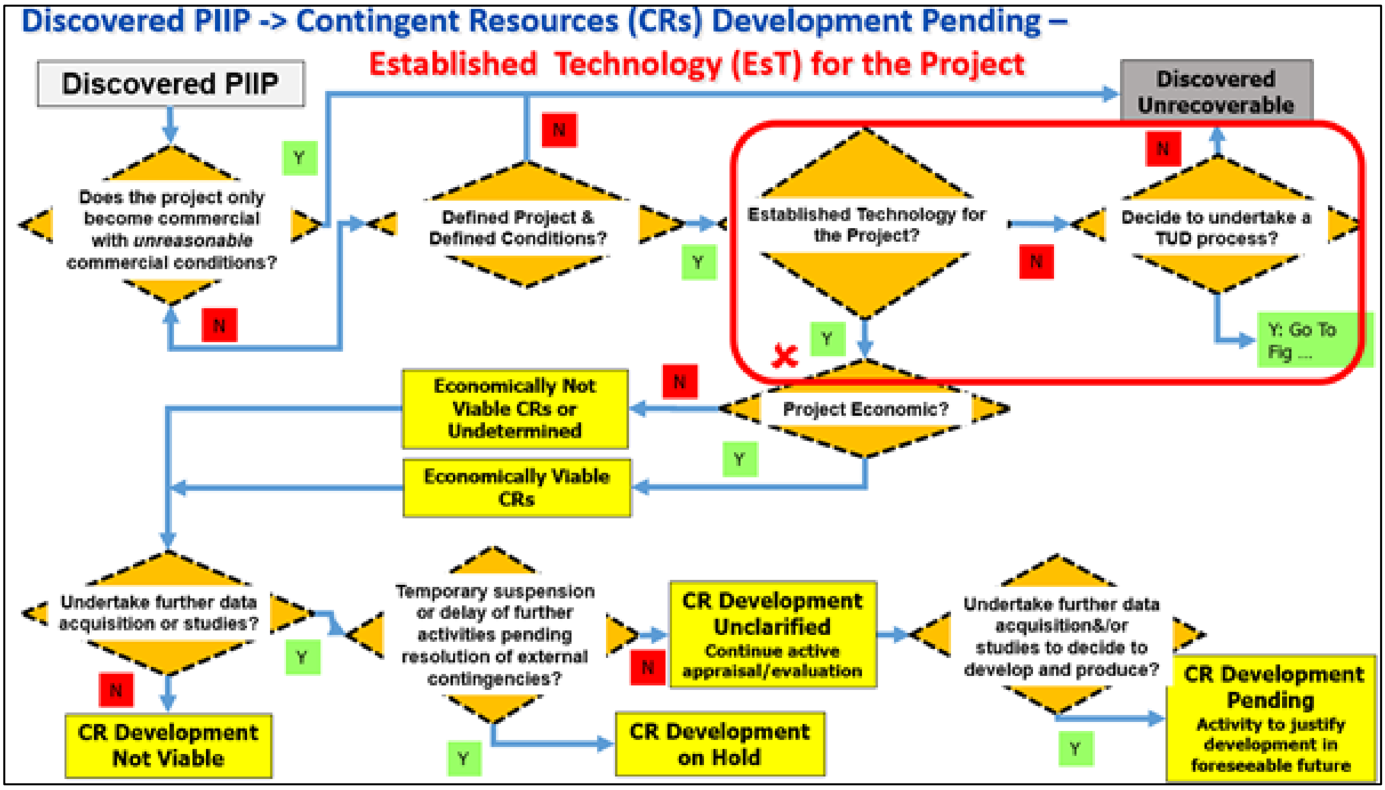


Figure A6: SPE-PRMS 2018 maturation for a project that has achieved Established Technology for the Project

For the elements of the project that require a successful Technology Under Development process the following flowchart overviews the process (Figure A7).

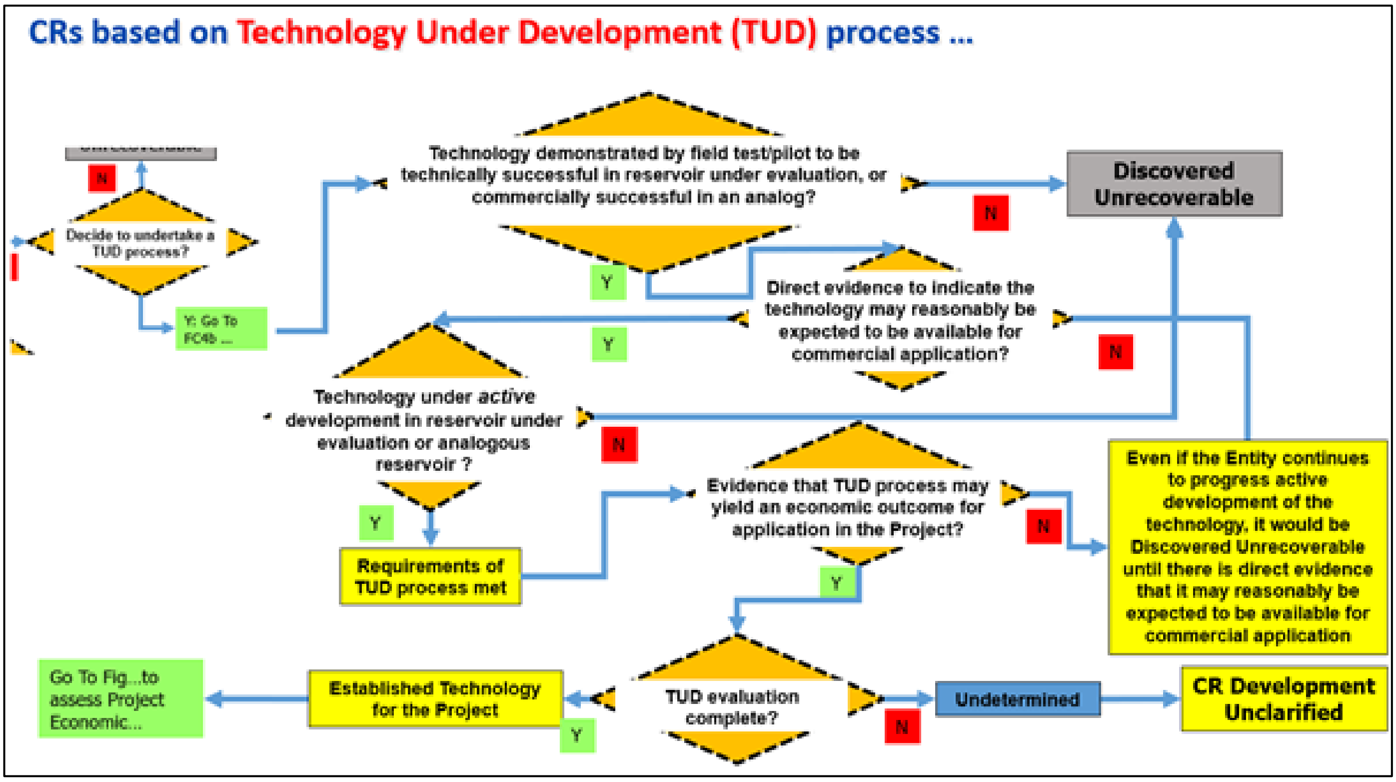


Figure A7: SPE-PRMS 2018 maturation for a project that needs to undergo a Technology Under Development process to achieve Established Technology for the Project

Finally, a project may be considered for Reserves with the requirements to move from Contingent Resources Development Pending to Reserves shown in Figure A8. All work in the resources maturation process is directed to meeting all Commerciality Criteria (SPE-PRMS 2.1.2.1 A-G).

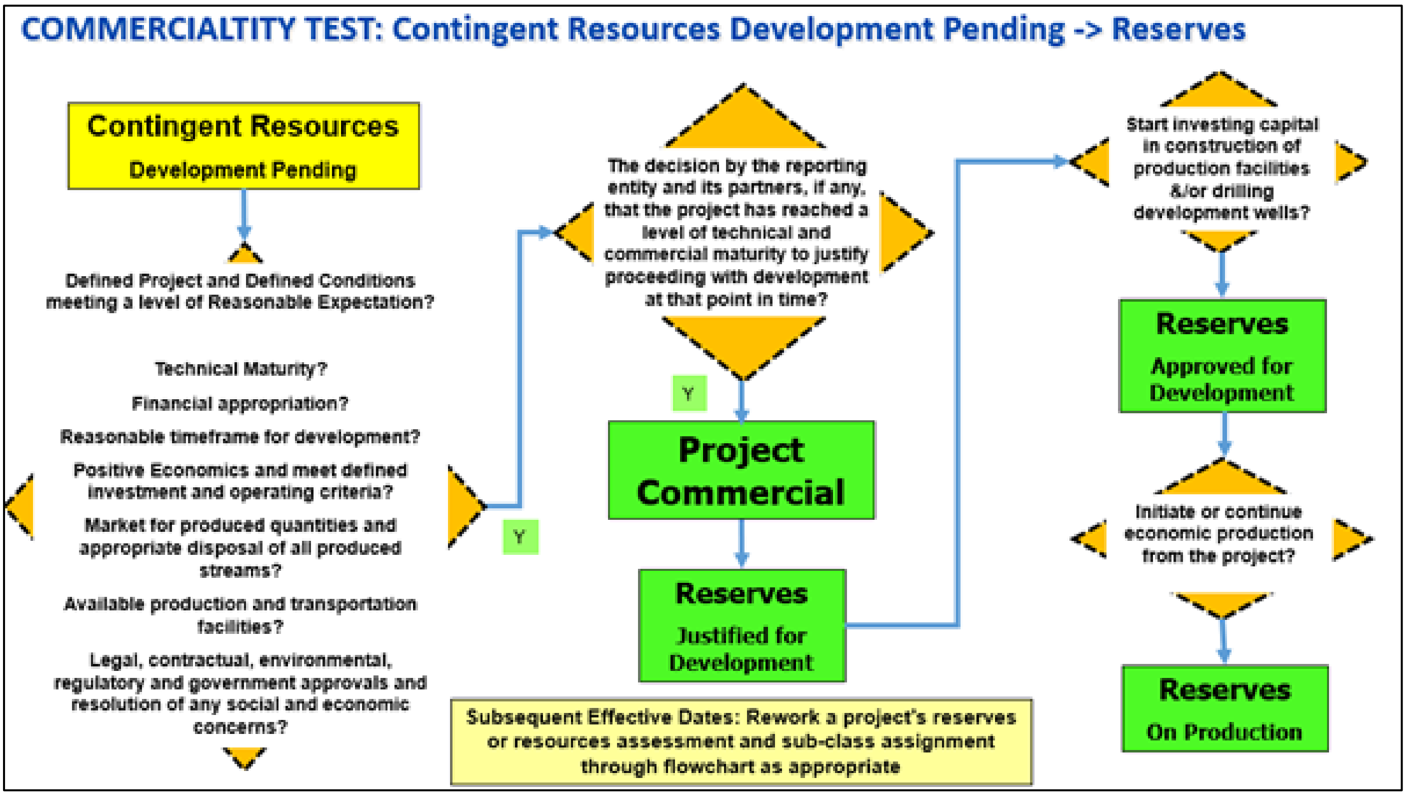


Figure A8: SPE-PRMS 2018 maturation for a project that has achieved Established Technology for the Project

ASX Listing Rules

Gold Hydrogen is a proprietary limited company at this stage so the ASX Listing Rules do not apply. However, the work done by TRA conforms to the SPE-PRMS 2018 and the requirements of the ASX LRs Chapter 5 as it applies to Oil and Gas entities for reporting Prospective Resources and providing supporting information. It also complies with the "Public Consultation, Proposed changes to the oil and gas reporting requirements in the ASX Listing Rules, 16 April 2021". At the date of this Report the updated listing rules had not been finalised and made public.

The key requirements (paraphrased) relevant for Prospective Resources are:

LR Section	Current ASX LR Ch 5	Public Consultation	TRA Report
5.25.2	Separate classes mandatory.	Reserves and CR sub-class mandatory.	Prospective Resources by sub-class and propose to split out by sub-classes throughout maturation process.
5.25.3	Ditto	Clear explanation of the different technical and commercial maturity of the different classes and sub-classes of petroleum resources being reported	Per Public Consultation.
5.25.3	Whether and how each of the resource classes in the summation were adjusted for risk.	Per Current ASX LR Ch 5.	TRA Prospective Resources estimates do not adjust for risk.
5.25.6	Mandatory disclosure of whether the deterministic or probabilistic method was used to prepare the estimates.	As per Current ASX LR Ch 5	TRA Prospective Resources estimates are derived by the probabilistic method and grounded by deterministic project definition commensurate with the maturity of the project for the 1U, 2U and 3U estimates.
5.25.7	Mandatory disclosure of conversion factors for reporting of estimates in BOE's.	As per Current ASX LR Ch 5 plus reporting in the appropriate units for each individual product type reported.	TRA Prospective Resources estimates are by product.
5.26.4	Reserves not reported net of lease fuel up to the reference point, must disclose the portion that will be consumed as fuel in production and lease plant operations.	Reserves must be reported as quantities available for sale at the reference point. Quantities of petroleum consumed in operations (CiO) may be included as petroleum reserves provided these quantities are reported separately. Implied is that CiO may be included in Contingent Resources and Prospective Resources.	TRA Prospective Resources estimates in this Report are based on a Reference Point at the wellhead due to the immaturity of project and variety of marketing opportunities for the naturally occurring hydrogen that would require different estimates of CiO and therefore do not deduct any quantity for flare, vent and CiO. It is proposed that, as the project matures at subsequent Effective Dates, the Reference Point(s) will be refined and flare, vent and CiO would be excluded from all recoverable resources estimates evaluated commensurate with the maturity of the project (as recommended by SPE-PRMS 2018 3.2.0.2 and 3.2.2).
5.26.5	Mandatory disclosure of reference point for estimating reserves.	As per Current ASX LR Ch 5.	TRA Prospective Resources are based on a Reference Point at the Wellhead at this time (see 5.26.4).
5.26.6 5.27.2 5.28.3	Disclosure of a mean estimate of petroleum reserves (5.26.6) and contingent resources (5.27.2) are prohibited.	As per Current ASX LR Ch 5 plus the mean for prospective resources is also prohibited.	TRA Prospective Resources do not include the mean.

LR Section	Current ASX LR Ch 5	Public Consultation	TRA Report
5.28.1	Prospective Resources must comprise (in SPE-PRMS 2018 terms), 1U, 2U or 3U, and 3U must not be reported without the 1U and 2U.	As per Current ASX LR Ch 5.	TRA Prospective Resources low, best and high estimates are unrisked and are 1U, 2U and 3U for each area, referred to in this report P90, P50, P10.
5.28.4	-	Where reported prospective resources represent aggregated estimates of prospective resources, the method of aggregation must be disclosed and must be either: (i) arithmetic summation by category (that is, "low estimate", "best estimate" or "high estimate"; or (ii) statistical aggregation of uncertainty distributions up to the field, property or project level.	TRA Prospective Resources are per (i) in the Public Consultation.
5.28.5	-	If (i) is used in 5.28.4, then the entity must include a note in the report cautioning that the aggregate low estimate may be a very conservative estimate and the aggregate high estimate may be a very optimistic estimate due to the portfolio effects of arithmetic summation.	TRA Prospective Resources are per (i) and have the required cautioning note.
Requirements applicable to reporting prospective resources for material oil and gas projects			
5.35	Entity must include all of the following information in a market announcement.		
5.35.1	Types of permits and licences.	As per Current ASX LR Ch 5.	TRA Prospective Resources estimates include such information.
5.35.2	Brief description of: (i) the basis on which the prospective resources are estimated, and (ii) any further exploration activities, including studies, further data acquisition and evaluation work, and exploration drilling to be undertaken and the expected timing of those exploration activities.	As per Current ASX LR Ch 5.	Such descriptions are provided in various Sections and Appendices of the Report.

LR Section	Current ASX LR Ch 5	Public Consultation	TRA Report
5.35.3	The entity's assessment of the chance of discovery (Pg) and the chance of development (Pd) associated with the reported estimates of prospective resources.	As per Current ASX LR Ch 5.	TRA Prospective Resources for each area have an associated Pg and Pd. This is explained in the appropriate appendices.
5.35.4	If risked estimates of prospective resources are reported, an explanation of how the estimates were adjusted for risk.	As per Current ASX LR Ch 5.	TRA Prospective Resources are unrisked.
5.36	The first time an entity publicly reports estimates of prospective resources in relation to a material oil and gas project that have materially changed from previous, the entity must include all the following information.	As per Current ASX LR Ch 5.	TRA Report: Not applicable at this time.
5.36.1	An explanation of the new data and information	As per Current ASX LR Ch 5.	TRA Report: Not applicable at this time.
5.36.2	An explanation of how the new data and information has affected the estimates of the prospective resources.	As per Current ASX LR Ch 5.	TRA Report: Not applicable at this time.
5.36.3	Any changes or additions to the information provided under rules 5.35.1 to 5.35.4.	As per Current ASX LR Ch 5.	TRA Report: Not applicable at this time.

APPENDIX B

PROBABILISTIC ESTIMATES OF PROSPECTIVE RESOURCES AND GEOLOGICAL RISKING

Appendix B – Probabilistic Estimates of Prospective Resources and Geological Risking, Pg

METHODOLOGY OF RESOURCE ESTIMATION

Hydrogen gas behaves in the same way as hydrocarbon gas. Because of this, the application of hydrocarbon (or petroleum) industry methodologies, used in the evaluation of hydrocarbon projects, are appropriately applied and utilised for the evaluation of a hydrogen project.

Prospective Resources are those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from undiscovered accumulations (Society of Petroleum Engineers).

In the interests of transparency for all stakeholders and best practice reporting, this Report utilises SPE-PRMS project maturity sub-classes to classify the maturity of the Prospective Resources presented and, upon successful discovery and meeting the requirements for Contingent Resources, the maturity of the project(s) and their respective Contingent Resources. At the Effective Date of this Report, the Prospective Resources meet the requirements of the "Play" sub-class as shown in the flowchart in Figure A2 in Appendix A.

The volumes of Prospective Resources of a reservoir or prospect are usually estimated probabilistically rather than deterministically, as the concept of probability distributions is an integral part of petroleum exploration risk analysis. The methodology involves combining various parameters – such as porosity, net pay and area – by multiplication, with each parameter considered as a random variable (RV) which can have more than one value. A probability distribution is then used to graphically illustrate the range and likelihood of all possible outcomes of a RV. The most common distributions used in petroleum exploration risk analysis are the Normal and Lognormal distributions, with Lognormal being predominant.

Probabilistic estimates can be made using several different methods depending upon the input parameters available or relevant to the opportunity being evaluated, such as the Gross Interval, Net pay and Gross Rock Volume methods. In this report the Gross Interval method has been used.

Input parameters required to calculate the probabilistic distribution using the Gross Interval method are:

- Porosity - the pore space within the reservoir filled with hydrogen
- Sh - saturation of hydrogen within the pore space
  - any reservoir usually contains water even though it may be residual; in drilling for hydrogen water saturation (Sw) as a percentage is usually interpreted from wireline logs, with the Sh calculated as (1-Sw)

- 1/Bg - Formation Volume Factor – the relationship between gas volumes under reservoir conditions to the produced volume at the surface
- Gross interval - the whole interval encompassed by the reservoir; not all of the interval is necessarily producible
- Connected gas - the percentage of the gross reservoir interval that is suitable to produce a contained fluid or gas
- Pool area - the possible geographical areas that may contain the accumulation
  - this is usually the primary parameter that affects an estimate of volumes for an accumulation
- Sales recovery factor - the amount of hydrogen, that may be recovered from the reservoir

Two different estimates are used as inputs for each parameter to calculate the probabilistic range, usually for the P90 and P10 of the distribution. The range for each parameter is then multiplied together to provide an estimate of potentially recoverable volumes, "clipped" at P99 and P1 for geological reasoning; "geologically", it is virtually impossible to observe a commercial success larger than P1 or a technical/geological success smaller than P99. The resulting distribution is termed the "Untruncated Distribution", whose percentiles must be re-calculated to correctly represent the inner 98% of the entire distribution as 100%. The estimates are for the "full distribution", meaning that they are not an economically truncated portion of the full distribution, although such truncation is expected to be minimal since market opportunities that are scalable such that even relatively small quantities may find a market.

The estimates provided in this report are unrisked.

GEOLOGICAL RISKING

Once the range of resources has been estimated the chance of success, or probability of finding hydrogen, must be assessed, firstly at the play level and then for individual prospects:

- Play level:
  - Play level risking is referred to as Ppl
  - A three-factor system is used, assessing the probability of
    - Trap – Ptr; the likelihood of a trap existing within the play, capturing issues of containment (top/bottom/lateral/fault seal) and trap definition,
    - Reservoir – Prs; presence of a reservoir interval within the play suitable for containing gas or fluid that may be producible, and
    - Charge – Pch; presence of a source rock within the play under suitable conditions to generate and expel hydrogen.
  - Ppl = Ptr x Prs x Pch

- Numbers estimated for each risk factor are displayed as a decimal fraction of 1.0, between 0 and 1, where 0 is no chance at all, and 1.0 means the factor is proven
    - Eg, 75% likelihood of a suitable reservoir occurring in a play would be indicated as 0.75
- In a proven basin with production there is no play risk as all factors have been demonstrated, so Ppl = 1.0

- Prospect level:
    - Prospect risk, Pg
    - For an individual prospect the assessment of risk uses a four-factor system:
        - Closure – Pcl; presence of a definable closure at the prospect, whether structural, stratigraphic or unconventional,
        - Reservoir – Prs; presence of a reservoir interval within the prospect suitable for containing gas or fluid that may be producible
        - Seal – Psl; presence of a sealing interval over the prospect to contain gas or fluid within the reservoir, preventing escape, and
        - Charge – Pch; likelihood of migration of gas or fluid into the prospect.
    - Pg = Pcl x Prs x Psh x Pch

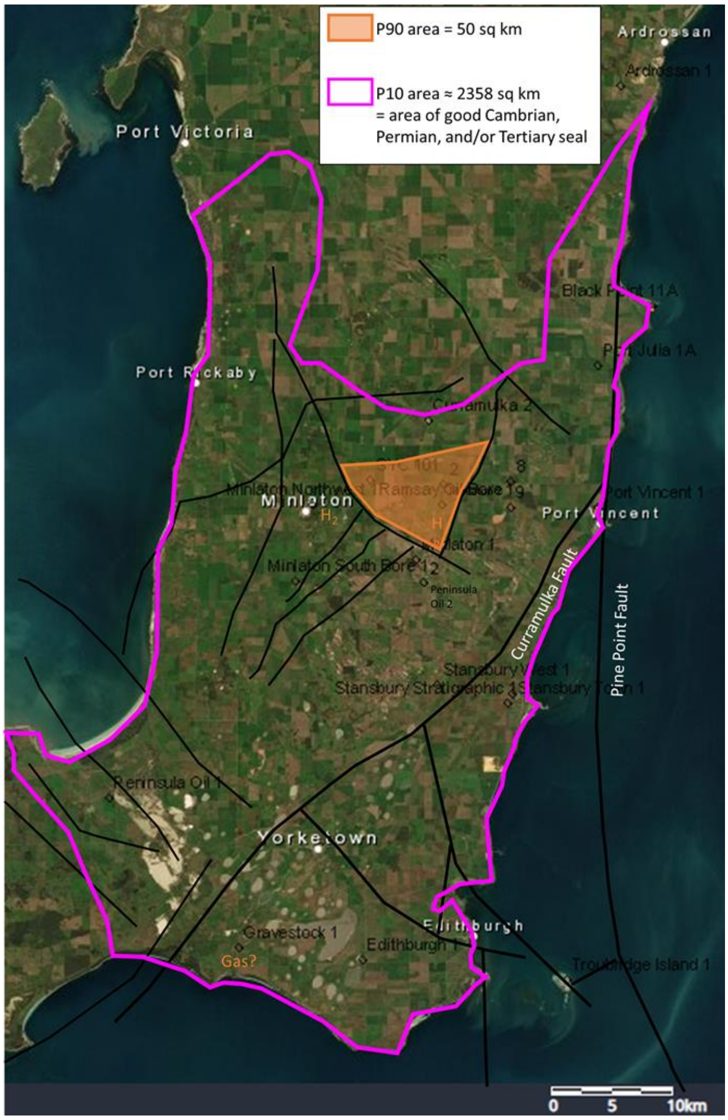
    - Numbers estimated for each risk factor are displayed as a decimal fraction of 1.0, between 0 and 1, where 0 is no chance at all, and 1.0 means the factor is proven
    - The estimate of Pcl indicates the assessed chance of getting on to the probabilistic estimate assessed for the pool area. That is, the pool area of any discovery made would be at least the size of the P99 areal extent of the distribution
    - The estimate of Prs indicates the assessed chance of the reservoir's parameters of the reservoir – porosity, hydrogen saturation and net pay—would meet the P99 of each of the individual distributions
- Total chance of success = Ppl x Pg

INPUTS, RESULTS AND GEOLOGICAL RISKING FOR EACH PROSPECT AND LEAD

RAMSAY PROSPECT FRACTURED BASEMENT

INPUTS

Input Parameters		Input Statistics		Reasoning
	Units	P90	P10	
Porosity	%100	0.01	0.03	Range around estimate of 2%
Sh	%100	0.8	0.9	Approximate estimate
1/Bg		67	67	Calculated at the estimated P50 depth of the prospect, 750m
Gross Interval	Metres	50	150	Reasonable range based on hydrogen production from fractured Basement
Connected Gas	%100	0.6	0.8	Variability and connectivity of fracture network
Pool Area	Sqr km	50	2358	P90=fault block around Ramsay Oil Bore P10=area of good Cambrian, Permian, and /or Tertiary seal
Raw Recovery Factor	%100	0.6	0.8	General range for recovery from gas reservoirs



Areas applied for the probabilistic estimate of Prospective Resources for the Fractured Basement in the Ramsay Prospect, Yorke Peninsula

RAMSAY PROSPECT FRACTURED BASEMENT RESULTS

Input Parameters		Input Statistics		Calculated Lognormal Distribution		
Output Parameters	**Units**	**P90**	**P10**	**P90**	**P50**	**P10**
Porosity	% 100	0.01	0.03	0.01	0.02	0.03
Sh	% 100	0.8	0.9	0.8	0.85	0.9
1/Bg		67	67	67.00	67.00	67.00
OGIP Yield	mcm/km-sqd-m			566.7	984.7	1710.9
Gross Interval	Metres	50	150	50.0	86.6	150.0
Connected Gas	% 100	0.6	0.8	0.60	0.69	0.80
Average Net Pay	Metres			34.0	60.0	105.9
Pool Area	Sqr km	50	2358	50.0	343.4	2358.0
Net Rock Volume	km-sqd-m			2764	20602	153559
OGIP	bcf			**89.2**	**716.4**	**5753.4**
Raw Recovery Factor	% 100	0.6	0.8	0.6	0.7	0.8
Raw Gas Yield	mcm/km-sqd-m			385	682	1207
Untruncated Rec Raw Gas	bcf			**66.1**	**496.3**	**3726.8**
Prospective Resources Products				**P90**	**P50**	**P10**
H_2	kTonnes			**124**	**931**	**6989**

The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

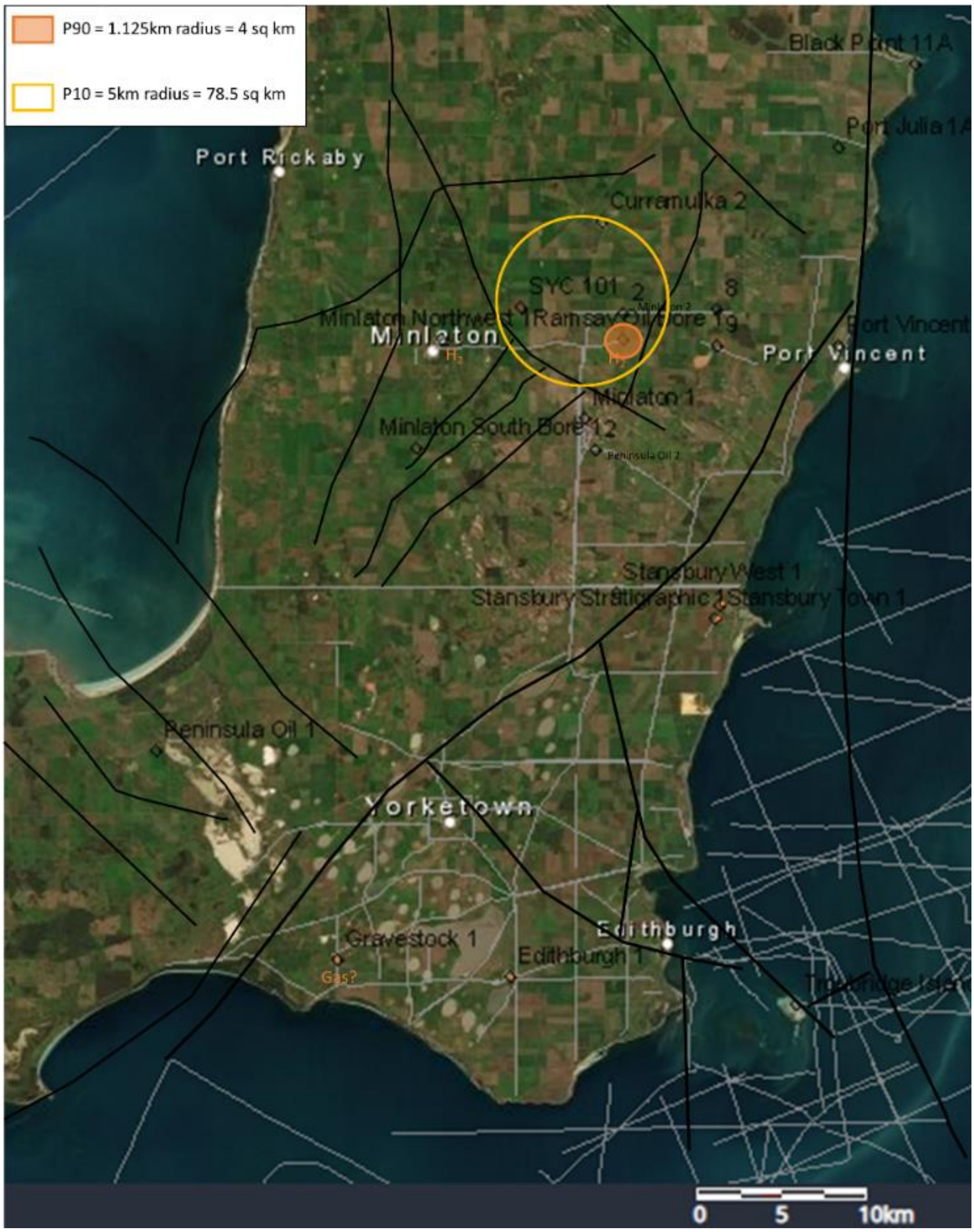
GEOLOGICAL RISKING, Pg

	Risk	Play (Ppl)	
Fractured Basement Play	Ptrap	0.9	Cambrian/Permian/Tertiary seals present over most areas. Traps likely given presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Prs	0.9	Presence of H2 in quartz-mica-schists and phyllites in American Beach Oil 1. Fracture system in Basement is likely but needs to be demonstrated.
	Pch	0.9	Good Basement granite source rocks occur over much of the area. Presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Ppl =	0.729	
Ramsay Prospect		Geological (Pg)	
	Pcl	0.5	A suitable closure may or may not occur
	Prs	0.7	Fractured Basement likely to occur but uncertainty of producibility of reservoir
	Psl	0.95	Presence of suitable Cambrian, Permian and/or Tertiary seals
	Pch	0.9	Hiltaba Suite granites interpreted to be source of H_2 in Cambrian limestone in Ramsay Oil Bore, so likely to occur in Fractured Basement below
	Pg =	0.299	
	Overall risk =	**0.218**	

RAMSAY PROSPECT CAMBRIAN LIMESTONE

INPUTS

Input Parameters		Input Statistics		Reasoning
	Units	P90	P10	
Porosity	%100	0.15	0.27	Porosity range in dolomitic sandstone in Gravestock 1
Sh	%100	0.5	0.75	0.4=pay cut-off used in petrophysical analysis of dolomitic sandstone in Gravestock 1 0.5=cut off for conventional gas pay 0.65=maximum gas saturation in dolomitic sandstone in Gravestock 1 0.7=reasonable upside saturation
1/Bg		53	53	Calculated at the estimated P50 depth of the prospect, 600m
Gross Interval	Metres	8	100	P90=log gas interval in dolomitic sandstone in Gravestock 1 P10=sum of potential reservoir intervals in Gravestock 1
Connected Gas	%100	0.375	0.7	P90=N:G of dolomitic sandstone in Gravestock 1 P10=reasonable upside estimate
Pool Area	Sqr km	4	80	P90=a reasonable lowside area around Ramsay Oil Bore P10=approximate area of Ramsay Oil Bore fault block BUT Depth to top Basement suggests there may not be much structure for an accumulation to develop. And there is little seismic in the area. NB P99 on the distribution=1 sq km.
Raw Recovery Factor	%100	0.6	0.8	General range for recovery from gas reservoirs



Areas applied for the probabilistic estimate of Prospective Resources for the Cambrian Limestone in the Ramsay Prospect, Yorke Peninsula

RAMSAY PROSPECT CAMBRIAN LIMESTONE RESULTS

Input Parameters		Input Statistics		Calculated Lognormal Distribution		
Output Parameters	**Units**	**P90**	**P10**	**P90**	**P50**	**P10**
Porosity	% 100	0.15	0.27	0.15	0.20	0.27
Sh	% 100	0.5	0.75	0.5	0.61	0.75
1/Bg		53	53	53.00	53.00	53.00
OGIP Yield	mcm/km-sqd-m			4570.5	6531.6	9334.2
Gross Interval	Metres	8	100	8.0	28.3	100.0
Connected Gas	% 100	0.375	0.7	0.38	0.51	0.70
Average Net Pay	Metres			3.6	13.0	47.9
Pool Area	Sqr km	4	80	4.0	17.9	80.0
Net Rock Volume	km-sqd-m			32	233	1696
OGIP	bcf			**7.2**	**53.8**	**404.0**
Raw Recovery Factor	% 100	0.6	0.8	0.6	0.7	0.8
Raw Gas Yield	mcm/km-sqd-m			3079	4525	6650
Untruncated Rec Raw Gas	bcf			**5.3**	**37.3**	**262.3**
Prospective Resources Products				**P90**	**P50**	**P10**
H_2	kTonnes			**10**	**70**	**492**

The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

GEOLOGICAL RISKING, Pg

	Risk	Play (Ppl)	
Cambrian Limestone Play	Ptrap	0.9	Presence of H_2 in Ramsay Oil Bore and gas in Gravestock 1
	Prs	0.9	Presence of H_2 in Cambrian limestone in Ramsay Oil Bore and gas in dolomitic sandstone in Gravestock 1
	Pch	0.9	Presence of H_2 in Cambrian limestone in Ramsay Oil Bore. Gas in Gravestock 1 may be H_2.
	Ppl =	0.729	
Ramsay Prospect		Geological (Pg)	
	Pcl	0.5	A conventional closure may occur due to presence of gas in Ramsay Oil Bore but difficult to define due to lack of seismic data
	Prs	0.8	Good quality dolomitic sandstone in Gravestock 1 from petrophysics. Uncertainty of quality of Cambrian limestone in Ramsay Oil Bore.
	Psl	0.95	Presence of suitable Cambrian and Permian seals
	Pch	0.95	H_2 in Cambrian limestone in Ramsay Oil Bore
	Pg =	0.361	
	Overall risk =	**0.263**	

MAITLAND LEAD FRACTURED BASEMENT

INPUTS

Input Parameters		Input Statistics		Reasoning
	Units	P90	P10	
Porosity	%100	0.01	0.03	Range around estimate of 2%
Sh	%100	0.8	0.9	Approximate estimate
1/Bg		9	9	Calculated at the estimated P50 depth of the prospect, 75m
Gross Interval	Metres	50	150	Reasonable range based on hydrogen production from fractured Basement
Connected Gas	%100	0.6	0.8	Variability and connectivity of fracture network
Pool Area	Sqr km	25	200	P90=area of best seal for Fractured Basement - Permian on Cambrian P10=Cambrian seal within Maitland fault block Total Cambrian seal area = 442 sq km
Raw Recovery Factor	%100	0.6	0.8	General range for recovery from gas reservoirs

Areas applied for the probabilistic estimate of Prospective Resources for the Fractured Basement in the Maitland Lead, Yorke Peninsula

MAITLAND LEAD FRACTURED BASEMENT RESULTS

Input Parameters		Input Statistics		Calculated Lognormal Distribution		
Output Parameters	**Units**	**P90**	**P10**	**P90**	**P50**	**P10**
Porosity	% 100	0.01	0.03	0.01	0.02	0.03
Sh	% 100	0.8	0.9	0.8	0.85	0.9
1/Bg		9	9	9.00	9.00	9.00
OGIP Yield	mcm/km-sqd-m			76.1	132.3	229.8
Gross Interval	Metres	50	150	50.0	86.6	150.0
Connected Gas	% 100	0.6	0.8	0.60	0.69	0.80
Average Net Pay	Metres			34.0	60.0	105.9
Pool Area	Sqr km	25	200	25.0	70.7	200.0
Net Rock Volume	km-sqd-m			1298	4243	13872
OGIP	bcf			**5.4**	**19.8**	**73.2**
Raw Recovery Factor	% 100	0.6	0.8	0.6	0.7	0.8
Raw Gas Yield	mcm/km-sqd-m			52	92	162
Untruncated Rec Raw Gas	bcf			**3.9**	**13.7**	**48.9**
Prospective Resources Products				**P90**	**P50**	**P10**
H_2	kTonnes			**7**	**26**	**92**

The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

GEOLOGICAL RISKING, Pg

	Risk	Play (Ppl)	
Fractured Basement Play	Ptrap	0.9	Cambrian/Pemian/Tertiary seals present over most areas. Traps likely given presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Prs	0.9	Presence of H2 in quartz-mica-schists and phyllites in American Beach Oil 1. Fracture system in Basement is likely but needs to be demonstrated.
	Pch	0.9	Good Basement granite source rocks occur over much of the area. Presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Ppl =	0.729	
Ramsay Prospect	Geological (Pg)		
	Pcl	0.5	A suitable closure may or may not occur
	Prs	0.7	Fractured Basement likely to occur but uncertainty of producibility of reservoir
	Psl	0.75	Only a relatively small area covered by reasonable seal
	Pch	0.9	Hiltaba Suite granites below prospect, interpreted to be source of H_2 in Cambrian limestone in Ramsay Oil Bore
	Pg =	0.236	
Overall risk =		**0.172**	

NAVIGATOR LEAD FRACTURED BASEMENT

INPUTS

Input Parameters		Input Statistics		Reasoning
	Units	P90	P10	
Porosity	%100	0.01	0.03	Range around estimate of 2%
Sh	%100	0.8	0.9	Approximate estimate
1/Bg		43	43	Calculated at the estimated P50 depth of the prospect, 450m (Investigator 1)
Gross Interval	Metres	50	150	Reasonable range based on hydrogen production from fractured Basement
Connected Gas	%100	0.6	0.8	Variability and connectivity of fracture network
Pool Area	Sqr km	25	350	P90=arbitrary 5km x 5km square within the area of cambrian seal P10=area of Quaternary/Tertiary seal for Kanmantoo Group metasediments NB Area of Kanmantoo Group within PEL 687 (2640 sq km) = P5 of the probabilistic distribution using the P90 and P10 inputs.
Raw Recovery Factor	%100	0.6	0.8	General range for recovery from gas reservoirs

Areas applied for the probabilistic estimate of Prospective Resources for the Fractured Basement in the Navigator Lead, Kangaroo Island

NAVIGATOR LEAD FRACTURED BASEMENT RESULTS

Input Parameters		Input Statistics		Calculated Lognormal Distribution		
Output Parameters	**Units**	**P90**	**P10**	**P90**	**P50**	**P10**
Porosity	% 100	0.01	0.03	0.01	0.02	0.03
Sh	% 100	0.8	0.9	0.8	0.85	0.9
1/Bg		43	43	43.00	43.00	43.00
OGIP Yield	mcm/km-sqd-m			363.7	632.0	1098.1
Gross Interval	Metres	50	150	50.0	86.6	150.0
Connected Gas	% 100	0.6	0.8	0.60	0.69	0.80
Average Net Pay	Metres			34.0	60.0	105.9
Pool Area	Sqr km	25	350	25.0	93.5	350.0
Net Rock Volume	km-sqd-m			1334	5612	23606
OGIP	bcf			**26.9**	**125.3**	**583.7**
Raw Recovery Factor	% 100	0.6	0.8	0.6	0.7	0.8
Sales Gas Yield	mcm/km-sqd-m			247	438	775
Untruncated Rec Gas	bcf			**19.5**	**86.8**	**386.0**
Prospective Resources Products				**P90**	**P50**	**P10**
H_2	kTonnes			**34**	**152**	**678**

The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

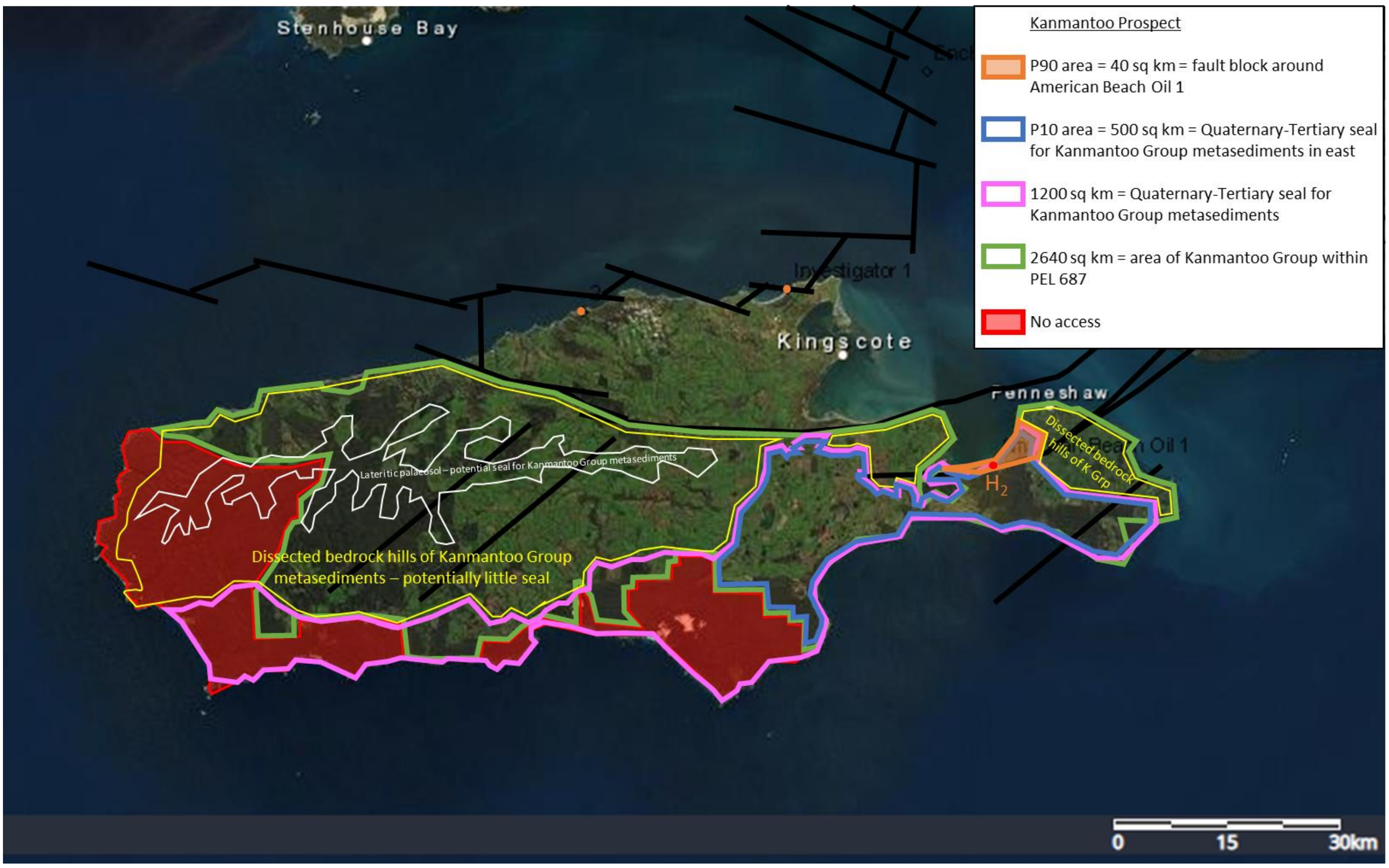
GEOLOGICAL RISKING, Pg

	Risk	Play (Ppl)	
Fractured Basement Play	Ptrap	0.9	Cambrian/Permian/Tertiary seals present over most areas. Traps likely given presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Prs	0.9	Presence of H2 in quartz-mica-schists and phyllites in American Beach Oil 1. Fracture system in Basement is likely but needs to be demonstrated.
	Pch	0.9	Good Basement granite source rocks occur over much of the area. Presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Ppl =	0.729	
Navigator Prospect		Geological (Pg)	
	Pcl	0.5	A suitable closure may or may not occur
	Prs	0.7	Fractured Basement likely to occur but uncertainty of producibility of reservoir
	Psl	0.95	Cambrian seals present in Investigator 1
	Pch	0.8	Donington Suite gneissic granitoids consitute Basement - likely good H_2 source rock
	Pg =	0.266	
	Overall risk =	**0.194**	

KANMANTOO PROSPECT FRACTURED METASEDIMENTS

INPUTS

Input Parameters	Units	Input Statistics P90	P10	Reasoning
Porosity	%100	0.01	0.03	Range around estimate of 2%
Sh	%100	0.8	0.9	Approximate estimate
1/Bg		25	25	Calculated at the estimated P50 depth of the prospect, 250m
Gross Interval	Metres	50	150	Reasonable range based on hydrogen production from fractured Basement
Connected Gas	%100	0.6	0.8	Variability and connectivity of fracture network
Pool Area	Sqr km	40	500	P90=fault block around American Beach Oil 1 P10=area of Quaternary/Tertiary seal for Kanmantoo Group metasediments over eastern side of island NB Area of Kanmantoo Group within PEL 687 (2640 sq km) does not fall on the probabilistic distribution
Raw Recovery Factor	%100	0.6	0.8	General range for recovery from gas reservoirs



Areas applied for the probabilistic estimate of Prospective Resources for the Fractured Basement in the Kanmantoo Prospect, Kangaroo Island

KANMANTOO PROSPECT FRACTURED METASEDIMENTS RESULTS

Input Parameters		Input Statistics		Calculated Lognormal Distribution		
Output Parameters	**Units**	**P90**	**P10**	**P90**	**P50**	**P10**
Porosity	% 100	0.01	0.03	0.01	0.02	0.03
Sh	% 100	0.8	0.9	0.8	0.85	0.9
1/Bg		25	25	25.00	25.00	25.00
OGIP Yield	mcm/km-sqd-m			211.5	367.4	638.4
Gross Interval	Metres	50	150	50.0	86.6	150.0
Connected Gas	% 100	0.6	0.8	0.60	0.69	0.80
Average Net Pay	Metres			34.0	60.0	105.9
Pool Area	Sqr km	40	500	40.0	141.4	500.0
Net Rock Volume	km-sqd-m			**2125**	**8485**	**33885**
OGIP	bcf			**24.8**	**110.1**	**488.9**
Raw Recovery Factor	% 100	0.6	0.8	0.6	0.7	0.8
Sales Gas Yield	mcm/km-sqd-m			144	255	451
Untruncated Rec Gas	bcf			**18.0**	**76.3**	**323.9**

Prospective Resources Products				**P90**	**P50**	**P10**
H_2	kTonnes			**32**	**134**	**569**

The estimated quantities of natural hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable natural hydrogen.

GEOLOGICAL RISKING, Pg

	Risk	Play (Ppl)	
Fractured Basement Play	Ptrap	0.9	Cambrian/Permian/Tertiary seals present over most areas. Traps likely given presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Prs	0.9	Presence of H2 in quartz-mica-schists and phyllites in American Beach Oil 1. Fracture system in Basement is likely but needs to be demonstrated.
	Pch	0.9	Good Basement granite source rocks occur over much of the area. Presence of H_2 in Ramsay Oil Bore and American Beach Oil 1.
	Ppl =	0.729	
		Geological (Pg)	
Kanmantoo Prospect	Pcl	0.5	A suitable closure may or may not occur
	Prs	0.75	Gas in Kanmantoo Group quartz-mica-schists and phyllites in American Beach Oil 1 but uncertainty of producibility of reservoir
	Psl	0.95	Presence of Permo-Carboniferous seals in American Beach Oil 1
	Pch	0.95	H_2 presence in Kanmantoo Gp reservoir in American Beach Oil 1
	Pg =	0.338	
Overall risk =		**0.247**	

APPENDIX C

TECHNICAL DATA ASSUMPTIONS

Appendix C – Technical Data Assumptions

Compositions

The compositions for each prospect were derived from the Pre-Cambrian samples from American Beach Oil 1 and Cambrian samples from Ramsay Oil Bore 1 as shown in Table C1. Only 1 composition for each prospect was used for all calculations and estimates due to the overall consistency of data. The only viable source of the gas is from the Pre-Cambrian due to the Iron content and conditions for hydrogen to be produced. The calculations for air correction were checked and found acceptable.

Table C1: Compositions used to derive compositions for each prospect

Location	American Beach Borehole		Ramsay Borehole		
Depth (m)	187.4	289.5	240.8	262.1	507.8
Sample Composition					
CO2 (%)	5.3	0.5	0.2	0.8	0
O2 (%)	4.3	3.6	0	2.4	1.2
C2 (%)	0.5	0.0	0	0	0
CO (%)	0	0.0	0	0	0
H2 (%)	**51.3**	**68.6**	**76**	**64.4**	**84**
CH4 (%)	2.6	4.7	7.5	7	0
N2 (%) by difference	36	22.6	16.3	25.4	14.8
Air Corrected Values					
CO2 (%)	6.8	0.6	0.2	0.9	0
H2 (%)	**65.6**	**83.3**	**76**	**73.1**	**89.3**
CH4 (%)	3.3	5.7	7.5	7.9	0
N2 (%)	24.3	10.4	16.3	18.1	10.7

Table 1 – Shallow discovered natural hydrogen & associated gas compositions, Yorke Peninsula and Kangaroo, Island, SA

Bulletin No. 22, Department of Mines, Geological Survey of South Australia, The Search for Oil in South Australia, by L. Keith Ward, Consultant Geologist, reported the following, Page(s) 14 and 15 (20)

These samples provide the primary evidence of predominantly Hydrogen gas being reservoired in the prospects. The air corrected compositions were averaged to derive compositions for each borehole as shown in Table C2.

Table C2: Averaged air corrected gas compositions in American Beach and Ramsay boreholes

	American Beach Boreholes			Ramsay Boreholes			
	187.4	**289.5**		**240.8**	**262.1**	**507.8**	
CO2	5.3	0.5		0.2	0.8	0	
O2	4.3	3.6		0	2.4	1.2	
C2	0.5	0		0	0	0	
H2	51.3	68.6		76	64.4	84	
CH4	2.6	4.7		7.5	7	0	
N2	36	22.6		16.3	25.4	14.8	
	100	100		100	100	100	
Air correction:			Average				Average
CH4	3.3%	5.7%	4.5%	7.5%	7.9%	0.0%	5.1%
H2	65.6%	83.3%	74.5%	76.0%	73.1%	89.3%	79.5%
CO2	6.8%	0.6%	3.7%	0.2%	0.9%	0.0%	0.4%
N2	24.3%	10.4%	17.4%	16.3%	18.1%	10.7%	15.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The Ramsay compositions were used for the FB and Cambrian Limestone in the Ramsay Prospect and the FB in the Maitland Lead; and the American Beach compositions were used for the Kanmantoo Prospect and the Navigator Lead. Hence the composition of each prospect is shown in Table C3.

Table C3 Gas compositions for each hydrogen prospect

	Fractured Basement				**Cambrian Lst**
Air corrected:	**Ramsay**	**Maitland**	**Kanmantoo**	**Navigator**	**Ramsay**
CH4	5.1%	5.1%	4.5%	4.5%	5.1%
H2	**79.5%**	**79.5%**	**74.5%**	**74.5%**	**79.5%**
CO2	0.367%	0.4%	3.7%	3.7%	0.367%
N2	15.0%	15.0%	17.4%	17.4%	15.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Datum Depth, Pressure and Temperature

The OGIP (Original Gas in Place) is estimated at conditions derived for the P50 of what might be discovered for each prospect.

Datum Depth (m) = estimated depth to top reservoir P50 area + 50m thickness for the Pre-Cambrian

Pressure at Datum (psia) = 14.7 psi + 0.45 psi/ft x Datum Depth

No pressure data is available so the reservoir is assumed conservatively to be normally pressured. The actual pressures may be higher than this if the size of the reservoir is over a wide depth range and well connected, or is over-pressured due to the geological history. These potential upsides are not taken account of in the OGIP estimates. Care needs to be taken when drilling to ensure upside pressures can be handled safely.

Temperature at Datum (deg F) = 50 deg F + 77 deg F/km

No temperature data is available so a typical equation to estimate temperature at depth is used.

Z factor (compressibility) and 1/Bg

These are calculated based on the above data. It is notable that the Z factors are slightly above 1 due to the presence of Hydrogen and the reservoir conditions calculated; typically, Z for gas is less than 1. Also, for other than Ramsay in particular, the 1/Bg's are relatively low due to the shallow depths. This means that the volume and well flow potential in the shallow prospects or shallow areas of the deeper prospects may be a challenge to achieve acceptable economics.

Only the calculation sheet for Ramsay FB is presented here in Table C4.

Table C4: Ramsay FB Z factor (compressibility) and 1/Bg

RAMSAY AND KANMANTOO HYDROGEN FIELDS

Location	American Beach Borehole		Ramsay Borehole		
Depth (m)	187.4	289.5	240.8	262.1	507.8
Sample Composition					
CO2 (%)	5.3	0.5	0.2	0.8	0
O2 (%)	4.3	3.6	0	2.4	1.2
C2 (%)	0.5	0.0	0	0	0
CO (%)	0	0.0	0	0	0
H2 (%)	**51.3**	**68.6**	**76**	**64.4**	**84**
CH4 (%)	2.6	4.7	7.5	7	0
N2 (%) by difference	36	22.6	16.3	25.4	14.8
Air Corrected Values					
CO2 (%)	6.8	0.6	0.2	0.9	0
H2 (%)	**65.6**	**83.3**	**76**	**73.1**	**89.3**
CH4 (%)	3.3	5.7	7.5	7.9	0
N2 (%)	24.3	10.4	16.3	18.1	10.7

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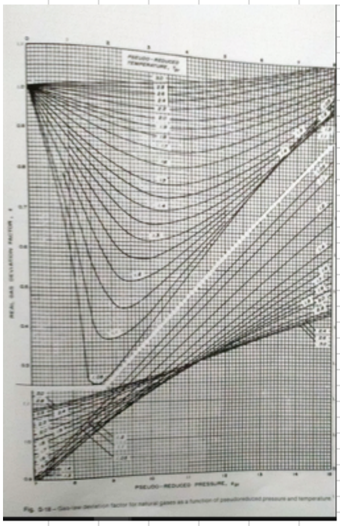

Ramsay		**750**	**m**	**1/Bg**	**67.2**	**SCF/cu ft**				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)			
Component	Mole Fraction	Mol Wt	Pc	Tc	(2)x(3)	(2)x(4)	(2)x(5)			
CH4	0.05	16.04	673.1	343.2	0.8	34.6	17.6			
H2	0.79	2.106	189.0	59.8	1.7	150.2	47.5			
CO2	0.00	44.01	1070.2	547.5	0.2	3.9	2.0			
N2	0.15	28.02	492.2	227.0	4.2	74.0	34.1			
	1				6.9	262.7	101.3			
Specific Gravity		6.8707	=	**0.24**						
		28.97								
Pseudo Critical Pressure		263								
Pseudo Critical Temperature		101								
Depth		750	m							
	3.281	2461	ft					Ppr = P/Ppc		4.2718
Pressure	14.7+(0.45*depth)	1122	psia							
Temperature	50 + 77deg F/km	108	deg F	=	568	deg R		Tpr = Tdeg R/Tpc		5.6062
Bg	PscZT									
	TscP									
Psc	14.7	psia								
Tsc	60	deg F								
Bg	0.0283	zT	cu ft/SCF							
		P								
z	1.04							z	1.04	Well Testing, Lee Fig D-18
Bg	0.01488	cu ft/SCF							0.0149	
1/Bg	**67.2**	**SCF/cu ft**							**67.2**	

Product Yields

The heating value and product yields for each prospect are based on the data presented in Table C6.

Table C6: Heating Values and Product Yields

		BTU/scf	kJ/scf
Heating Value	CH4	1000	1055
	H2	300	317
		kg/scf	
Weight	CO2	0.05188	
	N2	0.03286	
	H2	0.00236	
	CH4	0.01569	

The product yields from each scf (standard cubic ft) of raw production are based on a Reference Point at the well head/edge of lease. This means that there is no reduction in the yields due to any losses (such as flare or vent) or fuel (such as used for any compression or other processing) that may be required to achieve the specifications of a customer. This simplification is assumed reasonable because of the maturity of the project and the multiple avenues to market including 3rd party operators that specialise in operations downstream of the wellhead.

APPENDIX D

DEVELOPMENT CONCEPTS

Appendix D – Development Concepts

Development Concepts

Four development concepts have been used to illustrate the types of development that may be applicable to developing the prospects in the event of discovery and maturation to reserves. The four concepts are illustrated in Figure D1.

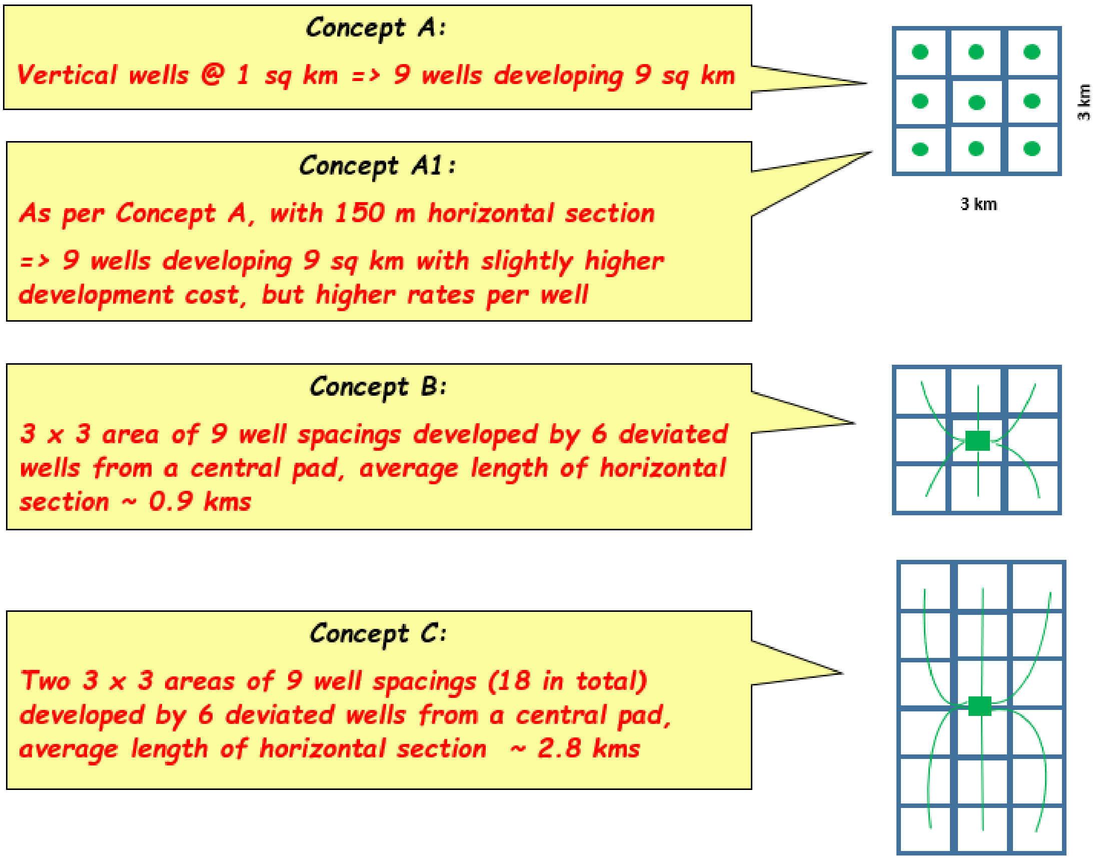

Figure D1 – Development Concepts

The completions are assumed to be open hole through the FB and that there is no wellbore collapse or water encroachment issues to deal with. This is especially important for Development Concepts B and C.

APPENDIX E

LAND USE DEVELOPMENT CONSTRAINTS

Appendix E – Land Use and Development Constraints

Summary

The development constraints determined for each of the prospects are summarised in Table E1 and taken into account in the estimation of Pd, Chance of Development presented in Appendix F.

Table E1: Guide to Development Risks

Prospect	Location	Risk for development*	Comment*
Ramsay (FB and Lst)	Lower central Yorke Peninsula	**“Medium”** Predominantly 2, some 4, no 3 or 1	No guarantee to be developable and high due diligence and requirements will need to be met.
Maitland	Northern west Yorke Peninsula	”	
Navigator	Northern central Kangaroo Island	**“High”** Predominantly 3, some 4, no 2 or 1	Higher due diligence and requirements will need to be met however it should not be construed that development would not be approved, though it will be difficult.
Kanmantoo	Southern central Kangaroo Island	“	

*This assessment is based on the Constraints Layering contained within the South Australia’s Hydrogen Export Modelling Tool (the “Tool”). This data is a guide only for development associated with Hydrogen export from renewable sources, however it is considered reasonable to use it in the context of the exploration and development activities Gold Hydrogen are planning to undertake.

The disclaimer for the Tool specifically cautions that:

1. Do not construe that a project within a “low risk” part of the layer is guaranteed to be developable, and
2. Similarly, do not construe a project within a “high risk” part of the layer is undevelopable.

In addition, it was clarified (informally via a phone conversation to a SA Govt officer) that even some “No Go” areas could be developable. It was explained that essentially the layering provides a guide to the level of due diligence and requirements that will need to be met to get approvals for whatever activity is planned**. So, this means not all of an area may be “No Go”.** The National Parks themselves would be “No Go”, however accessing under them from deviated wells likely would be permissible as long as the requirements for the actual pad drilling site were met.

This means that Gold Hydrogen will have to be proactive in ensuring that they understand all the legislation relating to their activities and the local and broader community expectations to be given approval to undertake them. TRA understanding is that Gold Hydrogen are well aware of their responsibilities and are engaging with appropriate groups to address the associated technical and social issues.

The results of this assessment and the Gold Hydrogen response are taken account in the estimates of Pd, Chance of Development, for each prospect. (Refer Appendix F).

Introduction

PEL 687 and all the prospects and leads are located in the “agricultural area of South Australia” and therefore the land use is intensive compared to the northern part of the state, such as where the operations around Moomba are located. To gauge the level of “development constraints” on any exploration and development activities undertaken by Gold Hydrogen, South Australia’s Hydrogen Modelling Tool (the Tool) “consolidated constraints” layering data has been used. It is understood that the constraint layers were conceived specifically for the SA Governments Hydrogen Strategy, however they should provide guidance in relation to activities in Gold Hydrogen’s prospects.

Within the Tool the result of the Constraints Layering is shown with a grey grading scale as shown in Figure E1.

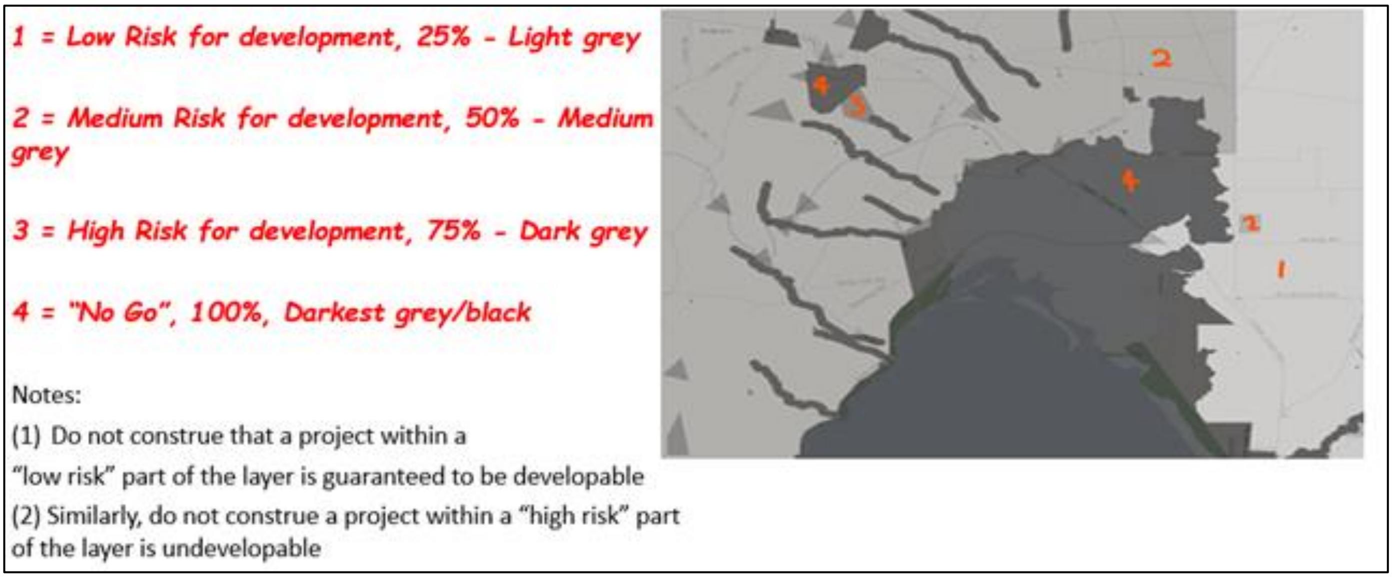

Figure E1: Constraints Layering – Scaling risk for development

To provide context for ***all*** data presented in the Tool, the disclaimer from the Tool shown in Figure E2 is noted.

Disclaimer

The information displayed within South Australia's Hydrogen Export Modelling Tool (the Tool) is for general guidance and indicative purposes only, and is not intended to provide any specific commercial, financial or legal advice to any organisation.

In particular, the Tool contains certain estimates and projections. These estimates and projections were prepared based on certain generic assumptions and on information available at the time the Tool was prepared. As such, by using the Tool you acknowledge that:

(1) the assumptions have not considered your specific circumstances; and

(2) facts and circumstances are likely to have changed since the Tool was prepared, and further information may have become available, which could materially impact the reasonableness of the estimates and projections. Therefore, actual results could vary materially from the estimates and projections, and no guarantee or assurance can be given that any estimate or projection will be achieved.

You must exercise your own independent skill, care and judgment with respect to how you use the Tool, and should seek tailored professional advice relevant to your specific circumstances prior to any decision.

In that context, the Government of South Australia and its advisors ("We") make no representations or warranties regarding the accuracy or completeness of any outputs from the Tool. As noted above, the Tool is for general guidance and indicative purposes only. We disclaim all responsibility and all liability (including without limitation, liability in negligence, for errors or omissions) for all expenses, loss, damage and costs which you might incur as a result of the information displayed on the Tool and your use of it. We do not have any responsibility to inform users of the Tool of any matter arising or coming to our notice which may affect any matter referred to in this Tool (including but not limited to any error or omission which may become apparent after this Tool has been published).

For the avoidance of any doubt, the Tool must not be used for navigation or precise spatial analysis.

Figure E2: Overall "Disclaimer" for the Hydrogen Export Tool

Additional information about the Tool "Consolidated Constraints" layering is shown in Figure E3.

- Description
- This consolidated constraints layer has been compiled using a wide range of spatial datasets, including the following:
  - National Park, State Forest, other Reserves, Wetland, Murray River Protection Area, Vegetation Protection Agreement areas
  - Marine Reserves, Dolphin Sanctuary, Marine Park Zoning, freshwater bodies
  - Military Zones
  - Agricultural census data by local government area
  - DPTI planning zones
  - Landcover vegetation types, Threatened Ecological Community mapping • Resources leases and tenements
  - **For each spatial dataset, different areas have been assigned (through informed judgment), as either "no-go", "high-risk", "medium-risk" or "low-risk" for development.** The consolidated constraint layer then represents the maximum level of constraint (amongst these four options) for any given area. **This layer should be treated as indicative only**, reflecting the possible level of challenges likely in navigating a path to an approvable development.
  - **It should not be construed that a project concept is guaranteed to be developable if its spatial footprint is assigned "low risk" in this layer; similarly, it should not be construed that a project concept is un-developable if its spatial footprint has been assigned "high risk" in this layer.**
- Data Custodian
  - South Australian Hydrogen Export Project

Figure E3: Information about the Tool "Consolidated Constraints" layering

Constraints Layers for each Prospect and Lead

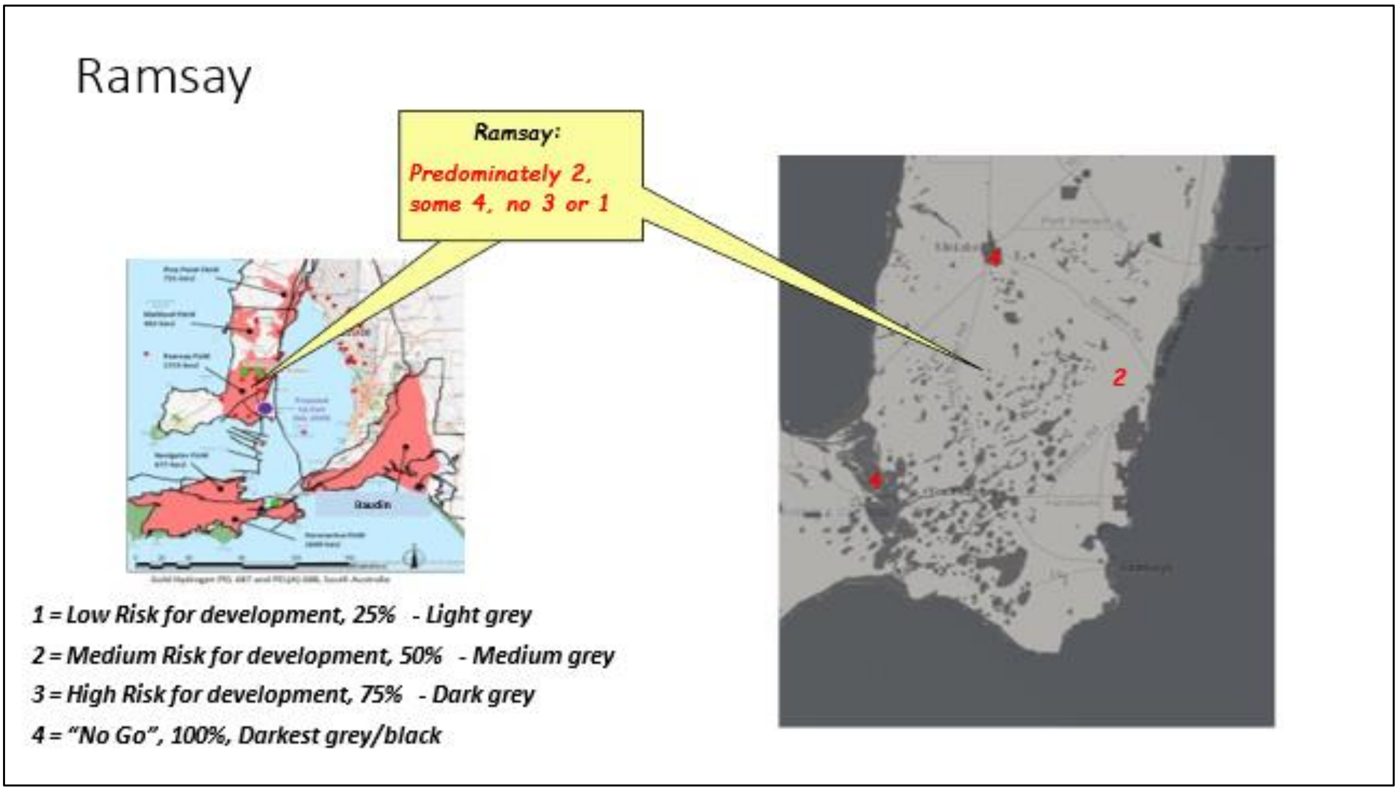

Figure E4: Ramsay Prospect Development Constraints Layering

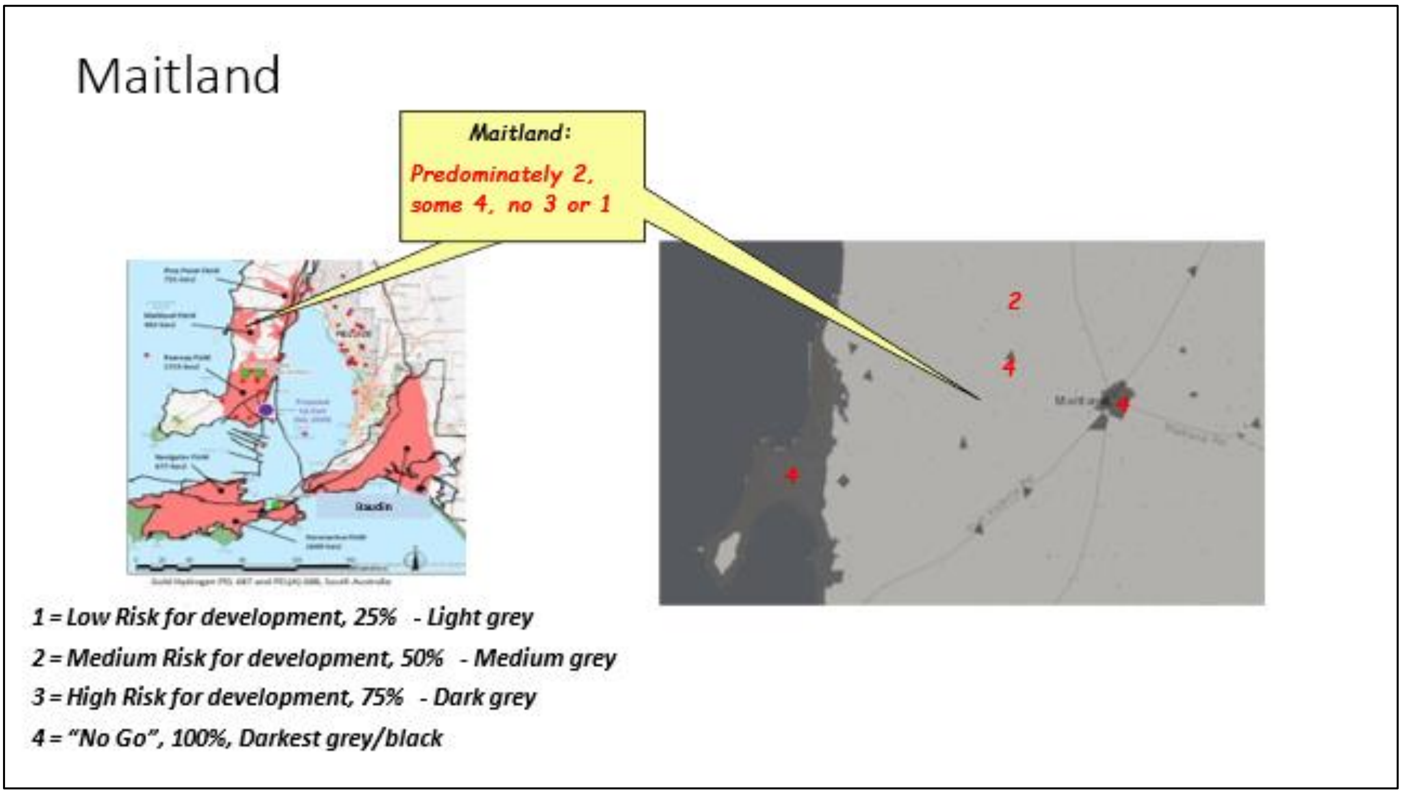

Figure E5: Maitland Lead Development Constraints Layering

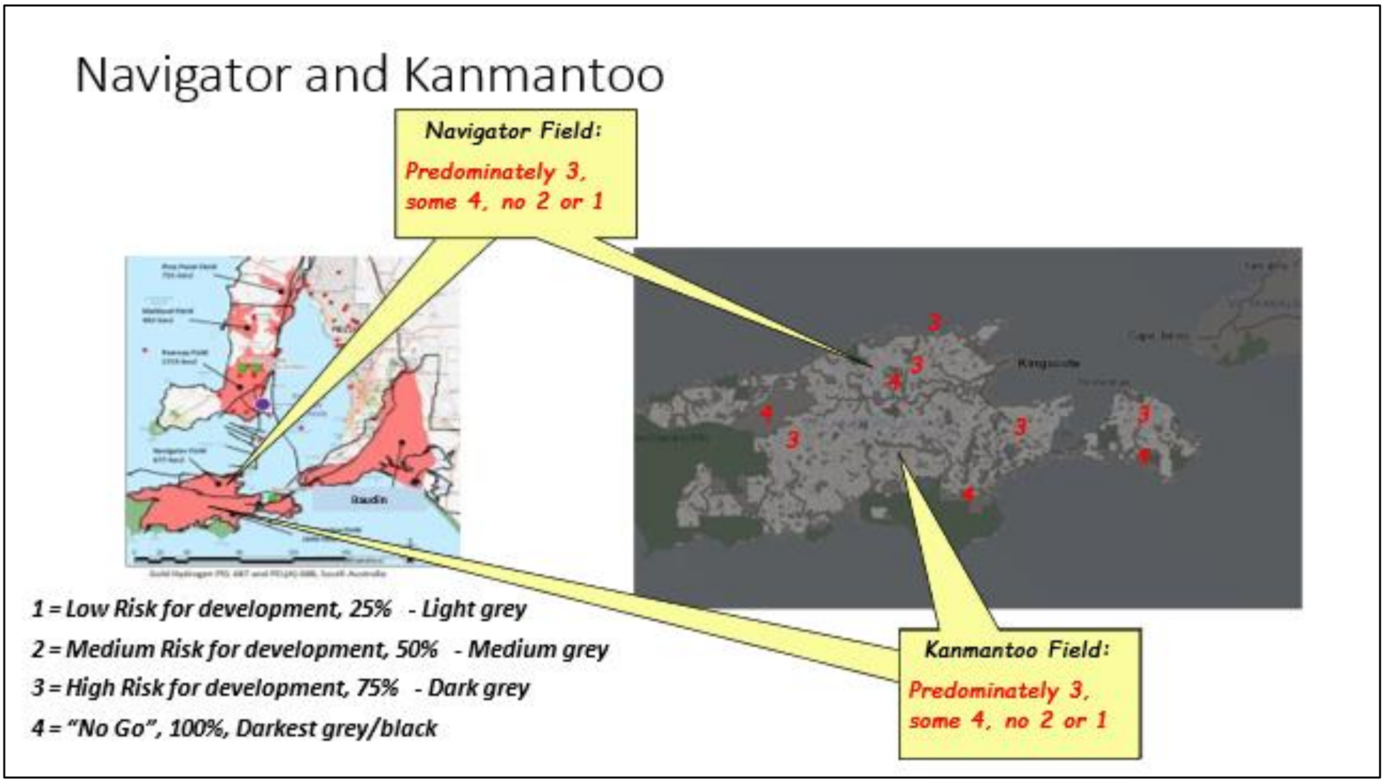

Figure E7: Navigator Lead and Kanmantoo Prospect Development Constraints Layering

Other relevant information in relation to development

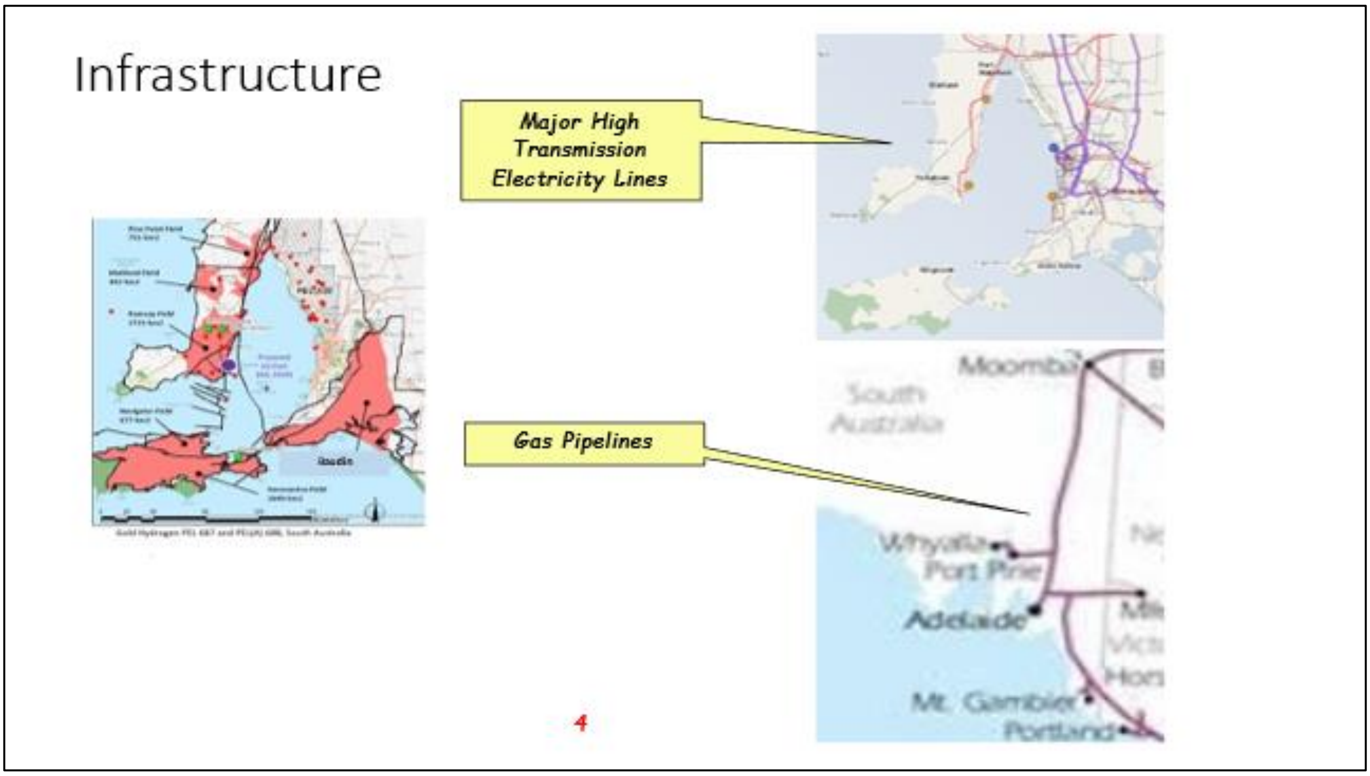

Figure E9: SA High Voltage Transmission Lines and Gas Pipelines

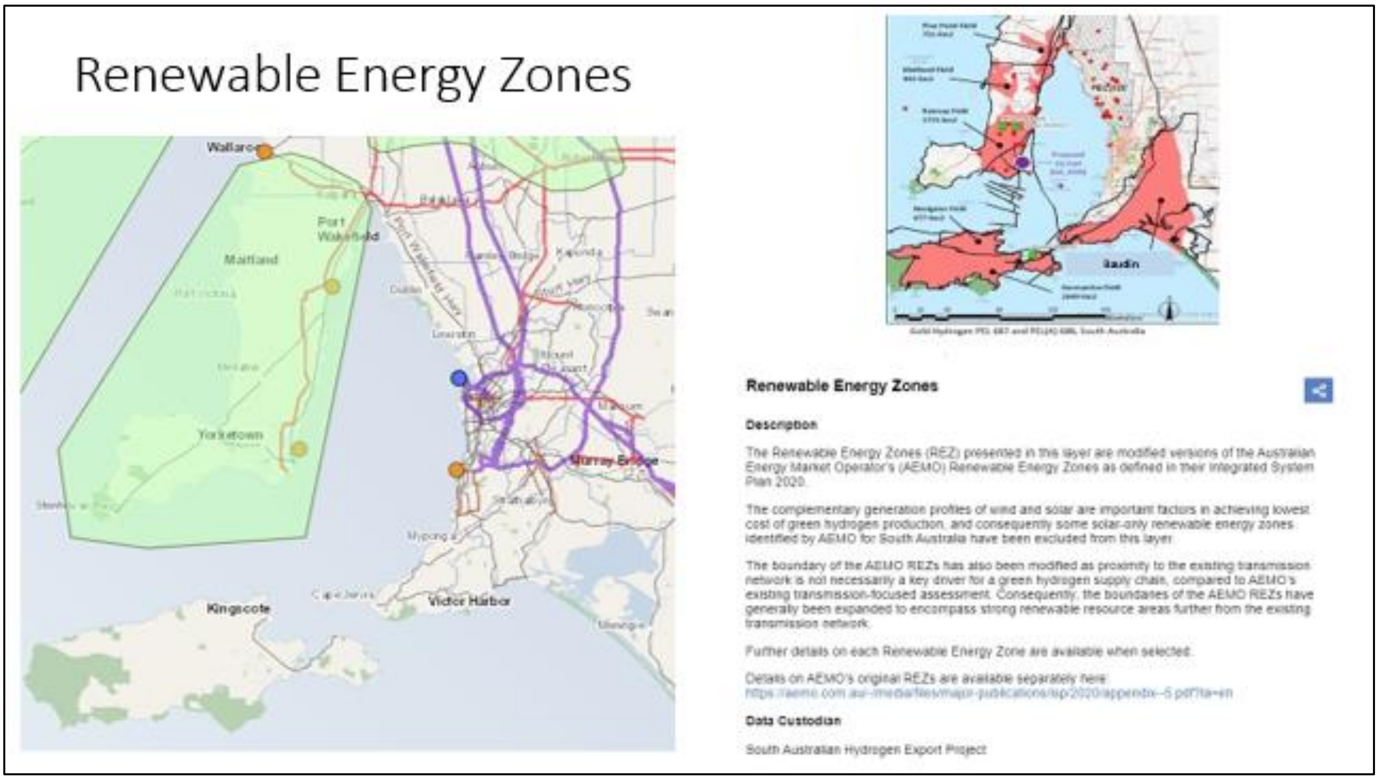

Figure E10: Renewal Energy Zones

APPENDIX F

DEVELOPMENT RISKS, Chance of development

Appendix F – Development Risks, Pd, Chance of Development

Summary

The Pd, Chance of Development, and sub-class of each prospect and lead at the date of this Report is shown in Table F1.

Table F1: Pd, Chance of Development at the date of this Report

Prospect	Pd	*SPE-PRMS Subclass	Comment
Ramsay FB	**50%**	**PRs: Prospect**	Main issues reflected in Pd are technical in relation to well construction and addressing H2 issues, plus some infrastructure, transport and external issues, though they are considered less of an issue than for the other prospects. Refer Appendix A, D and E.
Ramsay Lst	**50%**	**PRs: Prospect**	
Maitland	**35%**	**PRs: Lead**	Maitland is in a similar situation across all commerciality criteria to Ramsay FB except economics due to the higher development costs/kg as a result of it's relatively shallow depth.
Kanmantoo	**40%**	**PRs: Prospect**	Kanmantoo and Navigator have more development constraint risks than Ramsay, less infrastructure and marketing options and higher development costs due to being shallower. In addition, being on an island may increase development costs/kg further than currently reflected in the estimates.
Navigator	**40%**	**PRs: Lead**	

***The PR sub-class assigned includes consideration of Pg, Chance of Geologic Discovery and Pd**

Introduction

With reference to Appendix A of this Report, a key element of presenting recoverable resources estimates in any class or sub-class in accordance with the SPE-PRMS, is the "Chance of Commerciality" Pc, which comprises multiplication of Pg, Chance of geologic discovery Development, with Pd, Chance of Development; i.e. Pc = Pg x Pd. The ASX LRs Ch 5 require both Pg and Pd to be presented with all Prospective Resources estimates (refer 5.35.3). The definitions of these in SPE-PRMS are in Table F2.

Table F2: SPE-PRMS Definitions of Pc, Pg, Pd

Chance of Commerciality, Pc	The estimated probability that the project will achieve commercial maturity to be developed. For Prospective Resources, this is the product of the chance of geologic discovery and the chance of development. For Contingent Resources and Reserves, it is equal to the chance of development.
Chance of Development, Pd	The estimated probability that a known accumulation, once discovered, will be commercially developed.
Chance of Geologic Discovery, Pg	The estimated probability that exploration activities will confirm the existence of a significant accumulation of potentially recoverable petroleum.

Methods for determining Pg are well known and typically it is determined by the multiplication of geologically-oriented criteria such as Reservoir, Closure, Charge and Seal as well as a consideration of any "play" risk. The main assumptions behind the methods are that they typically are independent variables and cannot be changed or influenced.

Methods for determining Pd are not well known or established and often focus mainly on the chance of being economic. This may be suitable when all other commerciality criteria have been addressed, but in new areas or in established areas contemplating new technology, for example, Pd needs to take account of the maturity of all commerciality criteria. This is what is presented in this Report.

Notably, the assumptions underpinning methods for determining Pg typically do not apply for Pd since the commercially oriented criteria typically are not independent and can be influenced by each other and stakeholders. For example, if a project has very robust economics, other barriers, especially external requirements can be overcome, but not always.

Pd refers to the chance of "commercial" development and thus determining Pd in the method used here is based on the chance of each the commerciality criteria presented in SPE-PRMS 2.1.2.1 A-G being achieved for the project.

These criteria are presented in Table F3.

Table F3: SPE-PRMS Commerciality Criteria

Abbreviation:	Commerciality Criteria: SPE-PRMS 2.1.2.1 A-G
Technical	Evidence of a technically mature, feasible development plan.
Financial	Evidence of financial appropriations either being in place or having a high likelihood of being secured to implement the project.
Timeframe	Evidence to support a reasonable time-frame for development.
Economics	A reasonable assessment that the development projects will have positive economics and meet defined investment and operating criteria. This assessment is performed on the estimated entitlement forecast quantities and associated cash flow on which the investment decision is made (see Section 3.1.1, Net Cash-Flow Evaluation).
Market	A reasonable expectation that there will be a market for forecast sales quantities of the production required to justify development. There should also be similar confidence that all produced streams (e.g., oil, gas, water, CO2) can be sold, stored, re-injected, or otherwise appropriately disposed.
Infrastructure	Evidence that the necessary production and transportation facilities are available or can be made available.
External	Evidence that legal, contractual, environmental, regulatory, and government approvals are in place or will be forthcoming, together with resolving any social and economic concerns.

Furthermore, Pd is determined in the context of the P50 case of a project and so for Prospective Resources in particular where the project scope and range of estimates from low to high may be large, upon discovery and redefinition of the project(s), this may result in different Pd's for projects within Contingent Resources and these may be higher or lower than originally contemplated.

Methodology

For reserves to be achieved for a project these criteria (Table F3) must be met. As a project matures within the SPE-PRMS framework to reserves, the maturity status of each criteria improves, and as it improves, typically, the chance of it moving to sufficient maturity for reserves to be considered also improves.

In this method the results are derived for each criterion from a matrix form as shown in Figure F1 for Method 2. (Note two methods have been considered by the SPE PRMS Examples Sub-Committee; Method 1 Quality x Evidence and Method 2 Maturity x Chance.) The ranges are at the discretion of the Entity or evaluator and are guides only.

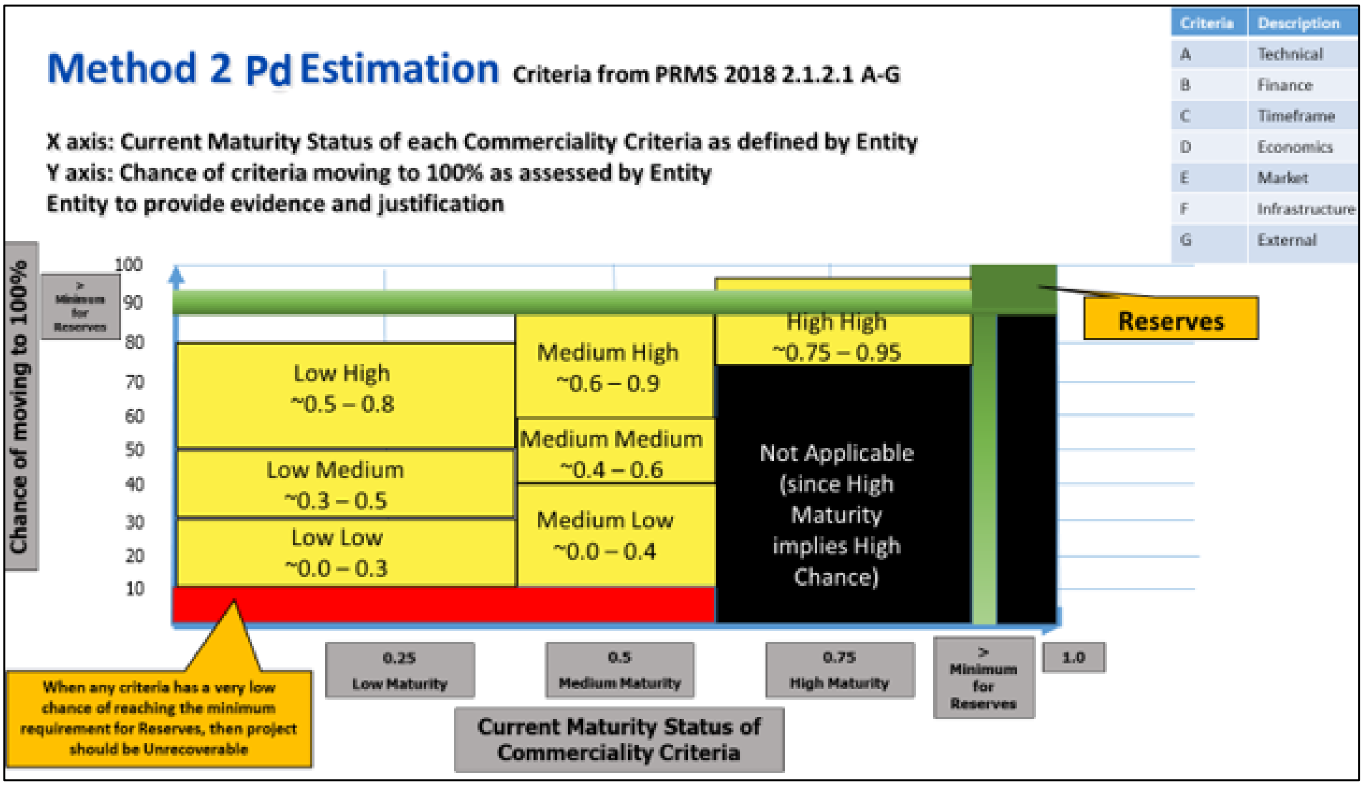

Figure F1: Matrix for Pd Estimation – Maturity x Chance

X axis

The X axis reflects the Current Maturity Status. If the project was in a mature area such as the Cooper Basin in South Australia using Established Technology for the Project, the maturity status of most if not all of the commerciality criteria would be medium to high even for Prospective Resources.

If the project is in a new area such as covered by PEL 687 granted to Gold Hydrogen, the maturity status on X axis typically will be low to medium.

Y axis

The Y axis reflects the chance of a commerciality criteria moving to that required for reserves to be considered.

Similar to the X axis, if the project was in the Cooper Basin using Established Technology for the Project, the chance of moving to reserves requirements would be medium to high even if the actual maturity of the project is low (as in the case for Prospective Resources).

If the project is in a new area such as covered by PEL 687 granted to Gold Hydrogen, and if the technology applied is not Established Technology for the Project, the chance typically will be lower generally, and especially lower in relation to the Technical criterion. So, for Gold Hydrogen, the Technical criterion will be lower due to the proposed well construction using high angle and extended reach wells to lower the surface foot print and enhance well productivity by intersecting the fracture network, and, dealing with hydrogen effects on well construction, production, processing and transportation of the produced gas.

As noted below, there are global, national and state initiatives to assist commercialising hydrogen and these are taken into account favourably in estimating Pd. Gold Hydrogen are being presented to on the how they can be helped on the upstream and downstream issues by Schlumberger imminently.

Considerations for the X axis and Y axis for each commerciality criterion (Tables F4 and F5)

There are many judgements to be considered in assessing where each criterion is positioned in the matrix. The ones used as a start point in this Report for Method 2 are presented in Table F4 for the X-axis and Table F5 for the Y-axis.

In addition to these general considerations, allowance has been made in the placements into the matrix for the world-wide effort to commercialise hydrogen technology and use as an alternate fuel to fossil fuels. This is supported by the Australian and SA Govt Hydrogen strategies. These strategies are designed to overcome any technology gap, market, infrastructure and external issues in particular (refer Appendix A).

Table F4: X Axis: Considerations for estimating current maturity level
Entity to provide evidence (1 of 2)

Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
Technical	Sub-surface PIIP issues Technology(s) applied to achieve production Maturity of development plan	Significant technical contingencies to be resolved to enable development. E.g. basic data acquisition to prove concept incomplete, major subsurface uncertainties remaining, development reliant on a successful technology under development process	Work program and approved budget in place to overcome significant technical contingencies to development. I.e. acquisition of future appraisal data, to reduce major subsurface uncertainties, proof of new technology via the likes of pilot plans/research programs (ie technology under development process)	Work program and approved budget in place to overcome minor technical contingencies to development. I.e. acquisition of future appraisal data/studies	No significant technical barriers to development, all basic data acquired to prove concept, no major subsurface uncertainties remaining, development based on established technology. Development plan, including number and type of wells and associated infrastructure, sufficiently mature for financial appropriation and to initiate implementation. Any part of the project that is dependent on acquisition of future appraisal data/studies is to be considered a separate project
Finance	Financing issues	Significant financial appropriation issues to be resolved	Financial appropriation negotations underway	No financiial appropriation barriers foreseen with negotiations to date	Financial appropriations in place for entity and JV
Timeframe	Capability Alignment of JV Commitment of Entity and JV partners	Capability questionable and misaligned JV with no firm plans in place for current stage of development	Capability issues being addressed and somewhat aligned JV with some plans in place, however no approved WP&B for current stage of development	Capability issues largely resolved and mostly aligned JV with some plans in place and short term WP&B for current stage of development, however some long term development uncertainty	JV has demonstrated capability to implement within a reasonable timeframe, aligned JV with firm plans in place and approved WP&B for current stage of development with long term development alignment

Table F4: X Axis: Considerations for estimating current maturity level
Entity to provide evidence (2 of 2)

Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
Economics	Economics Meeting defined investment and operating criteria	No development plan identified that proves economically robust across all any sensitivities - under reasonable economic assumptions	Base case development plan economically robust across upside sensitivities outcomes - under reasonable economic assumptions ie in this situation only the High Estimate is economically robust	Base case development plan economically robust across most likely and upside sensitivities - under reasonable economic assumptions ie in this situation the Best and High Estimates are economically robust	Base case development plan economically robust across all sensitivities per the entity's defined investment and operating criteria - under reasonable economic assumptions ie in this situation the Low, Best and High Estimates are economically robust and across all defined investment and operating criteria
Market	Market Disposal of all produced streams	Potential customers unkown or no gap in market and limited disposal options identified for other produced streams	Potential customers identified and disposal options for other produced streams maturing	Market demand exists, potential customrs high graded as well as disposal options for other produced streams	Known customers with sufficient demand profile, HoA in place for gas projects or track record of securing sales. (Most often oil projects = 1) And appropriate disposal of all other produced streams secured
Infrastructure	Production facilities Transportation facilties	No infrastructure in place	Missing infrastructure identified and included in development plans or third party infrastructure potentially available	Infrastructure in place and ullage potentially available	Infrastructure in place and ullage availablity confirmed
External	External approvals	Significant opposition to development by regulator/community/NGO's/etc with little or no mitigation plans in place	Opposition to development by regulator/community/NGO's/etc with proposed mitigation plans in place	Approvals likely (stable regulatory environment) or some opposition however expected to be manageable	Approvals expected with minmal/no opposition to development

Table F5: Considerations for estimating Chance of moving to 100%
Entity to provide evidence

	A. Technical	B. Finance	C. Timeframe	D. Economics (see comment below)	E. Market	F. Infrastructure	G. External
HIGH	▪Clear path to commerciality ▪No foreseen subsurface issues ▪Established Technology ▪Routine project FDP	▪Clear path to securing finance ▪Large size of Entity cf size of project ▪High maturity status of other commerciality criteria	▪Requisite staff and other resourcing confirmed ▪Evidence of aligned plans and approved budgets with JV ▪Evidence of development being intitiated in less than 5 years	▪Numerous realistic and viable options to improve economics as appropriate ▪Track record of acheiving such improvments	▪Known customers ▪Sufficient demand profile ▪HoA in place for gas or track record for sales ▪Most often oil projects =1 ▪Evidence of ability to appropriately dispose of all other produced streams	▪Positive, documented evidence of access to production facilities with required capacity and transportation facilities with required ullage available ▪Documented plan for new production facilities	▪Track record of required approvals for similar projects and community support
MEDIUM	▪Some technical issues to be addressed with some doubt on timely resolution	▪Challenging path to securing finance ▪Medium size of project cf size of Entity ▪Medium maturity status of other commerciality criteria	▪Multiple options to address staff and other resourcing being assessed ▪Evidence of some alignment of plans and budgets with JV ▪Evidence of possibility to initiate development in less than 5 years	▪Possibly some realistic and viable options are or may be identified	▪Potential customers ▪Sufficient demand profile ▪Some evidence of likely ability to appropriately dispose of all other produced streams	▪Some documentation of options	▪Mixed track record of required approvals for similar projects and community support ▪New to area technology
LOW	▪Significant technical issues to be addressed with low expectation of resolution in foreseeable future	▪Limited financing options ▪Large size of project cf size of Entity ▪Low maturity status of other commerciality criteria	▪No evidence of competency of staff and other resourcing ▪No or limited evidence of alignment of plans and budgets with JV ▪No evidence of initiating development in less than 5 years	▪Limited options to improve economics	▪Potential customers unknown or no gap in market ▪No evidence of ability to appropriately dispose of all other produced streams	▪ Limited opportunities to address production and transportation facility short comings	▪Clear negative response on approvals sought and lack of community support

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Combining the assessments of each criterion

As explained in the Introduction, the multiplicative approach used for Pg is unlikely to be appropriate for Pd.

Hence for Pd, 5 approaches for combining the assessments of each commerciality criteria are examined.

These are:

1. Equal Weighting approach
2. Weighted Average approach
3. Minimum Chance approach
4. Multiplication approach
5. Combination approach

Which approach is most appropriate is subjective and not a “strict statistically correct application”. Considerations include:

(i) Generally, if there is strong dependency or “ability for one (such as economics) to influence the rest” an “Average” or “Weight Average” approach will suffice.

(ii) If there is one criterion that is a show stopper (such as regulatory approval, or market) and the others are similar and relatively high, the Minimum Chance approach would probably be better.

(iii) If per (ii), but others are relatively lower, a Combination Approach would probably be better.

(iv) If a number of criteria are really independent, a Multiplicative Approach would be better. This would be rare.

In the methodology applied here, the results of all approaches are considered as well as their appropriateness, and a Pd selected.

Methodology applied to Ramsay FB Prospect in full and benchmarked for the other prospects

In this Report, a detailed assessment for Pd is made for Ramsay Field and then adjusted for all other prospects and leads using Ramsay FB as a benchmark. Each criterion is addressed in turn with its own matrix. Notably the material and discussion in Appendix A, E and F are taken account of in the assessments for the X and Y axes.

Table F6: Assessment of Technical maturity for Ramsay FB

Considerations for estimating chance of moving to 100%
Entity to provide evidence

A. Technical

HIGH

- Clear path to commerciality
- No foreseen subsurface issues
- Established Technology
- Routine project FDP

MEDIUM

- Some technical issues to be addressed with some doubt on timely resolution

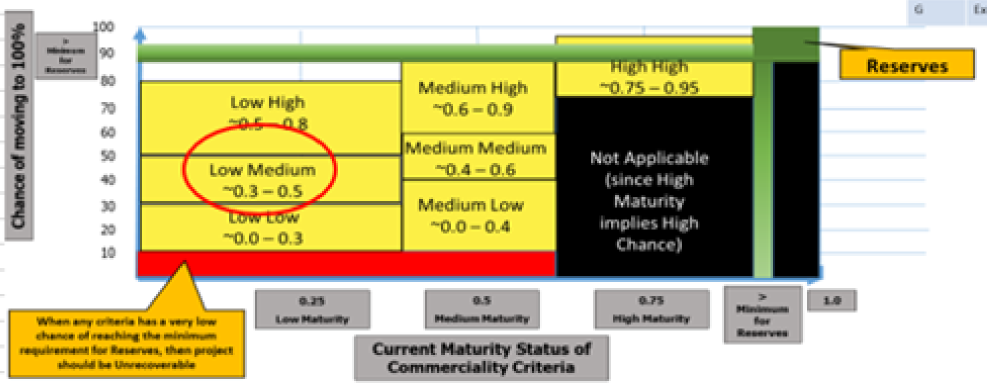
LOW

- Significant technical issues to be addressed with low expectation of resolution in foreseeable future

Method 2 Pd Estimation Criteria from PRMS 2018 2.1.2.1 A-G

X axis: Current Maturity Status of each Commerciality Criteria as defined by Entity
Y axis: Chance of criteria moving to 100% as assessed by Entity
Entity to provide evidence and justification

Criteria	Description
A	Technical
B	Finance
C	Timeframe
D	Economics
E	Market
F	Infrastructure
G	External



Ramsey Field

Base field to which others are benchmarked

For input into Pd calculation:

Low	0.4
High	0.6

For plotting results:

X axis	0.25
Y axis	0.5

PRMS 2018 2.1.2 Commerciality Criteria requirements	Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
A. Evidence of a technically mature, feasible development plan	Technical	Sub-surface PIIP issues Technology(s) applied to achieve production Maturity of development plan	Significant technical contingencies to be resolved to enable development. E.g. basic data acquisition to prove concept incomplete, major subsurface uncertainties remaining, development reliant on a successful technology under development process	Work program and approved budget in place to overcome significant technical contingencies to development. I.e. acquisition of future appraisal data, to reduce major subsurface uncertainties, proof of new technology via the likes of pilot plans/research programs (ie technology under development process)	Work program and approved budget in place to overcome minor technical contingencies to development. I.e. acquisition of future appraisal data/studies	No significant technical barriers to development, all basic data acquired to prove concept, no major subsurface uncertainties remaining, development based on established technology. Development plan, including number and type of wells and associated infrastructure, sufficiently mature for financial appropriation and to initiate implementation. Any part of the project that is dependent on acquisition of future appraisal data/studies is to be considered a separate project

Table F7: Assessment of Finance maturity for Ramsay FB

Considerations for estimating chance of moving to 100%
Entity to provide evidence

B. Finance

HIGH

- Clear path to securing finance
- Large size of Entity cf size of project
- High maturity status of other commerciality criteria

MEDIUM

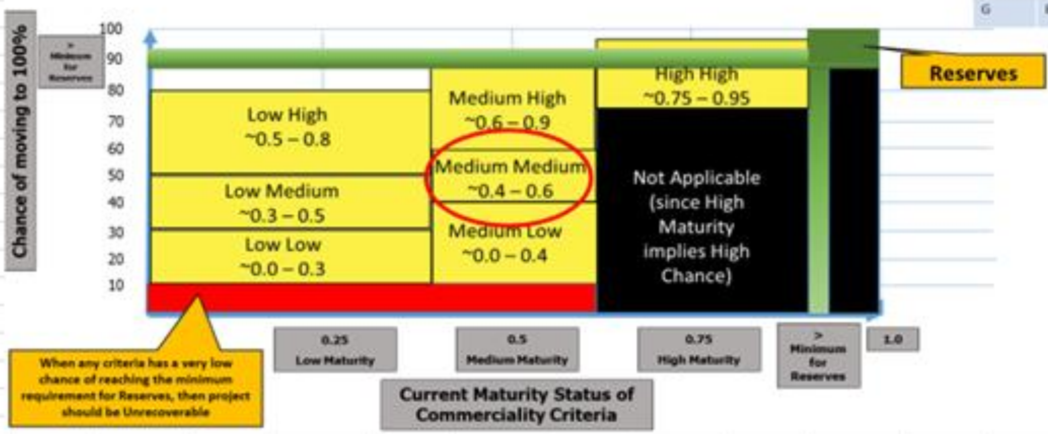
- Challenging path to securing finance
- Medium size of project cf size of Entity
- Medium maturity status of other commerciality criteria

LOW

- Limited financing options
- Large size of project cf size of Entity
- Low maturity status of other commerciality criteria

Method 2 Pd Estimation Criteria from PRMS 2018 2.1.2.1 A-G

X axis: Current Maturity Status of each Commerciality Criteria as defined by Entity
Y axis: Chance of criteria moving to 100% as assessed by Entity
Entity to provide evidence and justification



Criteria	Description
A	Technical
B	Finance
C	Timeframe
D	Economics
E	Market
F	Infrastructure
G	External

Ramsey Field

Base field to which others are benchmarked

For input into Pd calculation:	
Low	0.4
High	0.6
For plotting results:	
X axis	0.5
Y axis	0.5

PRMS 2018 2.1.2 Commerciality Criteria requirements	Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
B. Evidence of financial appropriations either being in place or having a high likelihood of being secured to implement the project	Finance	Financing issues	Significant financial appropriation issues to be resolved	Financial appropriation negotiations underway	No financiial appropriation barriers foreseen with negotiations to date	Financial appropriations in place for entity and JV

Table F8: Assessment of Timeframe maturity for Ramsay FB

Considerations for estimating chance of moving to 100%
Entity to provide evidence

C. Timeframe

HIGH

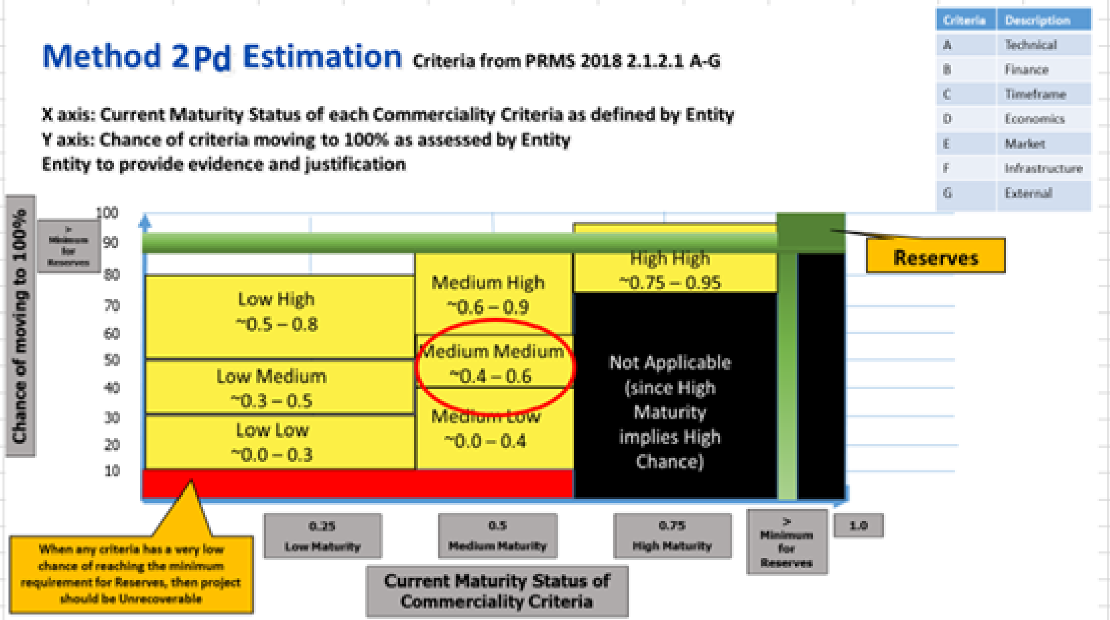
- Requisite staff and other resourcing confirmed
- Evidence of aligned plans and approved budgets with JV
- Evidence of development being initiated in less than 5 years

MEDIUM

- Multiple options to address staff and other resourcing being assessed
- Evidence of some alignment of plans and budgets with JV
- Evidence of possibility to initiate development in less than 5 years

LOW

- No evidence of competency of staff and other resourcing
- No or limited evidence of alignment of plans and budgets with JV
- No evidence of initiating development in less than 5 years



Ramsey Field

Base field to which others are benchmarked

For input into Pd calculation:	
Low	0.4
High	0.6
For plotting results:	
X axis	0.5
Y axis	0.5

PRMS 2018 2.1.2 Commerciality Criteria requirements	Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
C. Evidence to support a reasonable time-frame for development	Timeframe	Capability Alignment of JV Commitment of Entity and JV partners	Capability questionable and misaligned JV with no firm plans in place for current stage of development	Capability issues being addressed and somewhat aligned JV with some plans in place, however no approved WP&B for current stage of development	Capability issues largely resolved and mostly aligned JV with some plans in place and short term WP&B for current stage of development, however some long term development uncertainty	JV has demonstrated capability to implement within a reasonable timeframe, aligned JV with firm plans in place and approved WP&B for current stage of development with long term development alignment

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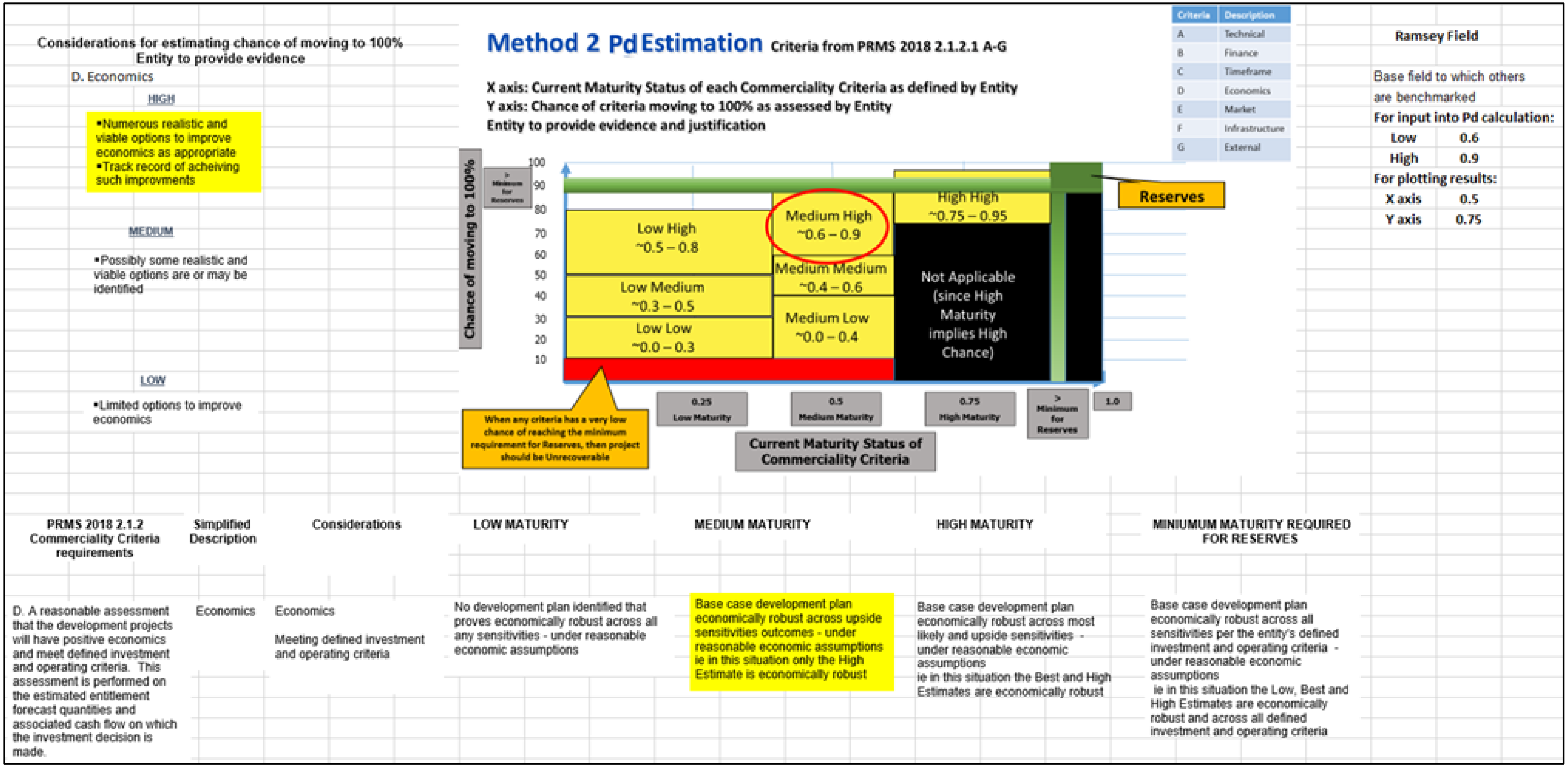
Table F9: Assessment of Economics maturity for Ramsay FB



Note: Ramsay FB Mid case economics are likely to be robust, however due to their immaturity, only “medium” has been assigned.

Table F10: Assessment of Market maturity for Ramsay FB

Considerations for estimating chance of moving to 100%
Entity to provide evidence

E. Market

HIGH
- Known customers
- Sufficient demand profile
- HoA in place for gas or track record for sales
- Most often oil projects =1
- Evidence of ability to appropriately dispose of all other produced streams

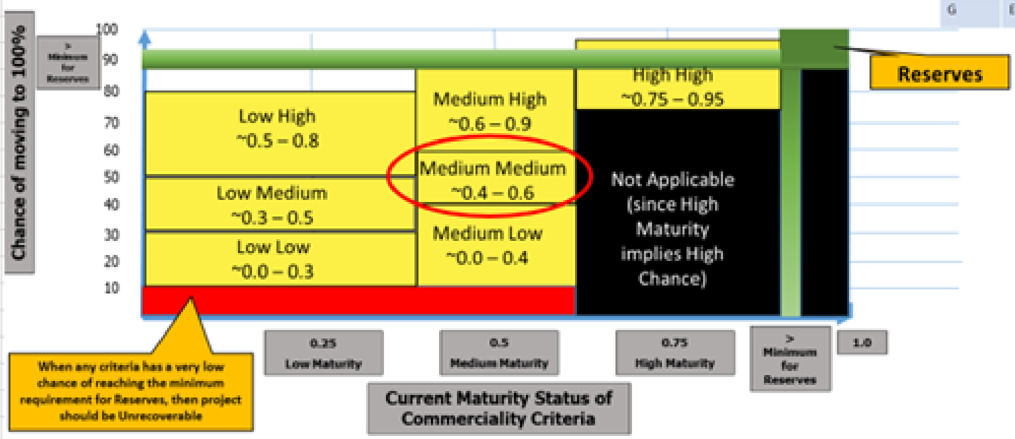
MEDIUM
- Potential customers
- Sufficient demand profile
- Some evidence of likely ability to appropriately dispose of all other produced streams

LOW
- Potential customers unknown or no gap in market
- No evidence of ability to appropriately dispose of all other produced streams

Method 2 Pd Estimation Criteria from PRMS 2018 2.1.2.1 A-G

X axis: Current Maturity Status of each Commerciality Criteria as defined by Entity
Y axis: Chance of criteria moving to 100% as assessed by Entity
Entity to provide evidence and justification

Criteria	Description
A	Technical
B	Finance
C	Timeframe
D	Economics
E	Market
F	Infrastructure
G	External



Ramsey Field

Base field to which others are benchmarked

For input into Pd calculation:	
Low	0.4
High	0.6
For plotting results:	
X axis	0.5
Y axis	0.5

PRMS 2018 2.1.2 Commerciality Criteria requirements	Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
E. A reasonable expectation that there will be a market for forecast sales quantities of the production required to justify development. There should also be similar confidence that all produced streams (e.g.oil, gas, water, CO2) can be sold, stored, re-injected or otherwise appropriately disposed.	Market	Market Disposal of all produced streams	Potential customers unkown or no gap in market and limited disposal options identified for other produced streams	Potential customers identified and disposal options for other produced streams maturing	Market demand exists, potential customrs high graded as well as disposal options for other produced streams	Known customers with sufficient demand profile, HoA in place for gas projects or track record of securing sales. (Most often oil projects = 1) And appropriate disposal of all other produced streams secured

Table F11: Assessment of Infrastructure maturity for Ramsay FB

Considerations for estimating chance of moving to 100%
Entity to provide evidence

F. Infrastructure

HIGH

- Positive, documented evidence of access to production facilities with required capacity and transportation facilities with required ullage available
- Documented plan for new production facilities

MEDIUM

- Some documentation of options

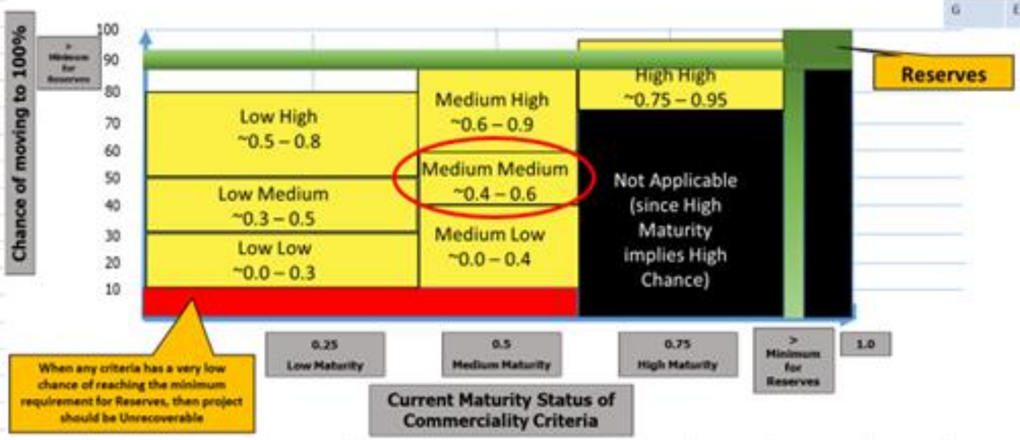
LOW

- Limited opportunities to address production and transportation facility short comings

Method 2 PdEstimation Criteria from PRMS 2018 2.1.2.1 A-G

X axis: Current Maturity Status of each Commerciality Criteria as defined by Entity
Y axis: Chance of criteria moving to 100% as assessed by Entity
Entity to provide evidence and justification

Criteria	Description
A	Technical
B	Finance
C	Timeframe
D	Economics
E	Market
F	Infrastructure
G	External



Ramsey Field

Base field to which others are benchmarked

For input into Pd calculation:	
Low	**0.3**
High	**0.5**
For plotting results:	
X axis	**0.25**
Y axis	**0.4**

PRMS 2018 2.1.2 Commerciality Criteria requirements	Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
F. Evidence that the necessary production and transportation facilities are available or can be made available.	Infrastructure	Production facilities Transportation faciltiies	No infrastructure in place	Missing infrastructure identified and included in development plans or third party infrastructure potentially available	Infrastructure in place and ullage potentially available	Infrastructure in place and ullage availabilty confirmed

Table F12: Assessment of External maturity for Ramsay FB

Considerations for estimating chance of moving to 100% Entity to provide evidence

G. External

HIGH

- Track record of required approvals for similar projects and community support

MEDIUM

- Mixed track record of required approvals for similar projects and community support
- New to area technology

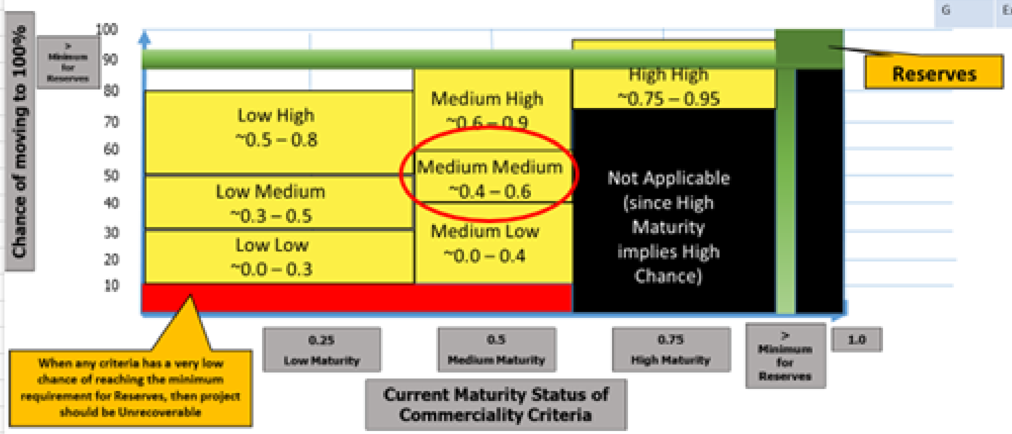
LOW

- Clear negative response on approvals sought and lack of community support

Method 2 Pd Estimation Criteria from PRMS 2018 2.1.2.1 A-G

X axis: Current Maturity Status of each Commerciality Criteria as defined by Entity
Y axis: Chance of criteria moving to 100% as assessed by Entity
Entity to provide evidence and justification

Criteria	Description
A	Technical
B	Finance
C	Timeframe
D	Economics
E	Market
F	Infrastructure
G	External



Ramsey Field

Base field to which others are benchmarked

For input into Pd calculation:	
Low	**0.4**
High	**0.6**
For plotting results:	
X axis	**0.5**
Y axis	**0.5**

PRMS 2018 2.1.2 Commerciality Criteria requirements	Simplified Description	Considerations	LOW MATURITY	MEDIUM MATURITY	HIGH MATURITY	MINIUMUM MATURITY REQUIRED FOR RESERVES
G. Evidence that legal, contractual, environmental, regulatory, and government approvals are in place or will be forthcoming, together with resolving an social and economic concerns.	External	External approvals	Significant opposition to development by regulator/community/NGO's/etc with little or no mitigation plans in place	Opposition to development by regulator/community/NGO's/etc with proposed mitigation plans in place	Approvals likely (stable regulatory environment) or some opposition however expected to be manageable	Approvals expected with minmal/no opposition to development

Table F13: Combining assessments for Ramsay FB for all approaches

Method 2: Maturity x Chance

Project to develop Ramsay Field

STEP 1 - 4 - Consider whether to apply Method 1 or 2 or something else, assign ranges and prepare considerations to apply to X axis and Y axis - refer tabs

STEP 5 - For particular project, assess "chance factor" for each commerciality cri **Enter Low and High for Method.Approach 2.1 only**

STEP 6 - Evaluate candidate Pd's depending on Approach for combining - refer table below for example

STEP 7 -8 - Evaluate ranking of appropriateness of Approaches for combining for the project; compare results and select Pd (refer table below and Project Outline Summary Results tab)

STEP 9-10 - Use Example 1.1 FLOWCHART to determine project maturity sub-class; compare with typical ranges Pd and sub-class (refer tab); reassess if required (refer Project Outline Summary Results tab)

Method.Approach		Pd Equal Weighting	Pd Weighted Average	A. Technical Importance /Weighting	A. Technical Factor	B. Finance Importance /Weighting	B. Finance Factor	C. Timeframe Importance /Weighting	C. Timeframe Factor	D. Economics Importance /Weighting	D. Economics Factor	E. Market Importance /Weighting	E. Market Factor	F. Infrastructure Importance /Weighting	F. Infrastructure Factor	G. External Importance /Weighting	G. External Factor	Appropriateness of Approach Highest (5) to Lowest (1)	Comment
Method 2.1	**Equal Weighting Approach**																		
	Field X Lo Pd	41%		1	0.40	1	0.40	1	0.40	1	0.60	1	0.40	1	0.30	1	0.40	4	
	Field X Hi Pd	63%		1	0.60	1	0.60	1	0.60	1	0.90	1	0.60	1	0.50	1	0.60		
Method 2.2	**Weighted Average Approach**																		
	Field X Lo Pd		38%	10	0.40	1	0.40	1	0.40	1	0.60	5	0.40	10	0.30	10	0.40	5	
	Field X Hi Pd		58%	10	0.60	1	0.60	1	0.60	1	0.90	5	0.60	10	0.50	10	0.60		
Method 2.3	**Minimum Chance Approach**																		
	Field X Lo Pd	30%		1	0.40	1	0.40	1	0.40	1	0.60	1	0.40	1	0.30	1	0.40	3	*For this project there is a lot of dependency between the technical and commerciality criteria hence favour weighting approach.
	Field X Hi Pd	50%		1	0.60	1	0.60	1	0.60	1	0.90	1	0.60	1	0.50	1	0.60		
Method 2.4	**Multiplication Approach**																		
	Field X Lo Pd	0%		1	0.40	1	0.40	1	0.40	1	0.60	1	0.40	1	0.30	1	0.40	1	
	Field X Hi Pd	3.5%		1	0.60	1	0.60	1	0.60	1	0.90	1	0.60	1	0.50	1	0.60		
Method 2.5	**Combination Approa**	Pd = Multiplication of others by Average of selected criteria	Average of selected criteria															2	
	Field X Lo Pd	17%	42%	1	0.40	1	0.40	1	0.40	1	0.60	1	0.40	1	0.30	1	0.40		
	Field X Hi Pd	25%	63%	1	0.60	1	0.60	1	0.60	1	0.90	1	0.60	1	0.50	1	0.60		

Table F14: Pd results for Ramsay FB for all approaches: Ramsay FB Pd = 50%

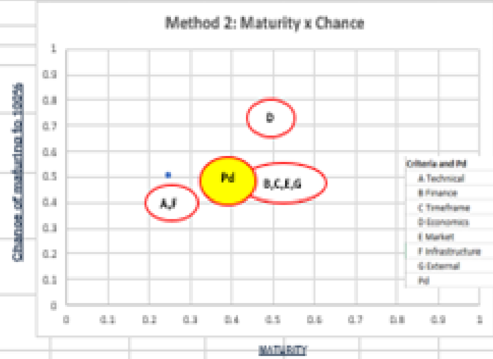
Project Outline - Project to develop Ramsey FB

H2 Recovery Project in York Peninsular Ramsey FB
Undiscovered, but in area where H2 compositions have been recovered from Cambrian sections.
Development concepts are considered in the event of discovery
Economics are generally satisfactory using Development Cost as a proxy across all potential discoveries.
Main risks are technical, market, infrastructure and external. From a technical perspective dealing with Hydrogen
across Well Construction, Production, Processing and Transportation critical to resolve, plus social and regulatory issues.
Gold Hydrogen are commended with proactive approach to engage drilling and H2 handling compainies to resolve issues

RESULTS SUMMARY

Results	Class	CRs
Method 2 Maturity x Chance	Sub-class	Prospect
	Pd%	50%

Project is PRs with a mid range Pd% commensurate with the technical maturity and commercial maturity of a potential development in the area. Government, community, market and infrastructure factors could be improved by undertaking a plan to do so. However, the technical issues that affect development need to be resolved and that will only be possible by drilling one or more exploration wells.

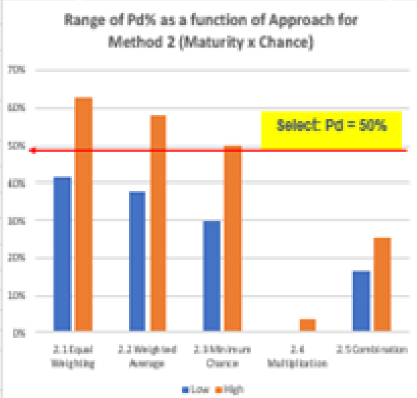


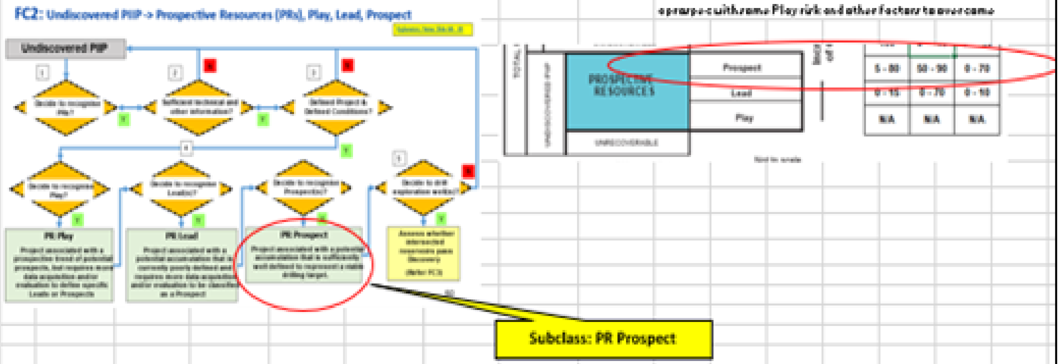
Refer tab: Factors and Candidate Pds

Steps 1 - 6 results: **Step 7 results:** **Step 8 results:** **Step 9 results** **Position in FLOWCHART** **Step 10 results** **Compare with typical** NA

Method.Approach	Range of Pd% Low	Range of Pd% High	*Appropriateness of Approach Highest (5) to Lowest (1)
2.1 Equal Weighti	41%	63%	4
2.2 Weighted Ave	38%	58%	5
2.3 Minimum Cha	30%	50%	3
2.4 Multiplicatio	0%	3%	1
2.5 Combination	17%	25%	2

*For this project there is a lot of dependency between the technical and commerciality criteria hence favour weighting approach.





Pd% is within what might be expected for a prospect with same Play risk and other factors to overcome

The Pd's for the other prospects were benchmarked off Ramsay FB with the results shown in Table F1.

Gold Hydrogen

Annexure B: Solicitor's Tenement Report

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11 November 2022

The Directors
Gold Hydrogen Limited
ACN 647 468 899
Level 14
110 Eagle Street
BRISBANE CITY 4000

Dear Directors

Solicitors Report on Petroleum Tenements

This report (**Report**) is prepared for inclusion in a prospectus to be issued by Gold Hydrogen Limited ACN 647 468 899 (**Company**) for an initial public offer of ordinary fully paid shares at an issue price of $0.50 each to raise a total of $20,000,000 (**Prospectus**).

We have been instructed to report on petroleum exploration license 687 (**PEL 687**) located in Yorke Peninsula and Kangaroo Island in the State of South Australia which has been granted to the Company under the *Petroleum and Geothermal Energy Act 2000* (SA) (**PGE Act**).

This Report also provides an overview on applications for other petroleum exploration licenses (**PELs**) and gas storage exploration licenses (**GSELs**) in the State of South Australia, which if granted, the Company has agreed hold or acquire.

1. TENEMENTS

1.1 Overview

This Report relates to PEL 687 located in the State of South Australia and granted to the Company on 22 July 2022 under the PGE Act.

This Report also relates to the following applications for PELs and GSELs made under the PGE Act, in which the Company holds, or has agreed to acquire, an interest:

(a) GSELA 755 (or if the licence is granted, GSEL 755);

(b) GSELA 756 (or if the licence is granted, GSEL 756);

(c) GSELA 757 (or if the licence is granted, GSEL 757);

(d) GSELA 758 (or if the licence is granted, GSEL 758);

(e) PELA 688 (or if the licence is granted, PEL 688);

(f) PELA 699 (or if the licence is granted, PEL 699);

(g) PELA 700 (or if the licence is granted, PEL 700);

(h) PELA 701 (or if the licence is granted, PEL 701);

(i) PELA 702 (or if the licence is granted, PEL 702);

(j) PELA 703 (or if the licence is granted, PEL 703); and

(k) PELA 704 (or if the licence is granted, PEL 704), (**Tenement Applications**).

Details of the PEL 687 as disclosed by our searches are set out in Part 1 of Schedule 1. Details of the Tenement Applications as disclosed by our searches are set out in Schedule 2.

This Report also contains:

(l) in Part 2 and 3 of Schedule 1 information regarding native title and other potential third-party interests affecting PEL 687 (on a “by exception” basis); and

(m) details of the material contracts which affect the PEL 687 and the Tenement Applications (**Material Contracts**).

1.2 Searches

We have conducted and considered the following searches and enquires in respect of PEL 687:

(a) the register of current licences issued under the PGE Act maintained by the South Australian Department for Energy and Mining (**DEM**). The same searches were also undertaken in relation to the Tenement Applications;

(b) the South Australian Resource Information Gateway (**SARIG**) register which contains key renewable energy, mining, exploration project information, native title, heritage and other information in South Australia;

(c) searches of the schedule of native title applications, register of native title claims, national native title register, register of indigenous land use agreements and national land use agreements as maintained by the National Native Title Tribunal (**NNTT**) for any native title claims, native title determinations and petroleum-related indigenous land use agreements (**ILUAs**). Details of relevant native title claims, native title determinations and ILUAs are set out in the Part 2 of Schedule 1. South Australian Integrated Land Information System (**SAILIS**) database maintained by Land Services South Australia;

(d) searches for any Aboriginal sites registered over land within PEL 687 from the relevant statutory register of Aboriginal cultural heritage sites and objects maintained in South Australia, by the South Australian Department of State Development, Aboriginal Affairs and Reconciliation; and

(e) searches of the South Australian Heritage Register maintained by the South Australian Heritage Council under the *Heritage Places Act 1993* (SA) (**Heritage Act**) for State Heritage Areas and Places of State Heritage,

(**Searches**).

As instructed by the Company, the scope of the land searches set out in paragraphs 1.2(c), 1.2(d) and 1.2(e) above was limited to only land interests within PEL 687 held by certain third parties and identified by the Company as sites of interest (**Sites of Interest**) and an exhaustive analysis of the land comprised in PEL 687 has not been conducted.

1.3 Executive Summary

As a result of the Searches, and subject to the statements set out in this Report, we are satisfied that the information and particulars included in this Report in relation to the PEL 687 (including in Schedule 1), and in relation to the Tenement Applications (including in Schedule 2), comprise an accurate statement of the status of PEL 687 as at the date the Searches were conducted.

We identified a number of key issues that affect PEL 687. A summary of these key issues is set out below. We have also summarised the results of our Searches in Schedule 1.

(a) **Ownership**

The Searches indicate that the Company is the sole registered holder of PEL 687.

Each of the Tenement Applications were made by the parties described in Schedule 2.

The Company has entered into agreements with the shareholders of Byrock Resources Pty Ltd ACN 650 885 804 and White Hydrogen Australia Pty Ltd ACN 650 885 902 to acquire 100% of the issued capital of those companies, with effect that, upon completion, those companies will be wholly owned subsidiaries of the Company.

(b) **Proposed Exploration Work Program and Estimated Costs**

We are instructed that the proposed exploration work program and costs for the next 5 years for PEL 687 prepared by the Company as part of its application with DEM is set out as follows:

Year	Activity	Estimated costs (AUD)
One	• Desktop Studies • Database Generation	$120,000.00
Two	• Airborne Survey AEM-PTP – 10,000 km2 • Reprocessing 200 line kilometers 2D seismic	$960,000.00
Three	• Airborne Survey Mag-Grav – 4,000 line km • 12 x Geotech Gas Detectors GA5000© • Iodine Soil Testing – 10,000 samples • Gas Composition – 10,000 readings	$2,070,000.00
Four	• Gas Compisition Sites x 6 • Acquisition 2D Seismic - 600 km • Processing 2D Seismic – 600 km	$3,530,000.00
Five	• Drilling up to 2000m + logging + testing • Lab Analysis • Vertical seismic profiles	$5,465,000.00
	Total	**$12,145,000.00**

Summarised in Part 3 of Schedule 2 of this Report is the proposed exploration work program for the Tenement Applications for the next 5 years (as lodged with the DEM). Part 1 of Schedule 2 outlines the proposed exploration work programs and estimated costs in relation to each of the pending PELA applications. Part 2 of Schedule 2 outlines the combined proposed exploration work programs in relation to the pending GSELs applications. These proposed work programs and the associated expenditure are dependent on the Tenement Applications being approved.

(c) **Encumbrances**

The Searches indicate that PEL 687 is not subject to any encumbrances. However, under condition 4, the Company must in satisfaction of the obligations arising under the PGE Act and the conditions under PEL 687 lodge and maintain with the Minister a security.

The security shall be lodged in the form of either:

(i) cash; or

(ii) an unconditional bank guarantee, insurance bond, or letter of credit in a form, and a from a financial institution approved by the Minister.

Pursuant to the letter dated 10 June 2021 from the DEM to the Company, lodgment of the security under condition 4 is not required until such as time as when the Company proposes to undertake ground activities.

(d) **Tenement conditions**

The grant of exploration licenses in South Australia may be subject to conditions. The specific conditions of the PEL 687, as disclosed in the Searches, are set out Part 1 of Schedule 1.

(e) **Material Contracts**

We are instructed by the Company that these are the only material contracts entered into by the Company which affect the Tenements:

(i) *Research Services Agreement – PEL 687*

The Research Services Agreement is between the Commonwealth Scientific and Industrial Research Organisation ABN 41 687 119 230 (**CSIRO**) and the Company.

The Company has engaged CSIRO to undertake a research project in relation to PEL 687 specifically within the Yorke Peninsula region.

Such research work comprises:

(A) gathering existing data in relation to the hydrogen systems characterisations;

(B) acquiring new data from existing well samples, soil-gas sampling exploration and monitoring surveys as to calibrate the model and define/rank some zones of interest; and

(C) testing and integrating the different elements of the natural hydrogen system.

The agreement is for a term commencing on 1 July 2022 and ending on 30 May 2024. The Project Plan in Schedule 2 of the agreement contains the following milestones and due dates:

Milestone	Description	Due Date
1	Validation of core and well data collection schedule and data review	End of 2 months from Project Start Date

2	Completion of surface seep desktop study	End of 5 months from Project Start Date
3	Presentation of latest results for Modules 1, 2, 3, 4, 5 to support drilling activities	End of 11 months from Project Start Data
4	Completion of soil-gas survey and gas analysis	End of 11 months from Project Start Date
5	Completion of laboratory measurement (geofluids, geomechanics & petrophysics, UPPA iron-rich)	End of 11 months from Project Start Date
6	Completion of conceptual modelling	End of 15 months from Project Start Date
7	Completion of in-situ monitoring of selected seeps	End of 19 months from Project Start Date
8	Completion of final reporting	End of 20 months from Project Start Date

Pursuant to clause 8 of the agreement, the Company must pay to CSIRO the fees at the times and in the amounts set out in the Project Plan and any Reimbursable Expenses. Those expenses are described in the Project Plan under the agreement as follows:

Billing milestone	Fee	Date
Project start (20%)	$193,510	At contract signature
End of desktop study (30%)	$290,265	9 months from Project Start Date
End of soil gas sampling (30%)	$290,265	16 months from Project Start Date
Project completion (20%)	$193,510	20 months from Project Start Date
Total	**$967,550**	

The maximum cost payable by the Company to CSIRO under the agreement is $967,550. All invoices issued by CSIRO to the Company must be paid within 30 days of the invoice date.

The CSIRO's entry into this agreement does not constitute the CSIRO's endorsement of the Company's operations in PEL 687 and the CSIRO is not in any way associated with the Company or its operations other than as an arm's length supplier of the services under this agreement.

(ii) *Schlumberger MOU – PEL 687*

The MOU is a non-binding memorandum of understanding between the Company and Schlumberger Australia Pty Ltd ABN 74 002 459 225 (**Schlumberger**) dated 19 November 2021 for certain testing works to be performed at PEL 687.

The roles and responsibilities of the parties under the agreement have not been resolved and will be the subject of a definitive agreement that is yet to be agreed. In that regard, the MOU is merely an agreement to reach a definitive agreement.

The term of the MOU is 2 years commencing on 19 November 2021 and expiring on 18 November 2023.

Given that the agreement is not binding and may be terminated at any time, we do not consider this agreement to be a material contract. However, if the parties do agree to enter into a definitive agreement, that agreement is likely to be material.

(iii) *Land Access and Compensation Agreement – PEL 687*

This is an agreement dated 16 August 2022, between the Company and a partnership of individuals who occupy seven Sites of Interest.

The agreement has been signed by an individual who is a partner of the partnership and who has warranted to the Company that, among other things:

(A) he is authorised to bind the partnership;

(B) he and the other registered owner of the relevant Sites of Interest (who is also a partner of the partnership) have granted the partnership a lease or licence to occupy and manage the land;

(C) pursuant to that lease or licence the partnership is authorised to grant the Company access to the land in accordance with the land access agreement.

Pursuant to the land access agreement the partnership has given the Company the right to access and carry out certain activities on the land, including:

(D) Soil sampling (at locations to be mutually agreed).

(E) Airborne survey.

(F) Seismic survey (planned for existing roadways).

(G) Drilling (at locations to be mutually agreed).

(H) Associated access as required to carry out these activities (to be mutually agreed).

The agreement commenced on 16 August 2022 and expires on the earlier of:

(A) 15 August 2026; and

(B) expiry of PEL 687.

The total consideration payable under the agreement is variable, as there are a number of charges that are currently unascertainable because they are dependent on the size and scope of the activities conducted by the Company on the land which is unascertainable at this time.

Based on those variable charges, the consideration under the agreement could exceed the materiality threshold, however based on our instructions to date, which may be subject to change, the intended activities are unlikely to result in this agreement becoming a material contract.

Pursuant to the agreement the Company indemnifies the partnership and the liability under that indemnity may be material.

(iv) *Share Sale Agreement*

This is a share sale agreement between the Company, as buyer, and the shareholders, as sellers, of Byrock Resources Pty Ltd ACN 650 885 804 and White Hydrogen Australia Pty Ltd ACN 650 885 902.

Under the agreement the sellers will sell to the Company 100% of the issued capital of Byrock Resources Pty Ltd ACN 650 885 804 and White Hydrogen Australia Pty Ltd ACN 650 885 902 in consideration of the Company issuing shares to them.

Following completion of the agreement Byrock Resources Pty Ltd ACN 650 885 804 and White Hydrogen Australia Pty Ltd ACN 650 885 902 will become wholly owned subsidiaries of the Company.

(v) *Airborne Survey Agreement*

This is an agreement between the Company and Xcalibur Aviation (Australia) Pty Ltd ACN 008 685 336 (**Xcalibur**) for an aerial survey of 18,203 line kilometres at 500 metre spacing covering the whole of the area of PEL 687.

Xcalibur is required to undertake the work using a qualified geophysical operator to maintain the survey equipment and experienced survey pilots. An aircraft maintenance technician must also be supplied, if required.

Pursuant to the agreement, Xcalibur will conduct survey works .

The minimum total charge payable under the agreement is $2,229,360.00 plus GST comprised of a fixed fee of $45,000.00 and variable fees of $2,184,360 charged at $120.00 per line kilometre. A variable stand by fee of $7,500.00 per day may also be payable for lost time beyond Xcalibur's control. The fees are payable by instalments based on achievement of milestones.

There are three clauses that each contain force majeure type provisions. However, the terms of those clauses each differ slightly and in the event beyond the control of the parties this could be a potential source of ambiguity and dispute.

Generally speaking, the agreement is on terms that are, by comparison to other service agreements, quite favourable to the Company. For example, intellectual property rights in the deliverables will vest in the Company, once the services have been paid for, as opposed to remaining with Xcalibur and being used under licence. The agreement also contains a termination for convenience clause in favour of the Company,

Save as noted, we did not identify any material legal issue.

1.4 South Australian law – General comments

(a) **PELs**

The relevant legislation governing PELs is the South Australian PGE Act and the *Petroleum and Geothermal Energy Regulations 2013* (SA). Outlined below is a summary of the key provisions that relate to petroleum exploration licences within South Australia:

(i) **Rights:** A PEL licensee may undertake exploratory operations for regulated resources of the kind relevant to the category of licence, and also conduct operations necessary to establish the nature and extent of any discovery or to establish the feasibility of production and production techniques for the purpose of establishing the nature and extent of a discovery. A PEL is entitled to be granted a corresponding retention licence or corresponding production licence for a regulated source discovered in the licence area.

(ii) **Term:** PELs have a term of 5 years. A PEL may be granted on terms under which the licence is to be renewable for a further term or 2 further terms of 5 years (as specified by the Minister at the time of the grant of the licence). A PEL that is renewable for:

(A) one further term must only provide for the excision, upon renewal, of at least 50% of the original licence area; and

(B) two further terms must provide for the excision, on each renewal, of at least 33.33% of the original licence area.

(iii) **Renewal:** An application for the renewal of a licence must be made to the Minister in an approved form at least 2 months before the end of the licence term preceding the proposed renewal. It must contain information required by the Minister and if the licence contains a mandatory condition requiring the licensee to carry out work in accordance with an approved work program, must be accompanied by a proposed work program for the term of the renewal.

(iv) **Rent:** A licensee must pay to the Minister annually and in advance a fee. If a licensee fails to pay a fee:

(A) the amount in arrears will, unless the Minister determines otherwise, be increased by penalty interest; and

(B) the Minister may impose on the licensee a fine of an amount fixed by the Minister up to a limit of $1,000 or 10% of the outstanding fee.

(v) **Area:** The area of an PEL must not exceed 10,000 square kilometres unless the Minister considers there are justifiable reasons to allow a larger area.

Conditions: PELs are granted subject to mandatory conditions specified in the PGE Act. Mandatory conditions include:

(A) that all work to be undertaken in the licence area must be in accordance with a work program approved by the Minister;

(B) having adequate technical and financial resources to ensure compliance with the environmental obligations (including rehabilitation of land adversely affected by activities carried out under the licence);

(C) authorising the Minister to make use of or disclose information and records provided by the licensee;

(D) the surveillance of regulated activities;

(E) annual fees;

(F) maintenance of records of all regulated activities; and

(G) reporting requirements.

The Minister may also impose discretionary conditions in addition to the mandatory conditions. Penalties apply under the PGE Act for noncompliance of such conditions.

(vi) **Registrable Dealings:** Under the PGE Act, various transactions including transfers or assignments of, or an interest in a PEL, and any joint venture agreement or farm in agreement, under which a person acquires, or may acquire, an interest in resources discovered or recovered under a PEL, are registrable dealings which are unable to take effect until the Minister has approved and registered the dealings (which can be retrospective).

(vii) **Compatible Licences:** The licence area may also be subject to another 'compatible' licence dealing with geothermal energy or gas storage granted under the PGE Act. If a discovery is made in an area which is subject to two or more compatible licences, the rights for that discovery are deemed to be held by the person holding the licence for the relevant regulated resource, irrespective of which party actually made the discovery.

(viii) **Royalty on regulated resources:** The holder of a licence must pay to the Crown a royalty equivalent to the prescribed percentage of the value (at the well head) of a regulated resource produced from land comprised in the licence. The prescribed percentage for a regulated substance is 10%.

(ix) **Notice of entry:** A licensee must at least 21 days before entering land to carry out the authorised activities, give written notice to each owner of the land, in the required form. An owner of the land may, by giving notice of objection to the licensee, object to the proposed entry. If an owner gives notice of objection, the licensee must notify the Minister. When notice of disputed entry is given, the Minister may attempt to mediate between the parties to arrive at mutually satisfactory terms under which the licensee may enter the land and carry out the regulated activities.

(x) **Right to compensation and / or acquire land**: The owner of land underlying the PEL is entitled to compensation from a licensee who enters the land and carries out regulated activities. Such compensation payable must be directly related to the owner and covers deprivation or impairment of the use and enjoyment of the land, damage, or disturbance of, any business or other activity lawfully conducted on the land and consequential loss suffered or incurred by the owner. If the activities of a licensee on land substantially impair the owner's use and enjoyment of the land, the owner may apply to the relevant court for an order transferring the owner's land to the licensee.

(xi) **No compensation payable to holders of mining tenements:** Under the PGE Act, compensation is not payable to the holder of a tenement under the *Mining Act 1971* (SA) (**Mining Act**) in relation to any loss represented by a reduction in the value of any minerals that may be recovered under that tenement or any other loss, deprivation or impairment of a prescribed kind.

Part 1 of Schedule 1 of this Report describes any exclusions, encumbrances and other specific conditions relating to PEL 687.

1.5 Native Title

(a) Native Title Rights in Australia

Native title is the recognition by Australian law of Indigenous people's traditional rights and interests in land and waters held under traditional law and custom following the decision of the High Court of Australia in *Mabo v Queensland (No 2) (1992) 175 CLR 1*.

In response to this recognition the *Native Title Act 1993* (Cth) (**Native Title Act**) was enacted.

The Native Title Act recognises and protects native title rights is Australia and established:

(i) the National Native Title Tribunal (**NNTT**);

(ii) mechanisms for determining claims to native title: and

(iii) ways in which future dealings, including the grant of petroleum tenements, may proceed.

Native title can be extinguished voluntarily or by statutory or executive acts of governments that are inconsistent with the continued enjoyment of native title.

Pursuant to the Native Title Act, the grant of a freehold estate and some perpetual leases made before 1 January 1994 extinguish native title.

(b) Indigenous Land Use Agreements

Indigenous Land Use Agreements (**ILUAs**) are voluntary agreements between native title parties and other parties regarding the use and management of areas of land and/or water. ILUAs can be about any matter affecting native title including (without limitation):

(i) allowing and validating future acts;

(ii) dealing with native title compensation; and

(iii) extinguishment of native title by surrender, also known as voluntary extinguishment.

(c) Application to PEL 687

PEL 687 is unaffected by Native Title and there is no overlap between PEL 687 and any Native Title claim or ILUA.

The Searches reveal that part of the Yorke Peninsular in South Australia is the subject of:

(i) "SAD88/2022 Narungga Nation", which is a registered native title application (**Native Title Claim**). This claim was accepted on the Register of Native Title Claims on 8 May 2013;

(ii) ILUA "SIA2000/001 – Port Vincent Marina"; and

(iii) ILUA "SI2003/004 Narungga Local Government".

Even though PEL 687 has also been granted over part of the Yorke Peninsular it has been granted only in relation to freehold and perpetual leasehold interests granted before 31 December 1993 within that area. As a consequence PEL 687 has been granted only in relation to land where native title has been extinguished and that land is not the subject of the Native Title Claim or either of the ILUAs referred to above.

1.6 Aboriginal heritage

(a) Overview

The Commonwealth Government and the Government of South Australia have each enacted legislation to conserve and protect Indigenous heritage.

Licensees must when undertaking activities on a tenement take care not damage, disturb or interfere with Aboriginal sites, objects or remains without proper authorisation. Failure to do so could result in the licensee committing an offence and becoming liable to penalties.

The South Australian Department of State Development, Aboriginal Affairs and Reconciliation maintains a register of Aboriginal sites and objects (**Register of Aboriginal Sites and Objects**) however this register is not exhaustive and undiscovered and unregistered sites may exist on land within PEL 687.

Consequently, the Company is required to conduct due diligence prior to certain works being undertaken within PEL 687 for the purpose of identifying whether those works may impact on an Aboriginal site, object or remains. At a minimum that due diligence requires the Company to conduct searches of the Register of Aboriginal Sites and Objects and where appropriate carry out surveys to determine that areas the subject of activities do not contain unregistered sites, objects or remains.

(b) Application to PEL 687

We have only conducted Aboriginal heritage searches over the Sites of Interest. No results were returned.

It is possible further sites or objects could be identified and registered in the future over the Sites of Interest.

It is also possible that the Company may expand the scope of the current Sites of Interest and affect other areas which we have not conducted searches over. Accordingly, Aboriginal heritage reporting and protection issues will need to be considered by the Company to the extent that its activities are carried on within further areas of PEL 687. This may also apply to the Tenement Applications (if granted).

1.7 State Heritage Register

(a) **Overview**

The South Australian Heritage Register (**Heritage Register**) is maintained by the State Heritage Council under the Heritage Act.

The Register contains information about places of heritage value within South Australia and includes State Heritage Areas and Places.

(b) **Offences**

A person must not, without a permit from the State Heritage Council:

(i) excavate or disturb a State Heritage Place or Object designated as a place of archaeological significance, or remove archaeological artefacts from such a place;

(ii) excavate or disturb any land (not designated as a place of archaeological significance) for the purpose of searching for or recovering archaeological artefacts of heritage significance; and

(iii) damage, destroy or dispose of a geological, palaeontological or speleological specimen or an archaeological artefact removed from a State Heritage Place designated as a place of archaeological significance, whether removed before or after that registration.

A person who intentionally or recklessly damages a State Heritage Place so as to destroy or reduce its heritage significance is guilty of an offence, unless the damage results from an action authorised under a specified Act. If a person is convicted of an offence against the Heritage Act, the Court may (in addition to imposing a penalty) order the person to make good any damage caused through the commission of the offence.

If the owner of a place is convicted of contravening or failing to comply with a stop order made by the Council or the Court, or is convicted of intentionally damaging a State Heritage Place so as to destroy or reduce its heritage significance, the Court may (in addition to imposing a fine) order that no development of the place may be undertaken for a fixed period not exceeding 10 years, except for making good damage caused through the commission of the offence or restoring or maintaining the heritage significance of the place.

(c) **Application to PEL 687**

We have conducted searches of the Heritage Register with respect to the Sites of Interest. No results were returned.

It is possible that places or objects could claimed in the future in respect of lands over which PEL 687 has been granted.

It is also possible that the Company may expand the scope of the current Sites of Interest to areas which we have not conducted searches over. Accordingly, State heritage issues will need to be considered by the Company when dealing with or carrying out activities within PEL 687. This may also apply to the Tenement Applications (if granted).

1.8 Overlapping SA Mining Tenements

We have identified overlapping mining tenements granted to various third parties in the same area as PEL 687 as summarized in Part 3 of Schedule 1. There is no legal requirement in South Australia for the Company to enter into any arrangement or agreement with such parties to govern the rights to use the land. However, we note our comments in sections 1.4(a)(xi) of this Report in relation to compensation and notice requirements.

1.9 Land Use

Some of the Sites of Interest are affected by registered encumbrances.

(a) Mortgages

Two Sites of Interests are affected by registered mortgages.

We have not sought copies of the registered mortgages described above. However, it is standard for the provisions of a mortgage to contain a clause requiring the registered owner of the land to obtain the consent of the mortgagee before registering any interest on the land or entering into an arrangement with third parties which directly relate to the land. Such provisions are typically broad in nature and would likely mean that if the landowner was contemplating entering into a land access agreement with the Company, the mortgagee's consent may be required.

(b) Easements

Three Sites of Interests are affected by registered easements for access and the supply of water to nearby dominant tenements. In most cases the owners of the dominant and servient tenements are the same or related.

Easements are non-exclusive rights granted by a landowner to another party for the use of the land in a particular manner.

Easements can restrict the use of the servient land as the rights of the dominant landholder should not be restricted or interfered with.

(c) Application to PEL 687

None of the properties covered by the agreement referred to in paragraph 1.3(e)(iii) above is affected by a registered mortgage or registered easement.

If the Company were to seek to conduct activities on Sites of Interests that are affected by encumbrances:

(i) the relevant owner of land that is affected by a mortgage may be required to seek consent of the mortgagee prior to entering into a land access agreement with the Company; and

(ii) the Company's activities on land that is affected by an easement may be restricted.

Based on the Searches, the registered easements are unlikely to have a material effect on the Company's activities because:

(iii) the easement areas are generally along and adjacent to the boundaries of the servient landholdings;

(iv) they are not material in size; and

(v) do not restrict access to the land by third parties, such as the Company.

It is possible that:

(vi) the Company may expand the scope of the current Sites of Interest to areas which we have not conducted searches over;

(vii) interests and encumbrances may be registered over the Sites of Interest in the future; and

(viii) Sites of Interest may be affected by unregistered encumbrances.

2. SCOPE OF REPORT

2.1 Limitations to opinion and relevant jurisdictions

This Report has been prepared relying on (and is limited to) the results of searches maintained by State and Commonwealth instrumentalities referred to in section 1.2 of this Report, information obtained from the Company, and a review of material contracts that the Company has entered into, on the following matters:

(a) ownership of or right to acquire an interest in the PEL 687; and

(b) native title and Aboriginal cultural heritage issues (on a ‘by exception’ basis);

(c) overlapping third party interests on the land underlying PEL 687 (on a 'by exception' basis).

The scope of this Report is limited to the matters listed above. We have not been requested to consider (and therefore have not considered) any other matters.

The information from which the results of searches have been obtained may not be complete or up to date, and in one instance search results were not available. We have not made any independent investigations or enquiries in relation to those searches.

No additional work was performed in preparing this Report except as specifically stated in this Report, and we have not conducted enquiries regarding legal matters which may impact PEL 687 beyond the scope of work described in this Report.

This Report only relates to the relevant laws of South Australia and the Commonwealth of Australia current as at the date of this Report. If any of the assumptions set out in this Report (including those in section 2.2 of this Report) are not correct, this Report may need to be amended.

2.2 Assumptions and qualifications

Our Report is based on, and subject to, the following assumptions and qualifications and as otherwise specified elsewhere in this Report:

(a) We have relied upon information provided by third parties, including the Company and its representatives and agents, in response to inquiries and searches made, or caused to be made, by us and have relied upon that information as being current, accurate and complete. We make no comment on whether any changes have occurred in respect of PEL 687 between the date on which the information was provided to us and the date of the Prospectus. We have not made any independent investigations or enquiries in relation to those searches. We express no opinion about the accuracy of, or any factual matters disclosed by those searches or the status of the PEL 687 after the date of the relevant search.

(b) Where dealings, interest or agreements have not been registered in relation to granted PEL 687, we express no opinion as to whether such registration may be effected, or the consequences of non-registration.

(c) Where Ministerial consent is required in relation to any agreements or to the transfer of the Tenement Applications, we express no opinion as to whether such consent will be granted, or the consequences of consent being refused. However, we are not aware of any specific matter which would cause consent to be refused.

(d) We have assumed that we have been provided with copies of all the material agreements in respect of PEL 687 and express no opinion as to whether any additional agreements in respect of PEL 687 exist.

(e) We have not investigated whether a tenement holder is or may be in breach of any tenement conditions (other than to the extent that such breach may be disclosed in the Searches).

(f) Where compliance with the terms and conditions of the PEL 687 and the provisions of the PGE Act, or a possible claim in relation to PEL 687 by third parties is not disclosed in this Report, we express no opinion as to such compliance or claim.

(g) We have assumed that the seals and signatures on all the Material Contracts are authentic, and that the Material Contracts were within the capacity and powers of, and validly authorised, executed and delivered by and are binding on, the parties to them and comprise the entire agreement of the parties to each of them with respect to their respective subject matters.

(h) We have assumed that the parties to each of the Material Contracts are complying with and will continue to comply with and fulfil the terms of the Material Contracts and that the representations made by third parties in relation to the Material Contracts are true and correct.

(i) Native title or Aboriginal heritage sites or objects may exist in the areas covered by PEL 687. Whilst we have conducted searches to ascertain what native title claims and heritage sites have been registered over these areas, we have not conducted any independent investigations regarding the likely existence or nonexistence of native title or Aboriginal heritage sites or objects.

(j) Except for those set out in this Report, we have not undertaken any independent investigation as to whether the granted PEL 687 have been validly granted in relation to native title considerations.

2.3 Reliance and Consent

This Report is provided solely for the benefit of the Company in connection with the issue of the Prospectus. Gadens has given, and has not, before the lodgment of the Prospectus, withdrawn its consent to the issue of the Prospectus with this Report.

2.4 Materiality Threshold

A matter has been viewed as material for the purposes of this Report if:

(a) the matter has the potential to negatively impact the Company by an amount equal to $140,000.00; or

(b) there is a substantial likelihood that the matter will be significant or important to the Company.

Yours sincerely

Lionel Hogg, Partner

Kane Jacobson, Partner

Schedule 1 – Schedule of PEL 687

Part 1: PEL 687

Registered Holder	Interest held (%)	Grant Date	Expiry Date	Term	Locality / Area	Minimum work requirements	PEL Conditions / Notes
Gold Hydrogen Pty. Ltd.	100%	22 July 2021	21 July 2026	5 years plus 2 further renewal terms of 5 years each	Yorke Peninsula and Kangaroo Island 7,820 square kilometres	Under condition 1 of the PEL, the Company must carry out the following minimum work requirements during Term: • Year 1 – Geological and geophysical studies • Year 2 – 10,000 square kilometres airborne study AEM-PTP • Year 3 – 4,000 line kilometres Magnetic-Gravity airborne survey • Year 4 – Acquire, and process 600 kilometres 2D seismic data • Year 5 – Drill one well. Under condition 2 of the PEL, if the Company fails to comply with the work program requirements, the Minister may as his discretion, either cancel the PEL or authorise such variation to these requirements as the Minister sees fit.	**Rent** The annual fee for 2021 has been paid to the DEM by the Company which was for the amount of $12,502 (GST exempt). The annual fee for 2022 has been paid to the DEM by the Company which was for the amount of $12,903 (GST exempt). **Surveillance** All regulated activities authorised by PEL 687 are classified as requiring a high level of surveillance, unless the Company satisfies to the Minister that the activities should require a low level of surveillance. **Security** The Company must lodge and maintain with the Minister for the satisfaction of obligations arising pursuant to PGE Act or the PEL 687 a security as specified by the Minister from time to time. The security shall be lodged in the form of either: • cash • an unconditional bank guarantee, insurance

							bond, or letter of credit in a form, and a from a financial institution approved by the Minister. **Insurance** The Company must maintain in its own name: • during the term of the PEL, insurance to cover regulated activities pursuant to the PEL (including for sudden and accidental pollution) for an amount not less than $20,000,000; and • during the drilling of any well or operation in any well, control of well insurance, for an amount not less than $10,000,000, or such greater amounts as specified by the Minster (from time to time) and to make amendments to the terms and conditions of the insurance as the Minister may require from time to time. **Environmental Impact Report** The Company must ensure when preparing an Environmental Impact Report under Part 12 of the PGE Act, such report includes an assessment of the potential economic consequences for other licensees under the PGE Act and owners of land, arising out of proposed regulated activities to be carried out in the licensed area.

							Assignment or transfer Ministerial consent is required under condition 8 of the PEL in relation to any agreements or contract entered into by the Company to transfer or accept liability for any well or facility constructed for the purpose of undertaking regulated activity under the PGE Act. **Conversation Parks** Portions of PEL 687 overlap with Ramsay, Minlacowie and Thidna Conversation Parks. Any operations within lands located in such parks will be subject to specific consultation and notification requirements with the Minister for Environment and Water.

Part 2: Native title and other interests affecting PEL 687

Jurisdiction	Native Title	South Australia Restricted Lands
South Australia	**Native Title Claims** NNTT number: SC2013/002 – Narungga Nation registered on 8 May 2013. **ILUA** • NNTT number: SI2003/004 – Narungga Local Government • NNTT number: SIA2000/001 – Port Vincent Marina **Aboriginal land** • Wardang Island • Point Pearce	The following areas or parks are restricted from use and expressly excluded under PEL 687: • Carribie Conservation Park • Dhilba Guuranda-Innes National Park • Leven Beach Conservation Park • Point Davenport Conservation Park • Warrenben Conservation Park • Wills Creek Conservation Park • Lower Yorke Peninsula Marine Park • Upper Gulf St Vincent Marine Park • Southern Spencer Gulf Marine Park • Eastern Spencer Gulf Marine Park • Baudin Conservation Park • Beyeria Conservation Park • Cape Gantheaume Conservation Park

		• Cape Willoughby Conservation Park, • Cygnet Estuary Conservation Park, • Dudley Conservation Park, • Flinders Chase National Park • Kelly Hill Conservation Park • Lashmar Conservation Park • Lathami Conservation Park • Lesueur Conservation Park • Mount Taylor Conservation Park • Nepean Bay Conservation Park • Parndana Conservation Park • Pelican Lagoon Conservation Park • Seal Bay Conservation Park • Seddon Conservation Park • Simpson Conservation Park • Vivonne Bay Conservation Park • Southern Kangaroo Island Marine Park

		• Western Kangaroo Island Marine Park • Southern Spencer Gulf Marine Park • Encounter Marine Park • Cape Bouguer Wilderness Area • Cape Gantheaume Wilderness Area • Cape Torrens Wilderness Area • Ravine des Casoars Wilderness Area • Western River Wilderness Area, • Allotment 1 in Deposited Plan 119843 • Section 41 in Hundred of Gosse • Section 18 in Hundred of McDonald • Section 20 in Hundred of McDonald • Allotment 4 in Deposited Plan 120120.

Part 3: Overlapping SA Mining Tenements

Tenement	Tenement Number	Tenement Holder
Exploration licences (mineral/opal)	6252	SA Cobalt Pty Ltd
	5973	Zinc Mining Pty Ltd
	6143	Rex Minerals (SA) Pty Ltd
	6497	Rex Minerals (SA) Pty Ltd
	6515	Rex Minerals (SA) Pty Ltd
	6189	Rex Minerals (SA) Pty Ltd
	6136	Rex Minerals (SA) Pty Ltd
	6245	Rex Minerals (SA) Pty Ltd
	6531	Rex Minerals (SA) Pty Ltd
	6455	Rex Minerals (SA) Pty Ltd
	5981	Rex Minerals (SA) Pty Ltd
Exploration release area	ERA 001194	
Extractive mineral leases (EML)	EML6190	Mitchell Wilson
	EML6259	Robert Conrad Hagerstrom
	EML6349	Mark Hardy

	EML6462	George Maurice Turner
	EML6176	Benjamin James Tyley
	EML5918	Mark Hardy
	EML6139	W. K. Zealand & Co. Pty. Ltd.
	EML6191	A.T Bolto & C.E Bolto & E.M Bolto & K.T Bolto & L.M Bolto
	EML6428	D.J & E.M Pratt
	EML6251	David Charles Henry Halloran
	EML6469	Pintavale Pty Ltd
	EML6249	Peter Gerald Vigar
	EML6401	Richard Graham Parsons; Nerida Jean Parsons
	EML6452	Hanson Construction Materials Pty Ltd
	EML6434	Clay & Mineral Sales Pty Ltd
	EML6439	Rex Minerals (SA) Pty Ltd
	EML6035	Southern Quarries Pty. Ltd.
	EML6519	Direct-Screens Holdings Pty. Ltd.
	EML6410	S.C. Heinrich & Co Pty. Ltd.

	EML5792	Clinton Quarries Pty Ltd
	EML5901	S.C. Heinrich & Co Pty. Ltd.
	EML5766	Martin Patrick Kenny; Moira Theresa Kenny
	EML6407	Southern Quarries Pty. Ltd.
	EML5308	Glengowrie Farming Pty Ltd
Gas storage (GSELA) – Onshore exploration licence applications	GSELA 755	Gold Hydrogen Pty. Ltd.
	GSELA 756	Gold Hydrogen Pty. Ltd.
	GSELA 757	Gold Hydrogen Pty. Ltd.
	GSELA 758	Gold Hydrogen Pty. Ltd.
Mineral claims (MC)	MC4540	A & G Willson Earthmovers (SA) Pty Ltd
	MC4516	A & G Willson Earthmovers (SA) Pty Ltd
	MC4550	David Brian Clarke
	MC4532	Olsson Industries Pty Ltd
	MC4538	Clinton Quarries Pty Ltd
Miscellaneous purposes licences (MPL)	MPL10	Ocsalt Proprietary Limited
	MPL11	Adelaide Brighton Cement Ltd
	MPL132	OneSteel Manufacturing Pty Limited

	MPL146	Rex Minerals (SA) Pty Ltd
	MPL46	OneSteel Manufacturing Pty Limited
Private mines (PM)	PM243	Bevan Wayne Crowell; Lynette Jean Crowell
	PM291	OneSteel Manufacturing Pty Limited
Mineral leases (ML)	ML5853	David Charles Henry Halloran
	ML5497	Osier Pty. Ltd.
	ML5259	Agricola Mining Pty Ltd
	ML5260	Agricola Mining Pty Ltd
	ML38	Adelaide Brighton Cement Ltd
	ML240	Adelaide Brighton Cement Ltd
	ML690	Ocsalt Proprietary Limited
	ML691	Ocsalt Proprietary Limited
	ML619	Ocsalt Proprietary Limited
	ML4782	Ocsalt Proprietary Limited
	ML453	Olsson Industries Pty Ltd
	ML134	Olsson Industries Pty Ltd
	ML382	Olsson Industries Pty Ltd

	ML517	Olsson Industries Pty Ltd
	ML3349	Adelaide Brighton Cement Ltd
	ML3350	Adelaide Brighton Cement Ltd
	ML3351	Adelaide Brighton Cement Ltd
	ML3352	Adelaide Brighton Cement Ltd
	ML3195	Adelaide Brighton Cement Ltd
	ML3353	Adelaide Brighton Cement Ltd
	ML3354	Adelaide Brighton Cement Ltd
	ML3029	Adelaide Brighton Cement Ltd
	ML3028	Adelaide Brighton Cement Ltd
	ML4012	Adelaide Brighton Cement Ltd
	ML4014	Adelaide Brighton Cement Ltd
	ML4013	Adelaide Brighton Cement Ltd
	ML4015	Adelaide Brighton Cement Ltd
	ML5881	Adelaide Brighton Cement Ltd
	ML3193	Adelaide Brighton Cement Ltd
	ML3194	Adelaide Brighton Cement Ltd

	ML3190	Adelaide Brighton Cement Ltd
	ML3191	Adelaide Brighton Cement Ltd
	ML3192	Adelaide Brighton Cement Ltd
	ML3187	Adelaide Brighton Cement Ltd
	ML3188	Adelaide Brighton Cement Ltd
	ML3189	Adelaide Brighton Cement Ltd
	ML3186	Adelaide Brighton Cement Ltd
	ML6454	Adelaide Brighton Cement Ltd
	ML3180	Adelaide Brighton Cement Ltd
	ML3181	Adelaide Brighton Cement Ltd
	ML3357	Adelaide Brighton Cement Ltd
	ML3358	Adelaide Brighton Cement Ltd
	ML3182	Adelaide Brighton Cement Ltd
	ML3183	Adelaide Brighton Cement Ltd
	ML3356	Adelaide Brighton Cement Ltd
	ML3184	Adelaide Brighton Cement Ltd
	ML3185	Adelaide Brighton Cement Ltd

	ML3355	Adelaide Brighton Cement Ltd
	ML6438	Rex Minerals (SA) Pty Ltd
	ML5317	OneSteel Manufacturing Pty Limited
	ML4041	OneSteel Manufacturing Pty Limited
	ML4040	OneSteel Manufacturing Pty Limited
	ML553	Ocsalt Proprietary Limited
	ML5069	Ocsalt Proprietary Limited
	ML552	Ocsalt Proprietary Limited
	ML5073	Ocsalt Proprietary Limited
	ML596	Ocsalt Proprietary Limited
	ML5043	Ocsalt Proprietary Limited
	ML616	Ocsalt Proprietary Limited
	ML484	Ocsalt Proprietary Limited
	ML589	Ocsalt Proprietary Limited
	ML615	Ocsalt Proprietary Limited
	ML588	Ocsalt Proprietary Limited
	ML493	Ocsalt Proprietary Limited

	ML556	Ocsalt Proprietary Limited
	ML94	Ocsalt Proprietary Limited
	ML95	Ocsalt Proprietary Limited
	ML5072	Ocsalt Proprietary Limited
	ML5071	Ocsalt Proprietary Limited
	ML5070	Ocsalt Proprietary Limited
	ML557	Ocsalt Proprietary Limited
	ML483	Ocsalt Proprietary Limited
	ML531	Ocsalt Proprietary Limited
	ML5277	Ocsalt Proprietary Limited
	ML5278	Ocsalt Proprietary Limited

Schedule 2 – Schedule of Tenement Applications

Part 1: Petroleum Tenement Applications

Application No.	**Applicant**	**Application Accepted Date**	**Area (square kilometres)**	**Proposed indicative 5-year work program and budget**	
				Year / Activities	**Estimated cost (AUD)**
PELA 688	Byrock Resources Pty Ltd	12 May 2021	9,962	Year 1 – Desktop Studies, Database Generation	$30,000.00
				Year 2 —Iodine Soil Testing - 1,000 samples, Reprocessing 200 line kilometers 2D seismic	$185,000.00
				Year 3 – Airborne Survey AEM-PTP – 10,000 km2, Gas Composition – 2,000 readings	$660,000.00
				Year 4 – Gas Composition Sites x 2	350,000.00
				Year 5 – Drilling up to 600m + logging + testing, Lab Analysis	$1,750,000.00
				TOTAL	**$2,975,000.00**
PELA 699	White Hydrogen Australia Pty Ltd	19 July 2021	9,624	Year 1 – Desktop Studies, Database Generation	$35,000.00
				Year 2 – Geometric Object Analysis, SniffSAT Survey (9,624 km2)	$217,500.00
				Year 3 – Airborne Survey AEM-PTP (9,624 km2)	$583,000.00

				Year 4 – Soil Gas Composition Readings x10,000, Gas Composition Sites x2, Airborne Radiometric Survey (9,624 km2)	$580,000.00
				Year 5 – Stratigraphic Hole; 500m + logging + testing, Lab Analysis	$1,500,000.00
				TOTAL	**$2,915,500.00**
PELA 700	White Hydrogen Australia Pty Ltd	19 July 2021	9,748	Year 1 – Desktop Studies, Database Generation	$35,000.00
				Year 2 – Geometric Object Analysis, SniffSAT Survey (9,748 km2)	$217,500.00
				Year 3 – Airborne Survey AEM-PTP (9,748 km2)	$609,500.00
				Year 4 – Soil Gas Composition Readings x10,000, Gas Composition Sites x2, Airborne Radiometric Survey (9,748 km2)	$580,000.00
				Year 5 – Stratigraphic Hole; 500m + logging + testing, Lab Analysis	$1,500,000.00
				TOTAL	**$2,942,000.00**
PELA 701	White Hydrogen Australia Pty Ltd	19 July 2021	9,750	Year 1 – Desktop Studies, Database Generation	$35,000.00
				Year 2 – Geometric Object Analysis, SniffSAT Survey (9,750 km2)	$217,500.00
				Year 3 – Airborne Survey AEM-PTP (9,750 km2)	$622,750.00
				Year 4 – Soil Gas Composition Readings x10,000, Gas Composition Sites x2, Airborne Radiometric Survey (9,750 km2)	$580,000.00

				Year 5 – Stratigraphic Hole; 500m + logging + testing, Lab Analysis	$1,500,000.00
				TOTAL	**$2,955,250.00**
PELA 702	White Hydrogen Australia Pty Ltd	19 July 2021	9,563	Year 1 – Desktop Studies, Database Generation	$35,000.00
				Year 2 – Geometric Object Analysis, SniffSAT Survey (9,563 km2)	$217,500.00
				Year 3 – Airborne Survey AEM-PTP (9,563 km2)	$614,800.00
				Year 4 – Soil Gas Composition Readings x10,000, Gas Composition Sites x2, Airborne Radiometric Survey (9,563 km2)	$580,000.00
				Year 5 – Stratigraphic Hole; 500m + logging + testing, Lab Analysis	$1,500,000.00
				TOTAL	**$2,947,300.00**
PELA 703	White Hydrogen Australia Pty Ltd	3 August 2021	9,015	Year 1 – Desktop Studies, Database Generation	$30,000.00
				Year 2 – Geometric Object Analysis, SniffSAT Survey (9,015 km2)	$217,500.00
				Year 3 – Airborne Survey AEM-PTP (9,015 km2)	$530,000.00
				Year 4 – Soil Gas Composition Readings x10,000, Gas Composition Sites x2, Airborne Radiometric Survey (9,015 km2)	$580,000.00
				Year 5 – Stratigraphic Hole; 500m + logging + testing, Lab Analysis	$1,500,000.00
				TOTAL	**$2,857,500.00**
PELA 704	White Hydrogen Australia Pty Ltd	19 July 2021	9,850	Year 1 – Desktop Studies, Database Generation	$30,000.00
				Year 2 – Geometric Object Analysis, SniffSAT Survey (9,850 km2)	$217,500.00

				Year 3 – Airborne Survey AEM-PTP (9,850 km2)	$662,500.00
				Year 4 – Soil Gas Composition Readings x10,000, Gas Composition Sites x2, Airborne Radiometric Survey (9,850 km2)	$580,000.00
				Year 5 – Stratigraphic Hole; 500m + logging + testing, Lab Analysis	$1,500,000.00
				TOTAL	**$2,990,000.00**

Part 2: Gas Storage Exploration Licence Applications

Applicant	Application No.	Application Accepted Date	Area (square kilometres)
Gold Hydrogen Pty. Ltd	GSELA 755	28 April 2022	2,470
	GSELA 756	28 April 2022	2,272
	GSELA 757	28 April 2022	1,780
	GSELA 758	28 April 2022	1,585

Part 3: Proposed indicative 5-year work program and budget (combined)

Year / Activities	Estimated cost (AUD)
Year 1 – Desktop Studies - Determine Workflow w/Schlumberger, MOU in-place and Master Service Agreement with Schlumberger, Risk Register & Matrix Generation	$40,000.00
Year 2 – Reservoir simulation studies, Environmental and hydrological baseline studies, JBS&G under contract 2022	$80,000.00
Year 3 – Reservoir simulation studies, Facility basis-of-design (BoD), Risk Register & Matrix Generation, Environmental and hydrological baseline studies	$120,000.00
Year 4 – Well Locations & Deliverability Models, Reservoir simulation studies, Environmental and hydrological baseline studies	$140,000.00
Year 5 – Gathering reservoir data from new drills, Reservoir Testing/Monitoring, Environmental and hydrological baseline studies	$180,000.00
TOTAL	**$560,000.00**

Gold Hydrogen

Annexure C: Application Form

GOLD HYDROGEN LIMITED

ABN 74 647 468 899

Broker Code

Adviser Code

Broker Firm Offer Application Form

This is an Application Form for Shares in Gold Hydrogen Limited under the Broker Firm Offer on the terms set out in the Prospectus dated 29 November 2022. You may apply for a minimum of 4,000 Shares and multiples of 1,000 thereafter. This Application Form and your payment must be received by your Broker by the deadline set out in their offer to you.

If you are in doubt as to how to deal with this Application Form, please contact your accountant, lawyer, stockbroker or other professional adviser. The Prospectus contains information relevant to a decision to invest in Shares and you should read the entire Prospectus carefully before applying for Shares.

A Shares applied for , , at Price per Share **A$0.50**

(minimum 4,000, thereafter in multiples of 1,000)

B Application Monies **A$** , , .

PLEASE COMPLETE YOUR DETAILS BELOW (refer overleaf for correct forms of registrable names)

C

Applicant #1

Surname/Company Name

Title First Name Middle Name

Joint Applicant #2

Surname

Title First Name Middle Name

Designated account e.g. <Super Fund> (or Joint Applicant #3)

D

TFN/ABN/Exemption Code

First Applicant Joint Applicant #2 Joint Applicant #3

TFN/ABN type – if NOT an individual, please mark the appropriate box ☐ Company ☐ Partnership ☐ Trust ☐ Super Fund

E

PLEASE COMPLETE ADDRESS DETAILS

PO Box/RMB/Locked Bag/Care of (c/-)/Property name/Building name (if applicable)

Unit Number/Level Street Number Street Name

Suburb/City or Town State Postcode

Email address (only for purpose of electronic communication of shareholder information)

F

CHESS HIN

X

If you have a Broker Sponsored account and would like your securities to be allocated to this account, it is important that you enter your HIN at this step. Failure to do so will result in your securities being allocated to a new Issuer Sponsored account. You will not be able to change this until after the stock exchange listing takes place and you will need to request your broker to do this for you.

G

Telephone Number where you can be contacted during Business Hours ( )

Contact Name (PRINT)

Total Amount A$, , .

LODGEMENT INSTRUCTIONS

You must return your application so it is received by your Broker by the deadline set out in their offer to you.

GHY BRO001

Your Guide to the Application Form

Please complete all relevant white sections of the Application Form in BLOCK LETTERS, using black or blue ink. These instructions are cross-referenced to each section of the form.

The Shares to which this Application Form relates are Gold Hydrogen Limited ("GHY") Shares. Further details about the Shares are contained in the Prospectus dated 29 November 2022 issued by Gold Hydrogen Limited. The Prospectus will expire on 13 Months after lodgement. While the Prospectus is current, Gold Hydrogen Limited will send paper copies of the Prospectus, any supplementary document and the Application Form, free of charge on request.

The Australian Securities and Investments Commission requires that a person who provides access to an electronic application form must provide access, by the same means and at the same time, to the relevant Prospectus. This Application Form is included in the Prospectus.

The Prospectus contains important information about investing in the Shares. You should read the Prospectus before applying for Shares.

A Insert the number of Shares you wish to apply for. The Application must be for a minimum of 4,000 Shares and thereafter in multiples of 1,000. You may be issued all of the Shares applied for or a lesser number.

B Insert the relevant amount of Application Monies. To calculate your Application Monies, multiply the number of Shares applied for by the issue price. Amounts should be in Australian dollars. Please make sure the amount of your cheque or bank draft equals this amount.

C Write the full name you wish to appear on the register of Shares. This must be either your own name or the name of a company. Up to three joint Applicants may register. You should refer to the table below for the correct registrable title.

D Enter your Tax File Number (TFN) or exemption category. Business enterprises may alternatively quote their Australian Business Number (ABN). Where applicable, please enter the TFN or ABN for each joint Applicant. Collection of TFN(s) and ABN(s) is authorised by taxation laws. Quotation of TFN(s) and ABN(s) is not compulsory and will not affect your Application. However, if these are not provided, Gold Hydrogen Limited will be required to deduct tax at the highest marginal rate of tax (including the Medicare Levy) from payments.

E Please enter your postal address for all correspondence. All communications to you from Gold Hydrogen Limited and the Share Registry will be mailed to the person(s) and address as shown. For joint Applicants, only one address can be entered.

F If you are already a CHESS participant or sponsored by a CHESS participant, write your Holder Identification Number (HIN) here. Please ensure the details you provide on this form match the details recorded on CHESS for your HIN. If the name or address recorded on CHESS for this HIN is different to the details given on this form, your Shares will be issued to Gold Hydrogen Limited's issuer sponsored subregister.

G Please enter your telephone number(s), area code and contact name in case we need to contact you in relation to your Application.

CORRECT FORMS OF REGISTRABLE NAMES

Note that ONLY legal entities are allowed to hold Shares. Applications must be in the name(s) of natural persons or companies. At least one full given name and the surname is required for each natural person. The name of the beneficiary or any other non-registrable name may be included by way of an account designation if completed exactly as described in the examples of correct forms below.

Type of Investor	Correct Form of Registration	Incorrect Form of Registration
Individual Use given names in full, not initials	Mrs Katherine Clare Edwards	K C Edwards
Company Use Company's full title, not abbreviations	Liz Biz Pty Ltd	Liz Biz P/L or Liz Biz Co.
Joint Holdings Use full and complete names	Mr Peter Paul Tranche & Ms Mary Orlando Tranche	Peter Paul & Mary Tranche
Trusts Use the trustee(s) personal name(s)	Mrs Alessandra Herbert Smith <Alessandra Smith A/C>	Alessandra Smith Family Trust
Deceased Estates Use the executor(s) personal name(s)	Ms Sophia Garnet Post & Mr Alexander Traverse Post <Est Harold Post A/C>	Estate of late Harold Post or Harold Post Deceased
Minor (a person under the age of 18 years) Use the name of a responsible adult with an appropriate designation	Mrs Sally Hamilton <Henry Hamilton>	Master Henry Hamilton
Partnerships Use the partners' personal names	Mr Frederick Samuel Smith & Mr Samuel Lawrence Smith <Fred Smith & Son A/C>	Fred Smith & Son
Long Names	Mr Hugh Adrian John Smith-Jones	Mr Hugh A J Smith Jones
Clubs/Unincorporated Bodies/Business Names Use office bearer(s) personal name(s)	Mr Alistair Edward Lilley <Vintage Wine Club A/C>	Vintage Wine Club
Superannuation Funds Use the name of the trustee of the fund	XYZ Pty Ltd <Super Fund A/C>	XYZ Pty Ltd Superannuation Fund

Put the name(s) of any joint Applicant(s) and/or account description using < > as indicated above in designated spaces at section C on the Application Form.


Gold
Hydrogen