



D3 ENERGY LIMITED

ACN: 649 276 808

PROSPECTUS

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**For an offer of 50,000,000 Shares at an issue price of \$0.20 to raise a total of \$10,000,000 (before costs) and for the Secondary Offers detailed in Section 6.7**

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This Prospectus has been issued to provide information on the offer of 50,000,000 Shares at an issue price of \$0.20 to raise a total of \$10,000,000 (**Public Offer**) and on the Secondary Offers detailed in Section 6.7 (together the **Offers**).

The Offers are not underwritten.

#### IMPORTANT INFORMATION

**THIS IS AN IMPORTANT DOCUMENT AND REQUIRES YOUR IMMEDIATE ATTENTION. YOU SHOULD READ THIS DOCUMENT IN ITS ENTIRETY TO ASSIST IN DECIDING WHETHER OR NOT TO INVEST IN THE COMPANY.**

**YOU SHOULD ALSO CONSULT YOUR PROFESSIONAL ADVISERS BEFORE DECIDING WHETHER TO INVEST IN THE COMPANY. THE OFFERS DO NOT TAKE INTO ACCOUNT YOUR INVESTMENT OBJECTIVES, FINANCIAL SITUATION OR PARTICULAR NEEDS. YOU SHOULD CAREFULLY CONSIDER THE RISK FACTORS IN PART 4 OF SECTION 5 AND IN SECTION 8 IN LIGHT OF YOUR CIRCUMSTANCES.**

**INVESTMENT IN THE SECURITIES OFFERED BY THIS PROSPECTUS SHOULD BE CONSIDERED AS HIGHLY SPECULATIVE IN NATURE AND INVESTORS SHOULD BE AWARE THAT THEY MAY LOSE SOME OR ALL OF THEIR INVESTMENT.**

*This prospectus may not be released to US wire services or distributed in the United States except by the Company to Accredited Investors under the Management and Consultant Offer.*

Joint Lead Managers  
Peloton Capital &  
Originate Capital

Solicitors to the  
Offers  
Poplar Legal

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## 1. CORPORATE DIRECTORY

<b>Directors</b>	<b>Solicitors to the Offers</b>
Greg Columbus <i>Non-Executive Chairman</i>  David Casey <i>Managing Director and CEO</i>  Matthew Worner <i>Executive Director</i>	Poplar Legal 1202 Hay Street West Perth, Western Australia 6005
<b>Company Secretary</b>	<b>Author of the Solicitors' Report on Permits</b>
Cameron O'Brien	Bowman Gilfillan Incorporated 11 Alice Lane Sandton, Johannesburg South Africa
<b>Company's Registered Office</b>	<b>Auditor*</b>
Level 14 234 George Street Sydney, NSW, 2000	BDO Audit (WA) Pty Ltd Level 9 5 Spring Street Perth, WA, 6000
<b>Company's Contact Details</b>	<b>Author of the Independent Technical Assessment Report</b>
Telephone: +61 2 8072 1400  Email: <a href="mailto:admin@d3energy.com.au">admin@d3energy.com.au</a>  Website: <a href="http://www.d3energy.com.au">www.d3energy.com.au</a>	Sproule Incorporated 1700 Broadway, Suite 1000 Denver, Colorado, United States, 80290
<b>Investigating Accountant</b>	<b>Share Registry*</b>
BDO Corporate Finance (WA) Pty Ltd Level 9 5 Spring Street Perth, WA, 6000	Automic Group Level 5 191 St Georges Terrace Perth, WA, 6000
<b>Company's Proposed ASX Code</b>	<b>Joint Lead Managers to the Public Offer</b>
D3E	Peloton Capital Pty Ltd  Level 8, 2 Bligh Street Sydney NSW 2000 AFSL: 406040  Originate Capital Pty Ltd  Suite 305, 66 Hunter Street Sydney WA 2000



	Corporate Authorised Representative (Authorised Representative No. 1257673) of AFSL: 472387
<b>Author of the South Africa Natural Gas Market Report</b>	<b>Author of the Helium Market Report</b>
Prime Africa Consult  The Factory, 274 Brander Street Pretoria 0186 South Africa	AKAP Energy Limited  37 Dennis Lane Stanmore HA7 4JS United Kingdom

*\*The names of these entities are included for information purposes only and they have not been involved in the preparation or issue of this Prospectus.*





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## 2. IMPORTANT NOTICE

This Prospectus is dated 5 March 2024 and was lodged with ASIC on that date. Neither ASIC nor ASX (or their respective officers) take any responsibility for the contents of this Prospectus or the merits of the investment to which this Prospectus relates. No person or entity is authorised to give any information or make any representation in connection with the Offers that is not contained in this Prospectus. Any information or representation not contained in this Prospectus must not be relied on as having been authorised by the Company in connection with the Offers or this Prospectus.

No Securities will be issued on the basis of this Prospectus later than 13 months after the date of this Prospectus. Application will be made to the ASX within seven (7) days after the date of this Prospectus for Quotation of the Shares offered under this Prospectus.

It is important that applicants read this Prospectus in its entirety and, if applicants are in any doubt about whether to apply for Securities or applicants have any questions, they should seek professional advice. The Securities the subject of this Prospectus should be considered as highly speculative in nature.

None of the Company, the Directors or any other person gives any guarantee as to the success of the Company, the repayment of capital, the payment of dividends, the future value of the Shares or the price at which Shares will trade on the ASX.

This Prospectus does not constitute an offer to sell, or a solicitation of any offer to buy, securities in the United States. In particular, the Securities and any underlying ordinary shares have not been, and will not be, registered under the US Securities Act of 1933 (**US Securities Act**) or the securities laws of any state of the United States, and may not be offered or sold in the United States, except in transactions exempt from or not subject to the registration requirements of the US Securities Act and any other applicable US securities laws.

### 2.1 EXPOSURE PERIOD

In accordance with Chapter 6D of the Corporations Act, this Prospectus is subject to an exposure period of seven (7) days from the date of lodgement of the Prospectus with ASIC. This period may be extended by ASIC for a further period of seven (7) days.

This Prospectus will be circulated during the exposure period. The purpose of the exposure period is to enable this Prospectus to be examined by market participants prior to the raising of funds, which examination may result in the identification of deficiencies in the Prospectus. In that event, any application that has been received will be dealt with in accordance with section 724 of the Corporations Act.

Applications for Securities under this Prospectus will not be processed by the Company until after the exposure period. No preference will be given to applications received by the Company during the exposure period.

### 2.2 ELECTRONIC PROSPECTUS AND OFFER APPLICATION FORM

This Prospectus will be issued in paper form and as an electronic prospectus that may be accessed on the internet at the Company's website at [www.d3energy.com.au](http://www.d3energy.com.au). This Prospectus may be made available in electronic form only to persons in Australia. If you have received or accessed this Prospectus as an electronic prospectus for the purpose of making an investment in the Company, please ensure that you have received the entire Prospectus accompanied by the applicable Offer Application Form. If you have not, please contact the Company (see the Corporate Directory in Section 1 for the Company's contact details) and the Company will send you, at no cost to you, either a hard copy or a further electronic copy of the Prospectus prior to the Closing Date.



The Corporations Act prohibits any person passing an Offer Application Form on to another person unless it is attached to a hard copy of this Prospectus or it accompanies the complete and unaltered version of this Prospectus. The Company reserves the right not to accept an Offer Application Form from a person if it has reason to believe that when that person was given access to the electronic Offer Application Form, it was not provided together with the electronic Prospectus and any relevant supplementary or replacement prospectus or any of those documents were incomplete or altered.

## **2.3 WEBSITE**

No document or information on the Company's website is incorporated by reference into this Prospectus.

## **2.4 APPLICANTS OUTSIDE AUSTRALIA**

The distribution of this Prospectus in jurisdictions outside Australia may be restricted by law and persons who come into possession of this Prospectus should observe any such restrictions, including those set forth below. A failure to comply with these restrictions may violate applicable securities laws. This Prospectus does not, and is not intended to, constitute an offer in any place or jurisdiction in which, or to any person to whom, it would not be lawful to make such an offer or to issue this Prospectus. No action has been taken by the Company to register or qualify the Securities or otherwise permit a public offering of the Securities the subject of this Prospectus in any jurisdiction outside of Australia

This Prospectus may not be distributed to any person, and the Securities may not be offered or sold, in any country outside Australia except to the extent permitted below.

### ***International offer restrictions for the Public Offer***

#### ***Canada (British Columbia, Ontario and Quebec Provinces)***

This Prospectus constitutes an offering of Securities only in the Provinces of British Columbia, Ontario and Quebec (**Provinces**), only to persons to whom Securities may be lawfully distributed in the Provinces, and only by persons permitted to sell such Securities. This Prospectus is not a prospectus, an advertisement or a public offering of securities in the Provinces. This Prospectus may only be distributed in the Provinces to persons who are "accredited investors" within the meaning of National Instrument 45-106 – Prospectus Exemptions, of the Canadian Securities Administrators.

No securities commission or authority in the Provinces has reviewed or in any way passed upon this Prospectus, the merits of the Securities or the offering of the Securities and any representation to the contrary is an offence.

No prospectus has been, or will be, filed in the Provinces with respect to the offering of Securities or the resale of such Securities. Any person in the Provinces lawfully participating in the offer will not receive the information, legal rights or protections that would be afforded had a prospectus been filed and receipted by the securities regulator in the applicable Province. Furthermore, any resale of the Securities in the Provinces must be made in accordance with applicable Canadian securities laws. While such resale restrictions generally do not apply to a first trade in a security of a foreign, non-Canadian reporting issuer that is made through an exchange or market outside Canada, Canadian purchasers should seek legal advice prior to any resale of the Securities.

The Company as well as its directors and officers may be located outside Canada and, as a result, it may not be possible for purchasers to effect service of process within Canada upon the Company or its directors or officers. All or a substantial portion of the assets of the Company and such persons may be located outside Canada and, as a result, it may not be possible to satisfy a judgment against the Company or such persons in Canada or to enforce a judgment obtained in Canadian courts against the Company or such persons outside Canada.



Any financial information contained in this Prospectus has been prepared in accordance with Australian Accounting Standards and also comply with International Financial Reporting Standards and interpretations issued by the International Accounting Standards Board. Unless stated otherwise, all dollar amounts contained in this Prospectus are in Australian dollars.

*Statutory rights of action for damages and rescission.* Securities legislation in certain Provinces may provide a purchaser with remedies for rescission or damages if an offering memorandum contains a misrepresentation, provided the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's Province. A purchaser may refer to any applicable provision of the securities legislation of the purchaser's Province for particulars of these rights or consult with a legal adviser.

*Certain Canadian income tax considerations.* Prospective purchasers of the new Shares should consult their own tax adviser with respect to any taxes payable in connection with the acquisition, holding or disposition of the new Shares as there are Canadian tax implications for investors in the Provinces.

*Language of documents in Canada.* Upon receipt of this Prospectus, each investor in Canada hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the Securities (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur canadien confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.*

### **New Zealand**

This Prospectus 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 Securities 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:

- is an investment business within the meaning of clause 37 of Schedule 1 of the FMC Act;
- meets the investment activity criteria specified in clause 38 of Schedule 1 of the FMC Act;
- is large within the meaning of clause 39 of Schedule 1 of the FMC Act;
- is a government agency within the meaning of clause 40 of Schedule 1 of the FMC Act; or
- is an eligible investor within the meaning of clause 41 of Schedule 1 of the FMC Act.

### **Hong Kong**

WARNING: This Prospectus 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 Prospectus may not be distributed, and the Securities 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 Securities 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 Securities that are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors. No person allotted Securities 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 Prospectus 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 Prospectus, you should obtain independent professional advice.

### ***Singapore***

This Prospectus and any other materials relating to the Securities have not been and will not be lodged or registered as a prospectus in Singapore with the Monetary Authority of Singapore. Accordingly, this Prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Securities, may not be issued, circulated or distributed, nor may the Securities be offered or sold, or be made the subject of 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 (SFA), or another exemption under the SFA.

This Prospectus has been given to you on the basis that you are an “institutional investor” or an “accredited investor” (as such term is defined in the SFA). If you are not such an investor, please return this Prospectus immediately. You may not forward or circulate this Prospectus to any other person in Singapore.

Any offer is not made to you with a view to the Securities or the underlying ordinary shares being subsequently offered for sale to any other party in Singapore. On-sale restrictions in Singapore may be applicable to investors who acquire Securities. As such, investors are advised to acquaint themselves with the SFA provisions relating to resale restrictions in Singapore and comply accordingly.

### ***The United Kingdom***

Neither this Prospectus nor any other document relating to the offer has been delivered for approval to the Financial Conduct Authority in the United Kingdom and no prospectus (within the meaning of section 85 of the Financial Services and Markets Act 2000, as amended (**FSMA**)) has been published or is intended to be published in respect of the Securities.

The Securities may not be offered or sold in the United Kingdom by means of this Prospectus or any other document, except in circumstances that do not require the publication of a prospectus under section 86(1) of the FSMA. This Prospectus is issued on a confidential basis in the United Kingdom to “qualified investors” within the meaning of Article 2(e) of the UK Prospectus Regulation. This Prospectus may not be distributed or reproduced, in whole or in part, nor may its contents be disclosed by recipients, to any other person in the United Kingdom.

Any invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) received in connection with the issue or sale of the Securities has only been communicated or caused to be communicated and will only be communicated or caused to be communicated in the United Kingdom in circumstances in which section 21(1) of the FSMA does not apply to the Company.

In the United Kingdom, this Prospectus is being distributed only to, and is directed at, persons (i) who have professional experience in matters relating to investments falling within Article 19(5) (investment professionals) of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005 (FPO), (ii) who fall within the categories of persons referred to in Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the FPO or (iii) to whom it may otherwise be lawfully communicated (“relevant persons”). The investment to which this Prospectus relates is available only to relevant persons. Any person who is not a relevant person should not act or rely on this Prospectus.

### ***International offer restrictions for the Management and Consultant Offer***

#### ***Canada (British Columbia, Ontario and Quebec Provinces)***



This Prospectus constitutes an offering of Securities only in the Provinces of British Columbia, Ontario and Quebec (**Provinces**), only to persons to whom Securities may be lawfully distributed in the Provinces, and only by persons permitted to sell such Securities. This Prospectus is not a prospectus, an advertisement or a public offering of securities in the Provinces. This Prospectus may only be distributed in the Provinces to persons who are “accredited investors” within the meaning of National Instrument 45-106 – Prospectus Exemptions, of the Canadian Securities Administrators.

No securities commission or authority in the Provinces has reviewed or in any way passed upon this Prospectus, the merits of the Securities or the offering of the Securities and any representation to the contrary is an offence.

No prospectus has been, or will be, filed in the Provinces with respect to the offering of Securities or the resale of such Securities. Any person in the Provinces lawfully participating in the offer will not receive the information, legal rights or protections that would be afforded had a prospectus been filed and receipted by the securities regulator in the applicable Province. Furthermore, any resale of the Securities in the Provinces must be made in accordance with applicable Canadian securities laws. While such resale restrictions generally do not apply to a first trade in a security of a foreign, non-Canadian reporting issuer that is made through an exchange or market outside Canada, Canadian purchasers should seek legal advice prior to any resale of the Securities.

The Company as well as its directors and officers may be located outside Canada and, as a result, it may not be possible for purchasers to effect service of process within Canada upon the Company or its directors or officers. All or a substantial portion of the assets of the Company and such persons may be located outside Canada and, as a result, it may not be possible to satisfy a judgment against the Company or such persons in Canada or to enforce a judgment obtained in Canadian courts against the Company or such persons outside Canada.

Any financial information contained in this Prospectus has been prepared in accordance with Australian Accounting Standards and also comply with International Financial Reporting Standards and interpretations issued by the International Accounting Standards Board. Unless stated otherwise, all dollar amounts contained in this Prospectus are in Australian dollars.

*Statutory rights of action for damages and rescission.* Securities legislation in certain Provinces may provide a purchaser with remedies for rescission or damages if an offering memorandum contains a misrepresentation, provided the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's Province. A purchaser may refer to any applicable provision of the securities legislation of the purchaser's Province for particulars of these rights or consult with a legal adviser.

*Certain Canadian income tax considerations.* Prospective purchasers of the new Shares should consult their own tax adviser with respect to any taxes payable in connection with the acquisition, holding or disposition of the new Shares as there are Canadian tax implications for investors in the Provinces.

*Language of documents in Canada.* Upon receipt of this Prospectus, each investor in Canada hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the Securities (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur canadien confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.*

### **South Africa**

This document does not constitute, or form part of, an offer for the sale of or subscription for, or the solicitation or advertisement of an offer to buy and to subscribe for securities to the public as



contemplated in chapter 4 of the South African Companies Act, 71 of 2008 (as amended or re-enacted) (the “South African Companies Act”) in South Africa and will not be made or distributed, as applicable, to any person in South Africa in any manner which could be construed as an offer to the public in terms of the South African Companies Act. In South Africa, any offer of securities under this document will only be made to up to a maximum of 50 persons (acting as principals) to whom this offer has been specifically addressed in terms of the exemptions under Section 96(1)(g) (each of them a “Qualifying Investor”)], and this document is only being made available to such Qualifying Investors. Should any person who is not a Qualifying Investor receive this document, then they should not, and will not, be entitled to participate in the offer or otherwise act thereon.

This Prospectus does not constitute a prospectus prepared and registered under the South African Companies Act and may not be distributed to the public in South Africa.

An entity or person resident in South Africa may not implement participation in the offer unless (i) permitted under the South African Exchange Control Regulations or (ii) a specific approval has been obtained from an authorised foreign exchange dealer in South Africa or the Financial Surveillance Department of the South African Reserve Bank.

### **United States**

The Securities and any underlying ordinary shares have not been, and will not be, registered under the US Securities Act of 1933 or the securities laws of any state or other jurisdiction of the United States. Accordingly, the Securities and any underlying ordinary shares may not be offered or sold in the United States except in transactions exempt from, or not subject to, the registration requirements of the US Securities Act of 1933 and applicable US state securities laws.

The Management and Consultant Offer is being made in the United States only to a limited number of investors who are “accredited investors” (as defined in Rule 501(a) under the US Securities Act). Any US investor must sign and return a US investor certificate that is available from the Company to confirm, amongst other things, that the US investor is an accredited investor.

## **2.5 PRIVACY STATEMENT**

If you complete an Offer Application Form you will be providing personal information to the Company. The Company collects, holds and will use that information to assess your application, and, if your application is successful, to service your needs as a Securityholder and to facilitate distribution payments and corporate communications to you as a Securityholder.

The information may also be used from time to time and disclosed to persons inspecting the registers of the Company’s Securities, including bidders for your Securities in the context of takeovers, regulatory bodies, including the Australian Taxation Office, authorised securities brokers, print service providers, mail houses and the Share Registry.

You can access, correct and update the personal information that we hold about you. If you wish to do so, please contact the Share Registry whose contact details are set out in the Corporate Directory in Section 1.

Collection, maintenance and disclosure of certain personal information is governed by legislation including the *Privacy Act 1988* (Cth) (as amended), the Corporations Act and certain rules such as the ASX Settlement Operating Rules.

You should note that if you do not provide the information required on an Offer Application Form the Company may not be able to accept or process your application.

The Company's Privacy Policy at [www.d3energy.com.au](http://www.d3energy.com.au) includes additional information about the way the Company handles personal information, including how to seek access or correction of your personal information, and how to complain if you believe the Company has breached its privacy obligations and how it will handle your complaint. For further information you may also





contact the Company's Company Secretary by email at [admin@d3energy.com.au](mailto:admin@d3energy.com.au) or by mail to Company Secretary, Level 5, 191 St Georges Terrace Perth, WA, 6000.

## **2.6 NOT INVESTMENT ADVICE**

The information contained in this Prospectus is not financial product advice and does not take into account the investment objectives, financial situation or particular needs (including financial and tax issues) of any prospective investor. This Prospectus should not be construed as financial, taxation, legal or other advice. The Company is not licensed to provide financial product advice in respect of its securities or any other financial products.

## **2.7 STATEMENTS OF PAST PERFORMANCE**

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

## **2.8 NO COOLING OFF RIGHTS**

Cooling off rights do not apply to an investment in Securities offered under this Prospectus. This means that, in most circumstances, you cannot withdraw your application.

## **2.9 FORWARD-LOOKING STATEMENTS**

This Prospectus contains forward-looking statements which are identified by words such as 'may', 'could', 'would', 'should', 'believes', 'estimates', 'targets', 'expects' or 'intends' and other similar words that involve risks and uncertainties.

These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding intentions, future events and actions that, as at the date of this Prospectus, are expected to take place. They are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the Directors and the Company's management, which could cause these future acts, events and circumstances to differ from the way or manner in which they are expressly or implicitly portrayed in this Prospectus. Some of these risk factors are set out in the Key Risks in Part 4 of the Investment Overview in Section 5 and the Risk Factors in Section 8.

The Company does not intend to update or review forward-looking statements, or to 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.

The Company cannot and does 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 potential investors are cautioned not to place undue reliance on these forward-looking statements.

## **2.10 PHOTOGRAPHS AND DIAGRAMS**

Photographs used in this Prospectus that do not have descriptions are for illustration only and should not be interpreted to mean that any person shown endorses the Prospectus or its contents or that the assets shown in them are owned by the Company. Any diagram appearing in this Prospectus is illustrative only and may not be drawn to scale.



## **2.11 DEFINITIONS**

Throughout this Prospectus abbreviations and defined terms are used. Defined terms are generally identifiable by the use of an upper-case first letter. Abbreviations and defined terms are contained in the Glossary in Section 17.

## **2.12 QUALIFIED RESERVES AND RESOURCES EVALUATOR'S STATEMENT**

The evaluation in the Independent Technical Assessment Report in Section 10 of this Prospectus has been prepared in accordance with the Society of Petroleum Engineers (**SPE**) Petroleum Resources Management System (**PRMS**) guidance and provides a review under a set of assumptions deemed most appropriate by Sproule Incorporated. The resource estimates are also in accordance with the ASX Listing Rules (specifically ASX Listing Rule 5 for Oil and Gas Companies). In August of 2022, the SPE published a statement on its website extending the PRMS principles to commercial non-hydrocarbons such as helium and hydrogen and this evaluation in the Independent Technical Assessment Report in Section 10 of this Prospectus follows that guidance.

The information in the Independent Technical Assessment Report in Section 10 of this Prospectus is based on, and fairly and accurately represents, in the form and context in which it appears, information and supporting documentation prepared by Sproule Incorporated, or under the supervision of Mr Jeffrey B Aldrich, Mr Mark Stouffer and Mr Alexey Romanov each of whom are qualified petroleum reserves evaluators and reserves auditors and members of the Society of Petroleum Engineers (and additionally, Messrs Aldrich and Romanov are members of the Association of Professional Engineers and Geoscientists of Alberta, Mr Aldrich is a member of the American Association of Petroleum Geologists and Mr Romanov is a member of the Canadian Society of Petroleum Geologists) with sufficient experience which is relevant to the evaluation and estimation of Petroleum Reserves and Contingent Resources to qualify as a Qualified Reserves and Resources Evaluator as defined in the ASX Listing Rules. Messrs Aldrich, Stouffer and Romanov are not employees of D3 Energy Limited but are employees of Sproule Incorporated.

Sproule Incorporated and each of Messrs Aldrich, Stouffer and Romanov have consented to the inclusion in this Prospectus of the matters based on this information in the form and context in which they appear.

## **2.13 CONTINUOUS DISCLOSURE OBLIGATIONS**

Following the admission of the Company to the Official List, the Company will be a "disclosing entity" (as defined in section 111AC of the Corporations Act) and, as such, will be subject to regular reporting and disclosure obligations. Specifically, like all ASX listed companies, the Company will be required to continuously disclose to the market any information it has which a reasonable person would expect to have a material effect on the price or the value of the Shares.

Price sensitive information will be publicly released through the ASX before it is disclosed to Shareholders and market participants. Distribution of other information to Shareholders and market participants will also be managed through disclosure to the ASX. In addition, the Company will post this information on its website after the ASX confirms an announcement has been made, with the aim of making the information readily accessible to the widest audience.

## **2.14 FINANCIAL FORECASTS AND CASHFLOW PROJECTIONS**

The Directors have considered the matters set out in ASIC Regulatory Guide 170 and consider that they do not have a reasonable basis to forecast future earnings for the Company. Given the highly speculative nature of gas and helium resource exploration and the early stage of the D3 Project there are significant uncertainties associated with the future revenue earning potential of the Company and the timing and sustainability of the cash flow. On the basis of these inherent uncertainties, any forecast or projection information would contain such a broad range of potential





outcomes and possibilities that the Directors believe that reliable best estimate forecasts cannot be prepared and accordingly have not included forecasts or projection in this Prospectus.

## **2.15 CLEARING HOUSE ELECTRONIC SUB-REGISTER SYSTEM (CHESS) AND ISSUER SPONSORSHIP**

The Company will apply to participate in the Clearing House Electronic Sub-register System (**CHESS**). CHESS is operated by ASX Settlement Pty Ltd, a wholly owned subsidiary of the ASX, in accordance with the Listing Rules and the ASX Settlement Operating Rules. On admission to CHESS, the Company will operate an electronic issuer-sponsored sub-register and an electronic CHESS sub-register. The two sub-registers together will make up the Company's principal register of Shares.

Under CHESS, the Company will not issue Share certificates to investors. Instead holders of Shares will receive a statement of their holdings in the Company. If an investor is broker sponsored, ASX Settlement Pty Ltd will send a CHESS statement. This statement will also advise investors of either their Holder Identification Number (HIN) in the case of a holding on the CHESS sub-register or a Security Holder Reference Number (SRN) in the case of a holding on the issuer sponsored sub-register.

A statement will be routinely sent to Shareholders at the end of any calendar month during which their holding changes. A Shareholder may request a statement at any other time however a charge may be incurred for additional statements.

## **2.16 TARGET MARKET DETERMINATION**

In accordance with the design and distribution obligations under the Corporations Act, the Company has determined the target market for the offers of Advisor Options, Management and Consultant Options and Management and Consultant Performance Rights to be issued under this Prospectus. The Company and the Joint Lead Managers will only distribute this Prospectus to those investors who fall within the target market determination (**TMD**) as set out on the Company's website ([www.d3energy.com.au](http://www.d3energy.com.au)). By making an application under the Offers, you warrant that you have read and understood the TMD and that you fall within the target market as set out in the TMD.

## **2.17 CURRENCY**

All financial amounts contained in this Prospectus are expressed as Australian currency unless otherwise stated. All references to "\$" or "A\$" are references to Australian dollars.

## **2.18 TIME**

All references to time in this Prospectus are references to AWST, being the time in Perth, Western Australia, unless otherwise stated.

## **2.19 ENQUIRIES**

If you are in any doubt as to how to deal with any of the matters raised in this Prospectus, you should consult with your broker or legal, financial or other professional adviser without delay. Should you have any questions about the Offer or how to accept the Offer please call the Company Secretary on +61 2 8072 1400



### 3. KEY DATES AND OFFER INFORMATION

#### 3.1 INDICATIVE TIMETABLE\*

<b>Lodgement of Prospectus with ASIC</b>	5 March 2024
<b>Exposure Period begins</b>	5 March 2024
<b>Opening Date of the Offers</b>	13 March 2024
<b>Closing Date of the Offers 5.00pm (WST)</b>	10 April 2024
<b>Issue Date of Securities under the Offers</b>	17 April 2024
<b>Despatch of holding statements</b>	18 April 2024
<b>Expected date for Quotation of Shares on ASX</b>	26 April 2024

*\*The above dates are indicative only and may change without notice subject to the Corporations Act, ASX Listing Rules and other applicable laws. In particular, the Company reserves the right to extend the Closing Date or close the Offers (or any of them) early without notice, which may have a consequential effect on other dates set out above. The Company also reserves the right to not proceed with the Offers (or any of them) at any time before the issue of Securities to applicants.*

#### 3.2 KEY STATISTICS OF THE OFFERS

<b>Public Offer</b>	
<b>Offer price per Share under the Public Offer</b>	<b>\$0.20</b>
<b>Shares offered for subscription under the Public Offer:</b>	<b>50,000,000</b>
<b>Cash raised under the Public Offer (before costs)</b>	<b>\$10,000,000</b>
<b>General</b>	
<b>Total Shares on issue as at the date of this Prospectus</b>	<b>62,578,906</b>
<b>Shares offered to investors under the Public Offer</b>	<b>50,000,000</b>
<b>Shares to be issued to a Vendor prior to ASX Listing under the Motuoane Acquisition Agreement<sup>(1)</sup></b>	<b>3,216,100</b>
<b>Shares to be issued upon conversion of Vendor Performance Rights<sup>(2)</sup> prior to ASX Listing<sup>(3)</sup></b>	<b>5,000,000</b>
<b>Total Shares on issue after completion of the Offers and prior to ASX Listing (undiluted)</b>	<b>120,795,006</b>
<b>Pro-forma Net Cash on Listing Date (after costs)</b>	<b>10,927,180</b>
<b>Options</b>	



<b>Total Options on issue as at the date of this Prospectus</b>	<b>nil</b>
<b>Management and Consultant Options<sup>(4)</sup> to be issued under the Management and Consultant Offer</b>	<b>6,225,000</b>
<b>Adviser Options<sup>(5)</sup> to be issued under the Adviser Offer</b>	<b>4,000,000</b>
<b>Total Options on issue after completion of the Offers and as at ASX Listing</b>	<b>10,225,000</b>
<b>Performance Rights</b>	
<b>Total Performance Rights on issue as at the date of this Prospectus</b>	<b>6,506,200 Vendor Performance Rights<sup>(2)</sup> (4,337,500 converting to Shares prior to ASX Listing)<sup>(3)</sup></b>
<b>Vendor Performance Rights<sup>(2)</sup> to be issued prior to ASX Listing under the Motuoane Acquisition Agreement<sup>(1)</sup></b>	<b>993,800 Vendor Performance Rights<sup>(2)</sup> (662,500 converting to Shares prior to ASX Listing)<sup>(4)</sup></b>
<b>Management and Consultant Performance Rights<sup>(6)</sup> to be issued under the Management and Consultant Offer</b>	<b>8,820,000</b>
<b>Total Performance Rights on issue after Completion of the Offers and as at ASX Listing</b>	<b>11,320,000</b>

**Notes:**

- <sup>(1)</sup> See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued to Vendors under the Motuoane Acquisition Agreement and Section 15.2 for a summary of the Motuoane Acquisition Agreement
- <sup>(2)</sup> See Section 16.2(e) for full terms of the Vendor Performance Rights
- <sup>(3)</sup> The Company intends to convert all the Class A Vendor Performance Rights and all the Class B Vendor Performance Rights prior to ASX Listing as the applicable milestones for conversion have been met
- <sup>(4)</sup> See Section 16.2(c) for full terms of the Management and Consultant Options
- <sup>(5)</sup> See Section 16.2(d) for full terms of the Advisor Options. The Advisor Options are being issued to the Joint Lead Managers (split equally between the Joint Lead Managers) as a fee for services provided by the Joint Lead Managers. For further information in relation to the appointment of the Joint Lead Managers, please refer to Section 15.4.
- <sup>(6)</sup> See Section 16.2(b) for full terms of the Management and Consultant Performance Rights

Please refer to Sections 7.8 and 7.9 for further details relating to the current and proposed capital structure of the Company.



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#### 4. CHAIRMAN'S LETTER TO INVESTORS

Dear Investor

On behalf of the Directors, I am pleased to offer you the opportunity to become a shareholder in D3 Energy Limited (the **Company** or **D3 Energy**).

D3 Energy was incorporated for the purpose of acquiring African based assets which are prospective for the exploration and production of both natural gas and helium. The Company's primary focus will be on its natural gas and helium assets located in the Free State Province, onshore South Africa where the Company's exploration work has identified an exciting natural gas and helium opportunity and where a significant Contingent Resource and Prospective Resource has been delineated.

This Prospectus offers 50,000,000 Shares in D3 Energy Limited at an issue price of \$0.20 per Share to raise \$10,000,000 (the **Public Offer**) (before costs) and also makes the Secondary Offers detailed in Section 6.7 (together the **Offers**).

Funds raised from the Public Offer will be used to explore and develop the Company's South African natural gas and helium assets as well as fund general working capital.

This Prospectus contains detailed information about the Offers and the Company. However, all investors should be aware of the highly speculative nature of natural gas and helium exploration and production and the inherent risks it carries through events and circumstances which cannot all be foreseen or mitigated. Please read this Prospectus in its entirety carefully, especially the Key Risks in Part 4 of the Investment Overview in Section 5 and the Risk Factors in Section 8, and seek professional advice if necessary prior to making your informed decision to invest.

The Company has brought together a Board and management team consisting of highly credentialed individuals with strong experience in oil and gas exploration and development, power generation, corporate, funding and M&A. Leveraging this experience, our knowledgeable and qualified team is poised to aggressively explore the D3 Project with the objective of delineating gas and helium reserves and resources in commercial quantities and to bring those to market in the shortest time possible.

On behalf of the Directors, I am pleased to present this investment opportunity to you and look forward to you adding to your existing shareholding in the Company or welcoming you as a new Shareholder to share in what we believe are exciting times for D3 Energy Limited.

Yours sincerely

Greg Columbus

**Chairman**

5 March 2024



## 5. INVESTMENT OVERVIEW

The information contained in this Section is a summary only and is not intended to provide comprehensive details of the Offer. You should read this Prospectus in full including the Independent Technical Assessment Report in Section 10, the Independent Limited Assurance Report in Section 11, the Solicitors' Report on Permits in Section 12, the South African Natural Gas Market Report in Section 13 and the Helium Market Report in Section 14 and, if in any doubt, you should consult with your professional advisers before deciding whether to apply for Shares.

D3 Energy Limited is a natural gas and helium resource exploration company and you should consider that an investment in the Company is highly speculative.

Item	Summary	Further Information
<b>1. Company</b>		
<b>Who is the issuer of this Prospectus?</b>	D3 Energy Limited (ABN: 87 649 276 808), a public company incorporated in Western Australia.	Section 7.1
<b>What is the Company?</b>	D3 Energy Limited was incorporated on 7 April 2021 as a public company with the purpose of identifying, evaluating and, if warranted, acquiring natural gas and helium projects in Africa that the Board considers will add Shareholder value.	Section 7.1
<b>What is the Company's interest in the Permits and the D3 Project?</b>	<p>Currently, the Company holds an 86.77% interest in Motuoane Energy (Pty) Ltd (<b>Motuoane</b>) a company incorporated in South Africa which holds the Permits comprising the D3 Project (<b>D3 Project</b>). The Company's 86.77% interest in Motuoane was acquired on 28 October 2022 under the Motuoane Acquisition Agreement. A summary of the Motuoane Acquisition Agreement is set out in Section 15.2.</p> <p>Under the Motuoane Acquisition Agreement, the Company has agreed to acquire the remaining 13.23% interest in Motuoane upon the earlier of the first business day following 1 July 2024 and the Company receiving conditional listing approval from ASX to be admitted to the Official List.</p> <p>The Offers are conditional on completion of the Company's acquisition of the remaining 13.23% interest in Motuoane under the Motuoane Acquisition Agreement. Accordingly, at ASX Listing the Company will hold 100% of Motuoane.</p>	Sections 7.1, 7.2-7.3, 10, 12 and 15.2,
<b>Why is the Company issuing this Prospectus?</b>	<p>The purpose of this Prospectus is to:</p> <ul style="list-style-type: none"> <li>(a) make the Public Offer to raise \$10,000,000 (before costs) and make the Secondary Offers detailed in Section 6.7; and</li> <li>(b) assist the Company to meet the requirements of ASX and satisfy Chapters 1 and 2 of the Listing Rules, as part of the Company's application for admission to the Official List.</li> </ul>	



Item	Summary	Further Information
<b>2. Business Model</b>		
<b>What is the Company's business model?</b>	<p>The Company is a highly speculative natural gas and helium resource exploration company. The Company aims to add shareholder value through the discovery and development of valuable natural gas and helium deposits.</p> <p>Following completion of the Offers, the Company's proposed business model will be the exploration of and where possible the development and production of natural gas and helium resources located in the D3 Project.</p> <p>The Company will also consider, where appropriate, acquiring interests (whether directly or indirectly) in additional natural gas and helium resource projects and assets in South African and elsewhere consistent with its objectives (although no such new projects have been identified as at the date of this Prospectus).</p> <p>A detailed explanation of the Company's business model is provided in Section 7.5.</p>	Sections 7.5 and 7.6
<b>What are the Company's key business objectives?</b>	<p>The Company's immediate business strategy and objectives comprises:</p> <ul style="list-style-type: none"> <li>(a) conducting exploration activities on the D3 Project with the aim of defining valuable natural gas and helium resources and reserves that the Company can monetarise through either further development or sale; and</li> <li>(b) identifying new project acquisition targets.</li> </ul> <p>A detailed explanation of the Company's business objectives is provided in Section 7.</p> <p><b>On completion of the Public Offer, the Board believes the Company will have sufficient working capital to achieve these objectives.</b></p>	Sections 7.1, 7.2, 7.6 and 7.7
<b>What are the key dependencies of the Company's business model?</b>	<p>The key dependencies of the Company's business model include:</p> <ul style="list-style-type: none"> <li>(a) completion of the Company's acquisition of the remaining 13.23% interest in Motuoane under the Motuoane Acquisition Agreement;</li> <li>(b) obtaining and maintaining title to the Permits comprising the D3 Project;</li> <li>(c) retaining key personnel skilled in the natural gas and helium sectors;</li> <li>(d) obtaining and maintaining access to the D3 Project as necessary to conduct exploration activities;</li> </ul>	Section 8



Item	Summary	Further Information
	<p>(e) having access to capital to fund exploration activities at the D3 Project and to develop the D3 Project and potentially make future acquisitions;</p> <p>(f) there being sufficient worldwide demand for natural gas and helium;</p> <p>(g) the market price of natural gas and helium remaining higher than the Company's costs of any future production; and</p> <p>(h) having the ability to mitigate Key Risk factors set out below and the Risk Factors in Section 8.</p>	
<b>What is the Company's growth strategy</b>	<p>The Company is currently focussed on conducting exploration activities at the D3 Project. If the Company's exploration activities are successful and the Company identifies natural gas and helium resources and reserves that are commercially viable to develop and commence production, it will develop these deposits and commence production activities.</p> <p>The Company will consider, where appropriate, acquiring interests (whether directly or indirectly) in additional natural gas and helium resource projects and assets in South Africa or elsewhere which contain or are prospective for (principally) natural gas and helium (although no such new projects have been identified as at the date of this Prospectus).</p>	Sections 7.1, 7.2, 7.6 and 7.7
<b>3. Key Advantages</b>		
<b>What are the key advantages of an investment in the Company?</b>	<p>Upon completion of the Offers, the Directors are of the view that an investment in the Company provides the following non-exclusive list of advantages:</p> <p>(a) As an exploration-focussed company, the Company will, subject to raising the Minimum Subscription, be able to continue its focus on progressing the D3 Project through exploration and evaluation activities on the Permits.</p> <p>(b) The Company has an experienced Board and management team with requisite natural gas exploration and development, corporate, funding and M&amp;A experience.</p> <p>(c) Subject to raising the Minimum Subscription, the Company will have a strong financial position, with a pro forma net cash balance of \$10,927,180 (after costs) to implement its exploration and development strategy.</p>	Sections 7 and 9.1



Item	Summary	Further Information
<b>4. Key Risks</b>		
<b>What are the key risks of an investment in the Company?</b>	<p>You should be aware that there are a number of risks to the business, assets and operations of the Company that potentially influence the operating and financial performance of the Company.</p> <p>You should read this Prospectus in its entirety and, in particular, consider the key risk factors affecting the Company set out below and the Risk Factors in Section 8 before deciding whether to apply for Securities under this Prospectus.</p> <p>You are urged to consider those risks carefully and, if necessary, to also consult your professional advisers with any questions before deciding whether to invest in the Company.</p> <p>Some risks can be mitigated by the use of appropriate safeguards and appropriate systems and controls by the Company, however, some are unpredictable and outside the control of the Company and the extent to which they can be mitigated or managed is very limited or not possible.</p> <p>Set out below is a non-exhaustive list of key and specific risks to which the Company is exposed and that may have a direct influence on the Company and its activities or assets, therefore affecting the value of an investment in the Company. Further information regarding general industry risks, is set out in Section 8.</p>	Section 8
<b>Future Capital Requirements</b>	<p>Exploration companies do not generally generate cash revenue. Accordingly, the Company may be required to raise new equity capital or access debt funding. There can be no assurance as to the levels of future borrowings or further capital raisings that will be required to meet the aims of the Company to explore and develop the D3 Project or otherwise for the Company to undertake its business. No assurance can be given that the Company will be able to procure sufficient funding at the relevant times on the terms acceptable to it. Any additional equity financing will dilute the Company Shareholders, and debt financing, if available, may involve restrictions on financing and operating activities. If the Company is unable to obtain additional financing as needed, it may be required to reduce the scope of its operations and scale back its exploration programmes as the case may be. There is no guarantee that the Company will be able to secure any additional funding or be able to secure funding on favourable terms. The Company has never paid dividends..</p>	
<b>No Dividends</b>	<p>The Company does not currently intend to pay any dividends while it has no income. No assurance in relation to the payment of dividends or franking credits attaching to dividends can be given by the Company. Furthermore, the Company may be subject to contractual restrictions on, or prohibitions against, the payment of dividends from time to time</p>	



Item	Summary	Further Information
<b>Equity Market Conditions</b>	<p>Shares listed on ASX, or any other securities market, and in particular securities of small companies engaged in exploration activities, can experience extreme price and volume fluctuations that are often unrelated to the operating performances of such companies. The market price of securities may fall as well as rise and may be subject to varied and unpredictable influences on the market for equities in general. These security market conditions may affect the value of the Company's Securities regardless of the Company's operating performance. Some of the factors which may affect the price of the Company's Securities include:</p> <ul style="list-style-type: none"> <li>• fluctuations in the domestic and international market for listed shares;</li> <li>• general economic conditions, including interest rates, inflation rates, exchange rates, commodity and oil prices;</li> <li>• changes to government fiscal, monetary or regulatory, policies, legislation or regulation;</li> <li>• inclusion in or removal from market indices;</li> <li>• the nature of the markets in which the Company operates; or</li> <li>• general operational and business risks.</li> </ul> <p>Other factors which may negatively affect investor sentiment and influence the Company specifically or stock markets more generally include acts of terrorism, an outbreak of international hostilities, labour strikes, civil wars, natural disasters or other man-made or natural events.</p>	
<b>Commodity Prices</b>	<p>Commodity prices (including natural gas and helium) are influenced by physical and investment demand. Fluctuations in commodity prices relevant to the Company may influence the exploration and potential development activity of the Company. If the Company achieves exploration success leading to natural gas and/or helium production, the revenue it will derive through the sale of commodities exposes the potential income of the Company to commodity price and exchange rate risks. Commodity prices fluctuate and are affected by many factors beyond the control of the Company, including but not limited to global demand and supply, weather conditions, the price and availability of alternative fuels, actions taken by governments and international cartels, the cost of freight, international economic trends, currency exchange fluctuations, expectations for inflation, speculative activity, consumption patterns and global or regional political events. The aggregate effect of these factors is impossible to predict. Fluctuating commodity prices may impact the Company's exploration and/or project development plans and activities, including its ability to fund those activities. The Company cannot provide any assurance as to the prices it will achieve for any resource or commodity it discovers and potentially produces (if any). Indeed, international oil and gas prices have fluctuated widely in recent years and may continue to fluctuate significantly in the future. Any substantial decline in the price of those commodities or in transport or distribution costs may have a</p>	

Item	Summary	Further Information
	material adverse effect on the Company and the value of its Securities.	
<b>Foreign Exchange Rates</b>	International prices of various commodities are denominated in United States dollars, whereas the capital raising pursuant to the IPO Offer will be taken into account in Australian dollars, exposing the Company to the fluctuations and volatility of the rate of exchange between the United States dollar and the Australian dollar as determined in international markets. The exchange rate is affected by numerous factors beyond the control of the Company, including international markets, interest rates, inflation, and the general economic outlook.	
<b>Regulatory Risk Relating to South African Exchange Control Regulations</b>	<p>South Africa maintains exchange control regulations to manage and monitor the flow of funds across its borders. The Financial Surveillance Department (<b>Finsurv</b>) of the South African Reserve Bank (<b>SARB</b>) imposes exchange controls on South African residents in terms of the Exchange Control Regulations. In this regard it is noted as follows:</p> <ul style="list-style-type: none"> <li>The Exchange Control Regulations specifically mandate non-resident shareholders to endorse their share certificates as “non-resident” within 30 days of becoming the holder of the shares. While the Finsurv often endorses shares without strict enforcement, non-compliance can impede dividend distribution to non-resident shareholders and affect the ability of purchasers to pay for shares in a South African company.</li> <li>South African residents require an Authorised Dealer, i.e. a local South African bank that is licenced to deal in foreign currency, or Finsurv approval (depending on the terms of the loan) before they obtain inward foreign loans from a non-resident. If a loan is not approved by an Authorised Dealer or the Finsurv and a loan reference number is not obtained, the resident will not be able to remit any interest or capital repayments to the non-resident.</li> </ul> <p>Whilst exchange control approval was obtained by Novo Resources Proprietary Limited in respect of the Acquisition Transaction and more specifically for Novo Resources Proprietary Limited to dispose of its interest in Motuoane for shares in the Company, the Company’s share certificate in respect of its 86.77% interest in Motuoane has not been endorsed “non-resident” within 30 days of the Company acquiring such interest as required by the applicable Exchange Control Regulations. Given the above approval by Finsurv, the Company does not anticipate that the failure to timeously attend to the non-resident endorsement will result in financial sanctions for Motuoane or the Company. The Company has been advised by its South African legal advisors Bowman Gilfillan Incorporated (its <b>South African Legal Advisors</b>) that the process to remedy this omission should be fairly simple and the Company has instructed its South African Legal Advisors</p>	

Item	Summary	Further Information
	<p>to take the necessary steps to remedy this omission, which steps are currently underway.</p> <p>From 2022, the Company has made certain cash advances to Motuoane (and paid certain invoices on behalf of Motuoane) which created a trade balance account payable by Motuoane to the Company of approximately \$1,300,000 (as at the date of this Prospectus) and which has been documented through an intercompany loan agreement entered into on or about 26 February 2024 (the loan is unsecured and interest-free, and repayable on 1 March 2029 unless extended by the parties) (<b>Intercompany Loan</b>). In broad terms, inward foreign loans and payments of creditors of a South African borrower require certain procedures to be followed with an Authorised Dealer or the Finsurv and Authorised Dealer or Finsurv approval. This has not occurred in respect of the Intercompany Loan.</p> <p>Finsurv is permitted to impose fines and/or imprisonment on a person who is convicted of an offence against any of the applicable regulations. Finsurv is also permitted to impose various financial sanctions such as blocking bank accounts ordering forfeiture to the state of money or goods. The Company has instructed its South African Legal Advisors to take the necessary steps to regularise the contravention in respect of the inward foreign loan. If any application for the regularisation of a contravention is made, Finsurv shall in respect of the applicant and in respect of the specific contravention set out in the regularisation application, not pursue any criminal prosecution, but may (relevantly) grant the applicant 100% relief in respect of any levy payable by such person resulting from the contravention; impose a levy in respect of contraventions as prescribed and/or impose any other conditions as may be prescribed. Provided the Company prepares and submits a regularisation application to the SARB (which it is currently preparing with the assistance of its South African Legal Advisors), then the Company has been advised that based on experience with the SARB, the risk of imposition of the above enforcement measures and financial sanctions may possibly be low and the primary risk will likely be that repayment of the Intercompany Loan will not be possible until such time as the Intercompany Loan is regularised.</p>	
<b>Exploration and Appraisal Risks</b>	<p>Exploration is a high-risk undertaking. The Company does not give any assurance that exploration of the D3 Project (or any future projects the Company may acquire) will result in exploration success. Exploration programmes may or may not be successful, may cause harm to employees or contractors, and may incur cost overruns if not carefully managed. There is a significant risk for the Company of the proposed exploration activity being unsuccessful and not resulting in the discovery of a viable natural gas and/or helium resource. Exploration by its nature is a high-risk activity and there can be no guarantee of success of the D3 Project (or any future projects the Company may acquire). Whilst the Company Directors' will make every effort to reduce this risk, the</p>	

Item	Summary	Further Information
	<p>fact remains that the discovery and development of a commercially viable resource is the exception rather than the rule.</p> <p>The Company is engaged in early-stage exploration and appraisal activities. There is a risk that these activities will not result in the discovery of commercially extractable natural gas and/or helium resources. Furthermore, no assurances can be given that if commercially viable resources are discovered, these will be able to be commercialised as intended, or at all. Whether positive income flows ultimately result from exploration and development expenditure incurred by the Company is dependent on many factors including successful exploration, establishment of production facilities, cost control, commodity price movements, successful contract negotiations for production and stability in the local political environment.</p> <p>The exploration costs of the Company (summarised in Section 7.6) are based on certain assumptions with respect to the method and timing of exploration. By their nature these estimates and assumptions are subject to significant uncertainties and, accordingly, the actual costs may materially differ from these estimates and assumptions. Accordingly, no assurance can be given that the cost estimates and the underlying assumptions will be realised in practice, which may materially and adversely affect the Company's operating and financial performance and the value of the Company's Securities.</p>	
<b>Nature of Exploration and Production</b>	<p>The business of resource exploration, development and production is subject to a high level of risk. Resource exploration and development requires large amounts of expenditure over extended periods of time with no guarantee of revenue, and exploration and development activities may be impeded by circumstances and factors beyond the Company's control. There can be no assurances that exploration and development at the D3 Project (or any other projects that may be acquired by the Company in the future) will result in the discovery of resources which are capable of being exploited economically. Even if an apparently viable resource is identified, there is no guarantee that it can be profitably exploited. Whether a discovered resource will be commercially viable depends on a number of factors. The combination of these factors may result in the Company expending significant resources (financial and otherwise) on permits or licences etc without receiving a return. There is no certainty that expenditures made by the Company towards the search and evaluation of resources will result in discoveries of an economically viable resource.</p> <p>The Company has relied on and may continue to rely on consultants and others for exploration and exploitation expertise. The Company believes that those consultants and others are competent and that they have carried out their work in accordance with internationally recognised industry standards. However, if the work conducted by those consultants or others is ultimately found to be incorrect or inadequate in any material respect, the Company</p>	

Item	Summary	Further Information
	may experience delays or increased costs in exploring or developing the D3 Project.	
<b>Limited Operating History</b>	The Company does not have a significant history of business operations. It is therefore not possible to evaluate the Company's prospects based on past performance. No assurance can be given that the Company will achieve commercial viability through the successful exploration of the D3 Project, or any permits or licences which are subsequently applied for or acquired by the Company. Unless and until the Company is able to realise value from the D3 Project (or any other projects that may be acquired by the Company in the future), it is likely to incur ongoing operating losses. There can be no certainty that the Company will achieve or sustain profitability, achieve or sustain positive cash flow from its operating activities or identify a resource which is capable of being exploited economically or which is capable of supporting production activities.	
<b>Land Access Risks</b>	<p>The Mineral and Petroleum Resources and Development Act (MPRDA) provides an exploration right holder with a statutory right of access to and use of the land subject to the relevant exploration right for exploration operations. However, this statutory right is not absolute in that a landowner or lawful occupier may still “refuse” access to or use of the land, or place unreasonable demands on the right holder in exchange for such access and use. The conclusion of land use agreements thus provides an “additional layer” which is typically intended to reinforce this statutory right and to regulate the commercial and practical terms pertaining to such access and use. Any dispute of access generally results in the dispute resolution mechanism under section 54 of the MPRDA being triggered by the right holder to “enforce” these statutory rights by agreeing to compensation payable to the landowner or lawful occupier for access and use. These are lengthy procedures, the outcome of which is not guaranteed and there may be a need for the holder to approach Courts for an appropriate relief.</p> <p>Over the two years from the date the Company is admitted to the Official List, the Company intends to undertake exploration activities on areas of ER315 in respect of which Motuoane has signed land access and use agreements, being the following farms (i) Blomskraal 216; (ii) Deelfontein 373; (iii) Geluksburg; (iv) Palmietfontein 229; (v) Détente 744; and (vi) Nootgedacht, in respect of which Motuoane has unhindered access to undertake on-ground exploration activities permitted by ER315. However, to the extent Motuoane wishes to undertake exploration activities on ER315 or other exploration rights not regulated by existing land use agreements, any inability to agree on an access agreement with a landowner on a permit or licence (including ER315, the TCPs or the ERA341 Application) may inhibit or delay such exploration activities.</p>	

Item	Summary	Further Information
<b>Operational Matters</b>	<p>The operations of the Company may be affected by various factors that are beyond the control of the Company, including but not limited to failure to locate or identify natural gas and/or helium resources, operational and technical difficulties encountered in exploration, development or production, difficulties in commissioning and operating plant and equipment, mechanical failure or plant breakdown, unanticipated problems which may affect extraction costs, adverse weather conditions, industrial and environmental accidents, industrial disputes and unexpected shortages, delays in procuring, or increases in the costs of consumables, spare parts, plant and equipment, fire, explosions and other incidents beyond the control of the Company. These risks and hazards could also result in damage to, or destruction of, production facilities, personal injury, environmental damage, business interruption, monetary losses and possible legal liability. These factors are substantially beyond the control of the Company and, if they eventuate, may have an adverse effect on the financial performance of the Company.</p>	
<b>Title Risk</b>	<p>The Company may lose title to, or interests in, ER315, ERA341 Application or the TCP's it holds (or any future permits or licences it may obtain), including (for example) if the conditions to which those permits or licences are subject are not satisfied or if insufficient funds are available to meet expenditure commitments on the permits or licences. In the jurisdictions in which the Company operates or will operate in the future, both the conduct of operations and the steps involved in acquiring title to, or interests in, permits or licences involve compliance with numerous procedures and formalities. It is not always possible to comply with, or obtain waivers from, all such requirements, nor is it always clear whether requirements have been properly completed, or possible or practical to obtain evidence of compliance. In some cases, failure to follow such requirements or obtain relevant evidence may call into question the validity of the actions taken or cause loss of title to the permits or licences. Further, there is a risk that permits or licences may not be renewed or that ERA341 Application or any additional permits or licences applied for from time to time may not be granted.</p> <p>Furthermore, should exploration success be achieved, the Company may be in a position to develop production activities. The Company will need to apply for production permits and environmental permits prior to any future development and commencement of production activities.</p>	
<b>Exploration Right ER315 Renewal Risk</b>	<p>The Company's exploration right ER315 (held by Motuoane) was granted on 19 October 2018 and is currently in its First Renewal Period (of 2 years) expiring on 14 March 2024. The MPRDA states that an exploration right may be renewed for a maximum of three renewal periods not exceeding two years each and will, notwithstanding its expiry date, remain in force until such time as any renewal application made in respect of the relevant exploration right has been granted or refused.</p>	





Item	Summary	Further Information
	<p>Motuoane has applied under the terms of section 102 of the MPRDA for Ministerial consent to amend its exploration work programme (relating to the number of wells to be drilled) for ER315 for the First Renewal Period so that it is clear that exploration work programme has been met. The Company has been advised by South Africa's petroleum regulator, the Petroleum Agency South Africa (<b>PASA</b>) that this application has been sent to the South African Department of Mineral Resources and Energy with a recommendation for approval. Additionally, Motuoane will timeously apply for the renewal of ER315 for the Second Renewal Period (of 2 years) in the manner prescribed by the MPRDA. Under the MPRDA, an application for renewal of an exploration right must be granted if: (a) it has been made in the manner prescribed by the MPRDA; (b) the holder of the exploration right has complied with the terms and conditions of the exploration right and is not in contravention of any relevant provision of the MPRDA or any other law; and (c) the holder of the exploration right has complied with the applicable exploration work programme and conditions and has complied with the applicable environmental authorisation.</p> <p>Assuming the success of Motuoane's application to amend its exploration work programme in respect of ER315 for the First Renewal Period, the Directors believe that each of the requirements in paragraphs (a)-(c) above have been and will be met in respect of Motuoane's proposed application for a Second Renewal Period in respect of exploration right ER315.</p> <p>Additionally, regardless of the success or otherwise of Motuoane's application for a reduction of its exploration work programme obligations on ER315 for the First Renewal Period, the Directors believe that Motuoane's proposed application for a Second Renewal Period in respect of ER315 will be granted. In this regard, it is noted that ER315 has already been renewed for the First Renewal Period notwithstanding that the exploration work programme obligations for the initial term had not been met and PASA has been supportive of Motuoane's activities on ER315. There is, however, an inherent risk of PASA taking the position that Motuoane has not met the requirements in paragraphs (a)-(c) above and refuse its application for a Second Renewal Period in respect of exploration right ER315.</p>	
<b>Exploration Right Application ERA341 Grant Risk</b>	<p>As at the date of this Prospectus, exploration right application ERA 341 is not granted and remains an application only. The Company does not expect that exploration right application ERA341 will be granted as at ASX Listing. In this regard, it is noted that the initial focus of the Company is the exploration, and where possible the development, of the identified resources within ER315.</p> <p>There are a number of steps that still need to be undertaken in order for exploration right application ERA341 to be granted including the Company submitting an application for an Environmental Authorisation, submitting a scoping report and consulting with interested and affected parties and including the</p>	

Item	Summary	Further Information
	<p>results of the consultation in the scoping and environmental impact reports. The Company is planning to take active steps to progress the application for and grant of the exploration right application ERA341, including the engagement of consultants/advisors in South Africa to assist with the application.</p> <p>However, investors should be aware that there is a risk that exploration right application ERA341 will not ultimately be granted or will be granted on terms and conditions which do not allow the Company to undertake exploration consistent with its business objectives or which are otherwise not acceptable to the Company.</p>	
<b>Environmental Regulation Risks Including Amendment to Exploration Authorisation</b>	<p>The oil and gas industry has become subject to increasing environmental regulations and liability. The potential for liability is an ever-present risk. The operations and proposed activities of the Company are subject to laws, regulations and permits concerning the environment. If such laws are breached or modified, the Company could be required to cease its operations and/or incur significant liabilities including penalties, due to past or future activities. As with most exploration and resource production operations, the Company's activities are expected to have an impact on the environment. It is the Company's intention to conduct its activities to an appropriate standard of environmental obligation, including in compliance in all material respects with relevant environmental laws. Nevertheless, there are certain risks inherent in the Company's activities which could subject the Company to extensive liability. The cost and complexity in complying with the applicable environmental laws and regulations may affect the viability of potential developments of the D3 Project and may cause delays to the Company's proposed exploration activities and development of the D3 Project, and consequently the value of the D3 Project, and the value of the Company's assets. It may be required for the Company to conduct baseline environmental studies prior to certain exploration activities, so that environmental impact can be monitored and minimised wherever possible. Also, landholders, customers, competitors, members of the general public or regulators could allege breaches of legislation or regulations in the relevant jurisdictions in which the Company operates. This could result in remedial action or litigation, which could potentially lead to the Company being required to pay compensation or a fine.</p> <p>In particular (in respect of environmental regulation risks), under the terms of ER315 (and ERA341 if granted), Motuoane can conduct exploration activities provided that it also holds an Environmental Authorisation (EA) over ER315 (and ERA341 if granted). Motuoane currently holds a valid EA over ER315. In order to undertake all of the proposed exploration activities on the D3 Project as set out in Section 7.6, Motuoane intends to apply for an amendment to its existing Environmental Authorisation over ER315. Specially, Motuoane will apply to amend its existing Environmental Authorisation over ER315 so that it covers a broader drilling programme. The process to obtain an amendment to the existing Environmental Authorisation over ER315 includes a</p>	



Item	Summary	Further Information
	<p>public participation process reporting the proposed amendment and providing an assessment of impacts, advantages and disadvantages and mitigation measures relevant to the amendment. Upon incorporation of comments received as a result of the public consultation (if any), the report is then submitted to the competent authority for review and approval. Upon receipt of the decision, Motuoane is then required to notify any interested and affected parties of the decision. Whilst the grant of Motuoane's proposed amendment to its existing Environmental Authorisation over ER315 cannot be guaranteed, as at the date of this Prospectus the Directors are not aware of any reason why such application will not be granted.</p>	
<b>Future Environmental Regulation</b>	<p>The Company's current and future operations may also become subject to additional regulatory requirements beyond those currently applicable, such as more stringent environmental or other licensing and reporting obligations, which would increase the costs and resources associated with regulatory compliance. Any such increase in the costs and resources associated with regulatory compliance could impact upon the Company's revenues. In addition, if regulators took the view that the Company had failed to comply with regulatory requirements, this could lead to enforcement action resulting in public warnings, infringement notices, and the imposition of a pecuniary penalty or even withdrawal of operating permissions. This could lead to significant damage to the Company's reputation or ability to operate, and consequently an adverse impact on its business and financial performance. As environmental laws and regulations become more complex and stringent, the Company's environmental management plans and/or programmes and other environmental licences may be the subject of increasingly strict interpretation or enforcement or become more comprehensive and could result in increased capital or operating expenditure or financial or other penalties and/or the suspension or loss of its exploration and/or production rights. The occurrence of any of these risks could have a material adverse effect on the Company's business, financial condition, results of operations and prospects.</p>	
<b>Climate Change Risks</b>	<p>The activities and operations of the Company are subject to laws and regulations (and any changes to them) related to climate change mitigation efforts, specific taxation or penalties for carbon emissions or environmental damage and other possible restraints on the oil and gas industry that may adversely impact on the Company, its financial performance and the value of its Securities. There can be no guarantee that the Company will not be impacted by these matters. Climate change may also cause certain physical or environmental risks that cannot be predicted by the Company, including events such as increased severity of weather patterns, incidence of extreme weather events and longer-term physical risks such as shifts in climate patterns. All of these risks associated with climate change may significantly change the industry in which the Company operates.</p>	

Item	Summary	Further Information
<b>Greenhouse Gas Emissions</b>	<p>Many participants in the oil and gas sector are subject to current and planned legislation in relation to the emission of carbon dioxide, methane, nitrous oxide and other so called “greenhouse gases”. Failure by the operator of any investments of the Company to comply with existing legislation or any future legislation could adversely affect the Company’s profitability. Future legislative initiatives designed to reduce the consumption of hydrocarbons could also have an impact on the ability to market the oil and gas produced from the Company’s investments and/or the prices which can be obtained from them. These factors could have a material adverse effect on the Company’s business, results of operations, financial condition or prospects.</p>	
<b>Regulation and Tenure</b>	<p>Adverse changes in South African government policies or legislation may affect ownership of resource interests, taxation, royalties, land access, labour relations, border access and exploration and production activities of the Company. The current system of exploration and production permitted in South Africa may change resulting in changes to or impairment of rights. In this regard, the Upstream Petroleum Resources Development Bill (<b>Bill</b>) is now before the South African National Council of Provinces having recently passed the National Assembly of the Parliament of South Africa. The Bill is not yet law and requires the concurrence of the National Council of Provinces and the President to sign it in to law. Whilst there is no indication of when or if the Bill will be brought into law, even if it is soon, it has detailed transitional provisions including provisions that state that any applications for permits lodged prior to the Bill coming into effect remain governed by the current legislation being the MRPDA. Relevant provision of the Bill in this regard include:</p> <ul style="list-style-type: none"> <li>Any pending application for a TCP, exploration, production right or renewal for an exploration right or production right, lodged in terms of the MPRDA but not finalised immediately before this Act (i.e. the Bill once passed into law) took effect, must be finalised in terms of the MPRDA;</li> <li>A TCP in respect of which an application for an exploration right has been lodged, or an exploration right in respect of which a production right has been lodged in terms of the MPRDA when this Act takes effect, remains in force until such a right has been granted or refused, notwithstanding its expiry date;</li> <li>A TCP in force immediately before this Act takes effect, or after this Act takes effect, continues to be in force until it expires, subject to the terms and conditions under which it was issued;</li> <li>An exploration right in force immediately before this Act takes effect, or after this Act takes effect, continues to be in force until the expiry of the term (initial, first, second or third renewal term) that was in force when this Act came</li> </ul>	

Item	Summary	Further Information
	<p>into effect, subject to the terms and conditions under which it was granted; and</p> <ul style="list-style-type: none"> <li>A holder of an exploration right has the exclusive right to convert such exploration right in respect of the area to which it relates to a petroleum right for exploration phase or production phase; and must apply for conversion to a petroleum right before the expiry of its current term failing which the exploration right in question will cease to exist.</li> </ul>	
<b>Key Personnel</b>	<p>The Company's key personnel consists of a Non-executive Chairman (Greg Columbus), the Managing Director and CEO (David Casey), an Executive Director (Matthew Worner) and a Chief Financial Officer and Company Secretary (Cameron O'Brien). In addition, one of the Vendors, Mr John Zetzman has been appointed by the Company as Technical Manager. Additionally, Mr Marek Ranoszek is a South African Director of Motuoane in South Africa. Responsibility of overseeing the day-to-day operations and the strategic management of the Company depends substantially on its senior management and its Board. There can be no assurance given that there will be no detrimental impact on the Company if one or more of these personnel leave the Company.</p>	
<b>Contract Risks</b>	<p>The ability of the Company to achieve its business objectives will depend on the performance by the Company and counterparties of their contractual obligations. If any party defaults in the performance of its obligations under a contract, it may be necessary for either party to approach a court to seek a legal remedy, which could be costly for the Company. The operations of the Company also require the involvement of a number of third parties, including consultants, contractors and suppliers. For example, the Company relies on third parties to perform contractual obligations, such as drilling and other exploration works. There are risks of non-performance by counterparties or by the Company (or its subsidiaries) in relation to contractual obligations and the possibility of future disputes, any of which may adversely impact on the Company and the value of its Securities. Financial failure, default or contractual non-compliance on the part of third parties may have a material impact on the Company's operations and performance. It is not possible for the Company to predict or protect the Company against all such risks.</p>	
<b>Litigation Risk</b>	<p>Legal proceedings may arise from time to time in the course of the Company's activities from parties such as suppliers, pastoralists and other landholders, contractors, joint venture parties, customers, regulatory agencies, environmental groups and/or investors. There have been a number of cases where the rights and privileges of exploration and production companies have been the subject of litigation. The Directors cannot preclude that such litigation may be brought against the Company or a member of the Company in the future from time to time.</p>	



Item	Summary	Further Information
<b>New Project and Acquisitions</b>	The Company may make acquisitions in the future as part of future growth plans (although no such new projects have been identified as at the date of this Prospectus). There can be no guarantee that any new project acquisition or investment will eventuate from these pursuits, or that any acquisitions will result in a return for the Company's Shareholders. Such acquisitions may result in the use of the Company's cash resources and/or the issuance of equity securities, which will dilute shareholdings.	
<b>Investing in Emerging Markets</b>	The South African economy is vulnerable to market downturns, currency fluctuation and economic slowdowns elsewhere in the world, and, generally, investing in emerging markets such as South Africa involves greater risk than investing in more developed markets, including in some cases significant legal, economic and political risks. Emerging markets such as South Africa are subject to rapid change. Global financial or economic crises in any large emerging market country tend to adversely affect prices in equity markets of most or all emerging market countries as investors move their money to more stable, developed markets. As has happened in the past, financial problems or an increase in the perceived risks associated with investing in emerging economies could dampen foreign investment in South Africa and adversely affect the economy. In addition, during such times, businesses that operate in emerging markets can face severe liquidity constraints as foreign funding sources are withdrawn.	
<b>Health and Safety</b>	The D3 Project is subject to a variety of South African industry-specific health and safety laws and regulations which are formulated to improve and protect the health and safety of employees and contractors. Exploration and processing operations have inherent risks and liabilities associated with the health and safety of employees, contractors and impacted communities. This exposure is primarily due to a range of risky activities which form part of the Company's operations including, but not limited to, the use of heavy equipment, working in conditions subject to ground failure or at height or in confined spaces, lifting objects and the handling of hazardous materials, explosives and hazardous waste. While the Company will implement training and management strategies (as required) to ensure and improve the health and safety culture of local workers, the occurrence of any industrial accidents, workplace injuries or fatalities would likely result in workers' compensation claims, related common law claims and potential occupational health and safety prosecutions. This could lead to, amongst other things, a temporary shutdown of all or a portion of the D3 Project, the imposition of costly compliance procedures and fines, or serious reputational damage to the Company. The Company intends to conduct its activities in a responsible manner and in accordance with applicable health and safety laws and industry standards.	
<b>Economic and</b>	The future viability of the Company is also dependent on a number of other factors affecting performance of all industries and not just the resources industry including, but not limited to, the following:	

Item	Summary	Further Information
<b>Government Risks</b>	<ul style="list-style-type: none"> <li>• general economic conditions in South Africa, Australia and any other jurisdictions in which the Company operates;</li> <li>• changes in government policies, taxation and other laws in South Africa, Australia and any other jurisdictions in which the Company operates;</li> <li>• the strength of the equity markets in Australia, South Africa and throughout the world, and in particular investor sentiment towards the resources sector;</li> <li>• movement in, or outlook on, interest rates and inflation rates in jurisdictions in which the Company operates; and</li> <li>• natural disasters, social upheaval or war in South Africa, or any other jurisdictions in which the Company operates.</li> </ul>	
<b>Taxation</b>	The acquisition and disposal of Securities will have tax consequences, which will differ depending on the individual financial affairs of each investor. Further, changes in tax law, or changes in the way taxation laws are interpreted may impact the tax liabilities of the Company or the tax treatment of an investor's investment. In particular, both the level and basis of taxation may change. To the maximum extent permitted by law, the Company, its officers and each of their respective advisers accept no liability and responsibility with respect to the taxation consequences of applying for Securities under the Prospectus.	
<b>5. Directors and Key Management Personnel</b>		
<b>Who are the Directors and Key Management Personnel?</b>	<p>The Board is comprised of:</p> <ul style="list-style-type: none"> <li>(a) Greg Columbus (Non-executive Chairman);</li> <li>(b) David Casey (Managing Director and CEO); and</li> <li>(c) Matthew Worner (Executive Director).</li> </ul> <p>Cameron O'Brien is the Chief Financial Officer and Company Secretary.</p> <p>Mr Milton John Zetzman has been appointed by the Company as Technical Manager.</p> <p>Mr Marek Ranoszek is a South African Director of Motuoane.</p>	Sections 9.1 and 9.2
<b>What experience do the Directors and Key Management Personnel have?</b>	<p><b>Greg Columbus (Non-executive Chairman)</b></p> <p>Mr Columbus has 15 years' experience as managing director and main board Director for Clarke Energy Limited, being a privately owned multinational company in the sale, engineering, installation and maintenance of power plants that utilise gas compressors and gas engines. Clarke Energy is a wholly owned company of the Kohler Group and operates in over 28 countries today. He was also Chairman of Warrego Energy Limited (ASX:WGO), an oil and gas exploration company with assets in Western Australia and Spain. Warrego's main asset is a 50% interest in the West-Erregulla gas discovery in Western Australia. Warrego was</p>	Sections 9.1 and 9.2

Item	Summary	Further Information
	<p>acquired in 2023 by Hancock Energy for a cost of around \$440mm. Additionally, Greg is a Non-exec Director of Galilee Energy Limited a CSG focussed E&amp;P company whose flagship asset is its Glenaras Gas Project in Queensland. Greg was formerly Non-executive Chairman of Talon Energy Limited (ASX:TPD) until its acquisition by Strike Energy Limited in December 2023. Mr Columbus is also a Non-Executive Director of ASX-listed Noble Helium Limited and is also a Director of the Port Adelaide Football Club.</p> <p><b>David Casey (Managing Director and CEO)</b></p> <p>Mr Casey has over 30 years' experience in the oil and gas sector. Mr Casey was the former Managing Director and CEO of Eastern Star Gas Limited (ESG) and was instrumental in the appraisal, development and commercialisation of the Narrabri Gas Project in Northern NSW. ESG grew to be an ASX 200 company until it was taken over by Santos Limited for \$924 million. Mr Casey was CEO Australia and Asia Pacific at Warrego Energy Limited (ASX:WGO), and a former Managing Director and non-executive director of Talon Energy Limited (ASX:TPD) as well as previously holding the position of Managing Director of Galilee Energy Limited (ASX:GLL).</p> <p><b>Matthew Worner (Executive Director)</b></p> <p>Mr Worner is a former lawyer, with extensive experience in the oil and gas sector having worked in various legal, commercial and Company Secretarial positions with ASX listed companies. He is formerly a Non-executive Director of Talon Energy Limited (ASX:TPD), Patriot Lithium Limited (ASX:PAT) and currently a Non-executive Director of RBR Group Ltd (ASX:RBR) and Wolf Mining Pty Ltd. Mr Worner is also a part-time employee of Automic Finance Pty Ltd part of the Automic Group where he provides corporate advisory services to listed and private companies.</p> <p><b>Cameron O'Brien (Chief Financial Officer and Company Secretary)</b></p> <p>Mr O'Brien specialises in corporate advisory, company secretarial and financial management services at Automic Group. He is a qualified chartered accountant formerly focusing on external audit across the natural resources and industrial sectors at a leading accounting firm. Mr O'Brien also worked within the accounting firm's Corporate Finance division where he was focused on due diligence, expert reports, valuations and ASX listings.</p> <p><b>Milton John Zetzman – Technical Manager</b></p> <p>Mr Zetzman has over 30 years' experience working in the energy exploration sector. John was among the first to identify the shale potential in South Africa. In Mr Zetzman was involved in submitting the first application for a large-scale exploration right focussed on shale. He was integral to the identification and application for the</p>	





Item	Summary	Further Information																					
	<p>exploration right now held by Renergen Limited, which is now the first onshore Production Right in South Africa.</p> <p><b>Marek Ranoszek – South African Director of Motuoane</b></p> <p>Mr Ranoszek is an experienced leader in the oil and gas exploration and production sectors. He has over 30 years' experience having served as Managing Director and Country Manager for several large US independent oil and gas production companies in South Africa, including Anadarko, Pioneer Natural Resources as well as Asset Manager and Services Manager for Total Energies EP in South Africa.</p>																						
<b>What are the Directors' and Key Management Personnel's interests in the Company?</b>	<p>At the date of this Prospectus, each Director and Key Management Personnel have relevant interests in Securities as follows:</p> <table> <tr> <th>Director/KMP</th><th>No. of Shares</th><th>Performance Rights</th></tr> <tr> <td>Greg Columbus</td><td>3,187,500<sup>(1)</sup></td><td>-</td></tr> <tr> <td>David Casey</td><td>5,312,550<sup>(2)</sup></td><td>-</td></tr> <tr> <td>Matthew Worner</td><td>5,000,050<sup>(3)</sup></td><td>-</td></tr> <tr> <td>Cameron O'Brien</td><td>-</td><td>-</td></tr> <tr> <td>Milton John Zetzman</td><td>4,824,100<sup>(4)</sup></td><td>1,490,750<sup>(5)</sup></td></tr> <tr> <td>Marek Ranoszek</td><td>-</td><td>-</td></tr> </table> <p>Notes:</p> <p><sup>(1)</sup> Subscribed for in the Company's seed funding rounds – 1,000,000 Shares at \$0.10 per Share and 2,187,500 Shares at \$0.16 per Share. These Shares are held by Discovery Investments Pty Ltd, a company controlled by Greg Columbus.</p> <p><sup>(2)</sup> Consisting of 50 Shares issued upon incorporation at \$1.00 per Share, 5,000,000 Shares subscribed for at \$0.001 per Share and 312,500 Shares subscribed for at \$0.16 per Share in a seed funding round. These Shares are held by D A Casey and Associates Pty Ltd (as trustee for the DA Casey Trust) and Hayrow Pty Ltd, companies controlled by David Casey.</p> <p><sup>(3)</sup> Consisting of 50 Shares issued upon incorporation at \$1.00 per Share and 5,000,000 Shares subscribed for at \$0.001 per Share.</p> <p><sup>(4)</sup> Issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement<sup>(6)</sup>.</p> <p><sup>(5)</sup> Consisting of 496,950 Class A Vendor Performance Rights, 496,900 Class B Vendor Performance Rights and 496,900 Class C Performance Rights issued to Mr Zetzman under the Motuoane Acquisition Agreement<sup>(6)</sup>. The Company intends to convert all the Class A Vendor Performance Rights and all the Class B Vendor Performance Rights prior to ASX Listing as the applicable milestones for conversion have been met.</p> <p><sup>(6)</sup> See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued to Vendors under the Motuoane Acquisition Agreement and Section 15.2 for a summary of the Motuoane Acquisition Agreement.</p> <p>As at the date of this Prospectus, no Director or Key Management Personnel hold any other Securities in the Company .</p>	Director/KMP	No. of Shares	Performance Rights	Greg Columbus	3,187,500 <sup>(1)</sup>	-	David Casey	5,312,550 <sup>(2)</sup>	-	Matthew Worner	5,000,050 <sup>(3)</sup>	-	Cameron O'Brien	-	-	Milton John Zetzman	4,824,100 <sup>(4)</sup>	1,490,750 <sup>(5)</sup>	Marek Ranoszek	-	-	Section 9.3
Director/KMP	No. of Shares	Performance Rights																					
Greg Columbus	3,187,500 <sup>(1)</sup>	-																					
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Marek Ranoszek	-	-																					

Item	Summary	Further Information																					
	<p>However, on completion of the Offers and as ASX Listing each Director and Key Management Personnel will hold the following additional Securities in the Company:</p> <table> <tr> <th>Director/KMP</th><th>No. of Management and Consultant Options<sup>1</sup></th><th>No. of Management and Consultant Performance Rights<sup>2</sup></th></tr> <tr> <td>Greg Columbus</td><td>1,000,000</td><td>1,020,000</td></tr> <tr> <td>David Casey</td><td>1,500,000</td><td>2,400,000</td></tr> <tr> <td>Matthew Worner</td><td>1,500,000</td><td>2,400,000</td></tr> <tr> <td>Cameron O'Brien</td><td>250,000</td><td>525,000</td></tr> <tr> <td>Milton John Zetzman</td><td>625,000</td><td>750,000<sup>3</sup></td></tr> <tr> <td>Marek Ranoszek</td><td>-</td><td>-</td></tr> </table> <p>Notes:</p> <p>(1) Management and Consultant Options to be issued under the Management and Consultant Offer exercisable at \$0.30 each and with an expiry date of 4 years from date of grant See Section 16.2(c) for full terms of the Management and Consultant Options.</p> <p>(2) Management and Consultant Performance Rights to be issued under the Management and Consultant Offer each have an expiry date 5 years from the date of issue and are split evenly across three classes and vest upon the achievement of the following milestones:</p> <p>a. Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.40.</p> <p>b. Class B: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding Class C: \$0.50.</p> <p>c. Class C: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.60.</p> <p>See Section 16.2(b) for full terms of the Management and Consultant Performance Rights</p>	Director/KMP	No. of Management and Consultant Options <sup>1</sup>	No. of Management and Consultant Performance Rights <sup>2</sup>	Greg Columbus	1,000,000	1,020,000	David Casey	1,500,000	2,400,000	Matthew Worner	1,500,000	2,400,000	Cameron O'Brien	250,000	525,000	Milton John Zetzman	625,000	750,000 <sup>3</sup>	Marek Ranoszek	-	-	
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Milton John Zetzman	625,000	750,000 <sup>3</sup>																					
Marek Ranoszek	-	-																					
What related party agreements are the Company a party to?	<p>The Company has entered into the following related party transactions:</p> <p>(a) a letter of appointment with Gregory Columbus for his appointment as Non-Executive Chairman;</p> <p>(b) a letter of appointment with David Casey for his appointment as a Director and an executive services agreement governing Mr Casey engagement as Managing Director and CEO;</p> <p>(c) a letter of appointment with Matthew Worner for his appointment as a Director and an executive services agreement governing Mr Worner's engagement as an Executive Director; and</p> <p>(d) Deeds of Indemnity, Insurance and Access with the Directors on standard terms.</p>	Section 9.5																					



Item	Summary	Further Information																					
Who are the current substantial shareholders of the Company?	<p>As at the date of this Prospectus, the Shareholders which hold 5% or more of the Shares on issue are as follows (see Section 7.11 for fully diluted position):</p> <p>Notes:</p> <table border="1"> <thead> <tr> <th>Shareholder</th><th>Shares</th><th>Percentage (undiluted)</th></tr> </thead> <tbody> <tr> <td>NOVO Resources Pty Ltd<sup>(1)</sup></td><td>11,405,700</td><td>18.23%</td></tr> <tr> <td>D A Casey &amp; Associates Pty Ltd and Hayrow Pty Ltd<sup>(2)</sup></td><td>5,312,550</td><td>8.49%</td></tr> <tr> <td>Matthew Worner<sup>(3)</sup></td><td>5,000,050</td><td>7.99%</td></tr> <tr> <td>Tamlib Investments Pty Ltd<sup>(4)</sup></td><td>4,824,100</td><td>7.71%</td></tr> <tr> <td>Milton John Zetzman<sup>(5)</sup></td><td>4,824,100</td><td>7.71%</td></tr> <tr> <td>Discovery Investments Pty Ltd<sup>(6)</sup></td><td>3,187,500</td><td>5.09%</td></tr> </tbody> </table> <p><sup>(1)</sup> Issued to NOVO Resources Limited as a Vendor under the Motuoane Acquisition Agreement<sup>(7)</sup>.</p> <p><sup>(2)</sup> Held by D A Casey &amp; Associates Pty Ltd (as trustee for the DA Casey Trust) and Hayrow Pty Ltd, being companies controlled by David Casey, a Director of the Company. 50 Shares were issued upon incorporation at \$1.00 per Share, 5,000,000 Shares were subscribed for at \$0.001 per Share and 312,500 Shares subscribed for at \$0.16 per Share in seed funding round</p> <p><sup>(3)</sup> 50 Shares were issued upon incorporation at \$1.00 per Share and 5,000,000 Shares were subscribed for at \$0.001 per Share. Held by Mr Worner as trustee of the MM Worner Family Trust.</p> <p><sup>(4)</sup> Issued to Tamlib Investments Pty Ltd as a Vendor under the Motuoane Acquisition Agreement<sup>(7)</sup>.</p> <p><sup>(5)</sup> Issued to Milton John Zetzman as a Vendor under the Motuoane Acquisition Agreement<sup>(7)</sup>.</p> <p><sup>(6)</sup> Discovery Investments Pty Ltd is controlled by Greg Columbus, a Director of the Company. Subscribed for in the Company's seed funding rounds – 1,000,000 Shares at \$0.10 per Share and 2,187,500 Shares at \$0.16 per Share.</p> <p><sup>(7)</sup> See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued to Vendors under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement.</p>	Shareholder	Shares	Percentage (undiluted)	NOVO Resources Pty Ltd <sup>(1)</sup>	11,405,700	18.23%	D A Casey & Associates Pty Ltd and Hayrow Pty Ltd <sup>(2)</sup>	5,312,550	8.49%	Matthew Worner <sup>(3)</sup>	5,000,050	7.99%	Tamlib Investments Pty Ltd <sup>(4)</sup>	4,824,100	7.71%	Milton John Zetzman <sup>(5)</sup>	4,824,100	7.71%	Discovery Investments Pty Ltd <sup>(6)</sup>	3,187,500	5.09%	Section 7.11
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Who will the substantial shareholders of the Company be as at ASX Listing?	<p>Set out below are the Shareholders expected to hold 5% or more of the Shares on issue as at ASX Listing. This assumes that no existing substantial shareholder or any Vendor subscribes for and is allotted additional Shares pursuant to the Public Offer. (See Section 7.11 for fully diluted position.)</p> <table border="1"> <thead> <tr> <th>Shareholder</th><th>Shares</th><th>Percentage (undiluted)</th></tr> </thead> <tbody> <tr> <td>NOVO Resources Pty Ltd</td><td>13,755,500 <sup>(1)</sup></td><td>11.39%</td></tr> </tbody> </table> <p>Notes:</p>	Shareholder	Shares	Percentage (undiluted)	NOVO Resources Pty Ltd	13,755,500 <sup>(1)</sup>	11.39%	Section 7.11															
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Item	Summary	Further Information
	(1) Consisting of 11,405,700 Shares issued to NOVO Resources Limited as a Vendor under the Motuoane Acquisition Agreement and 2,349,800 Shares to be issued on conversion prior to ASX Listing of 1,174,900 Class A Vendor Performance Rights and 1,174,900 Class B Vendor Performance Rights issued to NOVO Resources Limited as a Vendor under the Motuoane Acquisition Agreement. See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement.	
<b>6. Financial Information</b>		
<b>What is the Company's financial position?</b>	<p>Historical financial information of the Company and pro forma historical financial information of the Company is included in the Independent Limited Assurance Report contained in Section 11. Potential investors should read the Independent Limited Assurance Report in full.</p> <p>The Company has audited financial statements for the period from incorporation to 30 June 2021 and the for the financial years ended 30 June 2022 and 30 June 2023 . The Company will give a copy of these statements to any person who requests one during the Offer period, free of charge.</p>	Section 11
<b>What is the financial outlook for the Company?</b>	<p>Given the current status of the D3 Project and the highly speculative nature of the Company's business, the Directors do not consider it appropriate to forecast future earnings.</p> <p>Any forecast or projection information would contain such a broad range of potential outcomes and possibilities that it is not possible to prepare a reliable best estimate forecast or projection on a reasonable basis.</p>	Section 2.14
<b>7. Summary of Offer</b>		
<b>What is being offered under the Public Offer?</b>	<p>This Prospectus offers 50,000,000 Shares in D3 Energy Limited at an issue price of \$0.20 per Share to raise \$10,000,000 (before costs) under the Public Offer.</p> <p>The Shares issued under this Prospectus are new shares which will rank equally with the Shares already on issue.</p>	Section 6.2
<b>Is there a minimum subscription under the Public Offer?</b>	<p>Yes. The minimum amount to be raised under the Public Offer is \$10,000,000 (before costs) by the issue of 50,000,000 Shares at an issue price of \$0.20 per Share (<b>Minimum Subscription</b>).</p> <p>No oversubscriptions in addition to the Minimum Subscription will be accepted.</p>	Sections 6.3 and 6.4
<b>What are the purposes of the Public Offer?</b>	<p>The purpose of the Public Offer is to:</p> <p>(a) assist the Company to meet the requirements of ASX and satisfy Chapters 1 and 2 of the Listing Rules, as part of the Company's application for admission to the Official List;</p>	Sections 6.11 and 7.7

Item	Summary	Further Information
	<p>(b) provide the Company with additional funding:</p> <ul style="list-style-type: none"> <li>(i) to conduct exploration and where feasible, development activities on the D3 Project;</li> <li>(ii) for considering acquisition opportunities that may be presented to the Board from time to time;</li> <li>(iii) to meet the costs of the Offers and to fund administration costs; and</li> <li>(iv) so as to position the Company to achieve the objectives set out in Part 2 above; and</li> </ul> <p>(c) remove the need for an additional disclosure document to be issued upon the sale of any Securities that are to be issued under the Offers, including any Shares issued upon the exercise of convertible Securities issued under the Secondary Offers.</p> <p>The Company intends on applying the funds raised under the Public Offer together with its existing cash reserves in manner detailed in Section 7.7.</p> <p>The Board believes that on completion of the Public Offer, the Company will have sufficient working capital to achieve its objectives.</p>	
<b>What are the Secondary Offers?</b>	<p>This Prospectus also includes the following Secondary Offers:</p> <ul style="list-style-type: none"> <li>(a) Offers of 6,225,000 Management and Consultant Options and 8,820,000 Management and Consultant Performance Rights to Directors and key management and consultants and employees (or their nominees) (<b>Management and Consultant Offer</b>); and</li> <li>(b) Offers of 4,000,000 Adviser Options to the Joint Lead Managers (<b>Adviser Offer</b>).</li> </ul> <p>Only specified persons will be entitled to participate in the Secondary Offers, all of whom will be approached directly by the Company.</p>	Section 6.7
<b>What are the purposes of the Secondary Offers?</b>	<p>The purpose of the Management and Consultant Offer is to remove the need for an additional disclosure document to be issued upon the sale of the Shares issued on exercise of the Management and Consultant Options, or conversion of the Management and Consultant Performance Rights, that are to be issued under the Management and Consultant Offer.</p> <p>The purpose of the Adviser Offer is to remove the need for an additional disclosure document to be issued upon the exercise of the Adviser Options that are to be issued under the Adviser Offer</p>	Section 6.7

Item	Summary	Further Information
	<p>or upon the sale of the Shares issued on exercise of the Advisor Options that are to be issued under the Advisor Offer.</p> <p>Only specified persons will be entitled to participate in the Secondary Offers, all of whom will be approached directly by the Company.</p>	
<b>What is the effect of the Offers on the capital structure of the Company?</b>	<p>The Shares issued under the Public Offer will represent 41.4% of the undiluted issued share capital of the Company immediately following completion of the Offers.</p> <p>The Company will also issue the following Securities under the Secondary Offers prior to the Company being admitted to the Official List:</p> <ul style="list-style-type: none"> <li>• 4,000,000 Advisor Options under the Advisor Offer;</li> <li>• 6,225,000 Management and Consultant Options under the Management and Consultant Offer; and</li> <li>• 8,820,000 Management and Consultant Performance Rights under the Management and Consultant Offer.</li> </ul> <p>The terms of the Advisor Options, Management and Consultant Options and the Management and Consultant Performance Rights are set out in Section 16.2.</p> <p>Additionally, prior to ASX Listing, the Company will:</p> <ul style="list-style-type: none"> <li>• issue 3,216,100 Shares, 331,200 Class A Vendor Performance Rights, 331,300 Class B Vendor Performance Rights and 331,300 Class C Vendor Performance Rights to acquire the remaining 13.23% interest in Motuoane pursuant to the Motuoane Acquisition Agreement; and</li> <li>• convert all the 2,500,000 Class A Vendor Performance Rights and 2,500,000 Class B Vendor Performance Rights into Shares as the applicable milestones have been met resulting in an issue of 5,000,000 Shares</li> </ul> <p>See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued to Vendors under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement.</p>	<p>Sections 7.8, 7.9, 7.10, 7.12, 15.2 and 16.2</p>
<b>Are the Offers underwritten ?</b>	<p>The Offers are not underwritten.</p>	<p>Section 6.14</p>
<b>Who is the Lead Manager of the Public Offer?</b>	<p>The Company has appointed Peloton Capital Pty Ltd and Originate Capital Pty Ltd as Joint Lead Managers to the Public Offer.</p> <p>The Joint Lead Manager will receive a lead manager fee equal to 2% on all proceeds raised under the Public Offer and a broker fee of 4% on all proceeds raised under the Public Offer. Additionally, a chairman's list fee of 4% is payable on all proceeds raised under</p>	<p>Sections 6.5, 6.7, 15.4 and 16.2(d)</p>



Item	Summary	Further Information
	<p>the Public Offer via the Chairman's list. Refer to Section 15.4 for a summary of the Joint Lead Manager Mandate.</p> <p>In addition to the capital raising fee set out above, the Company has agreed to issue 4,000,000 Advisor Options to the Joint Lead Managers (to be split equally between the Joint Lead Managers) or their nominees. The Advisor Options will have an exercise price of \$0.30 and will expire four years from the date of the Company's admission to the Official List. Please refer to Section 16.2(b) for the full terms and conditions of the Advisor Options. The Advisor Options will equate to 2.81% of the share capital of the Company (on a fully diluted basis) as at the date the Company is admitted to the Official List.</p> <p>Peloton Capital Pty Ltd subscribed for in the Company's seed funding rounds 400,000 Shares at \$0.10 per Share and 1,250,000 Shares at \$0.16 per Share. These Shares are still held by Peloton Capital Pty Ltd as at the date of this Prospectus.</p> <p>JEC Capital Pty Ltd, a company associated with Originate Capital Pty Ltd subscribed for in the Company's seed funding rounds 600,000 Shares at \$0.10 per Share and 1,750,000 Shares at \$0.16 per Share. These Shares are still held by JEC Capital Pty as at the date of this Prospectus.</p>	
<b>Who is eligible to participate in the Public Offer?</b>	<p>The Public Offer is open to all investors resident in Australia and New Zealand and to eligible investors resident in certain other jurisdictions.</p> <p>This Prospectus does not, and is not intended to, constitute an offer or invitation in any place in which, or to any person, to whom, it would not be lawful to make such an offer or invitation. The distribution of this Prospectus in jurisdictions outside Australia and New Zealand may be restricted by law and persons who come into possession of this Prospectus should seek advice on and observe any of these restrictions. Any failure to comply with such restrictions may constitute a violation of applicable securities laws.</p>	Sections 2.4, 6.2 and 6.13
<b>How do I apply for Shares under the Public Offer?</b>	Applications for Shares under the Public Offer must be made by completing the Public Offer Application Form attached to this Prospectus in accordance with the instructions set out in the Public Offer Application Form.	Section 6.9
<b>What is the allocation policy for the Public Offer?</b>	<p>The final allocation of Shares under the Public Offer remains at the sole discretion of the Directors in consultation with the Lead Manager. The Directors will be influenced by the factors set out in Section 6.6.</p> <p>The final allocation of Shares under the Public Offer remains at the sole discretion of the Directors in consultation with the Lead Manager to ensure the Company has an appropriate Shareholder base on admission to the Official List.</p>	Section 6.6



Item	Summary	Further Information
	<p>The Directors reserve the right to issue Shares in full for any Application or any lesser number or to decline any Application. Any decision on allocation will be made after the Exposure Period.</p> <p>The Company gives no assurance that any applicant will be allocated the Shares for which it has applied.</p>	
<b>What is the cost of the Public Offer?</b>	The expenses of the Public Offer (including ASX listing fees) are estimated to be approximately \$1,154,950.	Section 16.8
<b>What will the Company's capital structure be upon completion of the Offers?</b>	The Company's capital structure on a post-Offer basis is set out in Section 7.9.	Section 7.9
<b>What are the terms of the Securities offered under the Offers?</b>	<p>A summary of the material rights and liabilities attaching to:</p> <ul style="list-style-type: none"> <li>(a) the Shares offered under the Public Offer are set out in Section 16.2(a);</li> <li>(b) the Advisor Options offered under the Advisor Offer are set out in Section 16.2(d);</li> <li>(c) the Management and Consultant Options are set out in Section 16.2(c);</li> <li>(d) the Management and Consultant Performance Rights are set out in Section 16.2(b).</li> </ul>	Sections 16.2(a), 16.2(b), 16.2(c) and 16.2(d)
<b>Will any of the Securities issued under the Offers be subject to escrow?</b>	<p>None of the Shares issued under the Public Offer will be subject to escrow.</p> <p>However, generally, Securities on issue at the date of this Prospectus that were issued to promoters or related parties will be escrowed for a period of 24 months from the date of the Company's admission to the Official List.</p> <p>It is expected that the Securities issued to the Vendors under the Motuoane Acquisition Agreement will be escrowed for 24 months from the date of the Company's admission to the Official List.</p> <p>During the period in which these Securities are prohibited from being transferred, assigned or otherwise disposed of, trading in Shares may be less liquid which may impact on the ability of a Shareholder to dispose of Shares in a timely manner.</p> <p>As at the date of this Prospectus, the Company expects the following Securities to be subject to ASX imposed escrow:</p>	Section 6.17

Item	Summary	Further Information
	<p>(a) 12,050,000 Shares issued to Directors, Key Management Personnel and Promoters – 24 months from Listing Date;</p> <p>(b) 29,270,000 Shares issued or to be issued to the Vendors or nominees under the Acquisition Agreement – 24 months from the Listing Date;</p> <p>(c) 6,225,000 Options issued to Directors, Key Management Personnel and Consultants – 24 months from the Listing Date;</p> <p>(d) 4,000,000 Lead Manager Options to be issued to the Lead Manager or its nominees – 24 months from the Listing Date;</p> <p>(e) Vendor Performance Rights which may convert into up to 2,500,000 Shares under the Acquisition Agreement – 24 months from the Listing Date; and</p> <p>(f) 8,820,000 Performance Rights issued to Directors, Key Management Personnel and Consultants – 24 months from the Listing Date;</p> <p>The Company will announce to ASX details of the number and duration of the Securities that the ASX require to be held in escrow prior to the Shares commencing trading on the ASX (which admission is subject to ASX's discretion and approval).</p> <p>Additionally, the Company's anticipated 'free float' (being the percentage of Shares not subject to escrow and held by Shareholders that are not related parties of the Company (or their associates) is set out in Section 6.17.</p>	
<b>Who are the current Securityholders of the Company and on what terms were their Securities issued?</b>	<p>There is currently 65,795,006 Shares, 2,168,600 Class A Vendor Performance Rights, 2,168,700 Class B Vendor Performance Rights and 2,168,700 Class C Vendor Performance Rights on issue by the Company.</p> <p>For details of the Company's capital structure and the holdings of the substantial shareholders, refer to Sections 7.8, 7.9, 7.10 and 7.11.</p>	Sections 7.8, 7.10, 7.11 and 7.12
<b>Will the Shares issued under the Public Offer be Quoted?</b>	<p>Yes. The Company will, no later than 7 days after the date of this Prospectus, make an application to ASX for Quotation of all Shares to be issued under the Public Offer.</p> <p>None of the Management and Consultant Options, Management and Consultant Performance Rights or Advisor Options being offered under the Secondary Offers will be Quoted.</p>	Section 6.12





Item	Summary	Further Information
<b>What are the key dates of the Offers?</b>	The key dates of the Offers are set out in the Indicative Timetable in Section 3.1.	Section 3.1
<b>What is the minimum investment size under the Public Offer?</b>	Applications under the Public Offer must be for a minimum of \$2,000 worth of Shares (10,000 Shares) and thereafter, in multiples of \$500 worth of Shares (2,500 Shares).	Section 6.9
<b>Are there any conditions to the Offers?</b>	<p>The Offers are conditional upon each of the following events occurring:</p> <ul style="list-style-type: none"> <li>(a) the Company raising the Minimum Subscription under the Offer (being \$10,000,000);</li> <li>(b) the Company receiving a letter from ASX confirming that ASX will approve the Shares for Official Quotation, on terms which are acceptable to the Company, acting reasonably;</li> <li>(c) the Company completing its acquisition of the remaining 13.23% interest in Motuoane under the Motuoane Acquisition Agreement; and</li> <li>(d) the Official Quotation of the Shares on ASX.</li> </ul> <p>If these Conditions are not satisfied then the Offer will not proceed and the Company will repay all application monies received under the Offer within the time prescribed under the Corporations Act, without interest.</p>	Section 6.8
<b>8. Use of Proceeds</b>		
<b>How will the proceeds of the Public Offer be used?</b>	<p>It is intended to apply the funds raised from the Public Offer as follows:</p> <ul style="list-style-type: none"> <li>(a) implementing the Company's business objectives and exploration program set out in Section 7;</li> <li>(b) for new project generation and acquisition costs;</li> <li>(c) for working capital purposes; and</li> <li>(d) to pay the costs of the Public Offer.</li> </ul> <p>Further details on the application of the funds raised from the Public Offer are set out in Section 7.7.</p>	Section 7.7
<b>What is the Company's proposed</b>	Sections 7.6 and 7.7 contains a summary of the Company's proposed exploration programme and the proposed expenditure	Sections 7.6 and 7.7



Item	Summary	Further Information
<b>exploration programme?</b>	on such exploration programme for the first two years following the Listing Date.	
<b>Will the Company be adequately funded after completion of the Public Offer?</b>	The Directors are satisfied that on completion of the Public Offer, the Company will have sufficient working capital to carry out its objectives as stated in this Prospectus.	
<b>9. Additional Information</b>		
<b>Is there any brokerage, commission or stamp duty payable by applicants?</b>	<p>No brokerage, commission or duty is payable by applicants on the acquisition of Shares under the Public Offer.</p> <p>However, the Company will pay to the Joint Lead Managers 6% (exclusive of goods and services tax) of the total amount raised by the Joint Lead Managers under the Prospectus (being a management fee of 2% and a placing fee of 4% agreed with the Joint Lead Manager – see Section 15.4 for further details).</p> <p>The Company reserves the right to pay a commission of up to 6% (exclusive of goods and services tax) of amounts subscribed to any licensed securities dealers or Australian Financial Services licensees in respect of applications lodged and accepted by the Company and bearing the stamp of the licensed securities dealer or Australian Financial Services licensee. Payments will be subject to the receipt of a proper tax invoice from the licensed securities dealer or Australian Financial Services licensee.</p>	Section 6.15
<b>Can the Offers be withdrawn?</b>	The Company reserves the right not to proceed with the Offers at any time before the issue or transfer of Shares to successful applicants. If the Offers do not proceed, application monies will be refunded (without interest).	Section 6.19
<b>What are the tax implications of investing in Securities?</b>	<p>Dividends on Shares may be subject to Australian tax and possibly capital gains tax on a future disposal of Shares issued under this Prospectus.</p> <p>The tax consequences of any investment in Securities will depend upon an investor's particular circumstances. Applicants should obtain their own tax advice prior to deciding whether to subscribe for Securities offered under this Prospectus.</p>	Section 6.18
<b>What is the Company's dividend policy?</b>	<p>The Company does not expect to declare any dividends during, at least, the first two-year period following the date of this Prospectus as significant expenditure will be incurred in the exploration and development of the D3 Project.</p> <p>No assurance in relation to the payment of dividends or franking credits attaching to dividends can be given by the Company.</p>	Section 7.13



Item	Summary	Further Information
<b>What are the corporate governance principles of the Company?</b>	<p>To the extent applicable in the opinion of the Directors', in light of the Company's size and nature, the Company has adopted <i>The Corporate Governance Principles and Recommendations (4<sup>th</sup> Edition)</i> as published by ASX Corporate Governance Council (<b>Recommendations</b>).</p> <p>The Company's main corporate governance policies and charters as at the date of this Prospectus are outlined in Section 9.7 and the Company's compliance and departures from the Recommendations will be published on the Company's ASX announcements platform prior to its admission to the Official List. In addition, the Company's full Corporate Governance Plan and copies of its charters and policies are available from the Company's website (<a href="http://www.d3energy.com.au">www.d3energy.com.au</a>).</p>	Section 9.7
<b>Where can I find more information?</b>	<p>(a) By speaking to your stockbroker, solicitor, accountant or other independent professional adviser.</p> <p>(b) By contacting the Company Secretary on +61 2 8072 1400.</p> <p>(c) By contacting the Share Registry on 1300 288 664.</p>	

This Section is a summary only and is not intended to provide full information for investors intending to apply for Securities offered pursuant to this Prospectus. This Prospectus should be read and considered in its entirety.



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## **6. DETAILS OF THE OFFERS**

### **6.1 INTRODUCTION**

The information set out in this Section 6 is not comprehensive and should be read together with the other information in this Prospectus.

### **6.2 THE PUBLIC OFFER**

Under this Prospectus the Company invites applications for up to 50,000,000 Shares in D3 Energy Limited at an issue price of \$0.20 per Share to a raise a total of \$10,000,000 (before costs) (**Public Offer**).

The Shares offered under the Public Offer are new Shares which will rank equally with the existing Shares on issue. The material rights and liabilities attaching to the Shares are summarised in Section 16.2(a).

### **6.3 MINIMUM SUBSCRIPTION**

The Minimum Subscription for the Public Offer is \$10,000,000 (50,000,000 Shares).

If the Minimum Subscription has not been raised within four (4) months after the date of this Prospectus or such period as varied by the ASIC, the Company will not issue any Shares and will repay all application monies for the Shares within the time prescribed under the Corporations Act, without interest.

### **6.4 OVERSUBSCRIPTIONS**

No oversubscriptions will be accepted by the Company under the Public Offer.

### **6.5 JOINT LEAD MANAGERS**

The Company has appointed Peloton Capital Pty Ltd and Originate Capital Pty Ltd as Joint Lead Managers to the Public Offer. In consideration for their services, the Company has agreed to pay the following fees to the Joint Lead Managers (which will be split equally between the Joint Lead Managers):

- (a) lead manager and broker fees (payable in cash) of:
  - (i) a lead manager fee of 2% of all proceeds raised under the Public Offer;
  - (ii) a broker fee of 4% of all proceeds raised under the Public Offer; and
  - (iii) a chairman's list fee of 4% on all proceeds raised under the Public Offer via the Chairman's list.
- (b) an option fee of 4,000,000 Advisor Options (valued at \$416,000, based on the value ascribed to Adviser Options in Note 6 to the pro-forma statement of financial position set out in the Independent Limited Assurance Report in Section 11 of \$0.104 per Advisor Option).

For further information in relation to the appointment of the Joint Lead Managers, please refer to Section 15.4.



## **6.6 ALLOCATION POLICY UNDER THE PUBLIC OFFER**

The Company retains an absolute discretion to allocate Shares under the Public Offer and reserves the right, in its absolute discretion, to allot to an applicant a lesser number of Shares than the number for which the applicant applies or to reject a Public Offer Application Form. If the number of Shares allotted is fewer than the number applied for, surplus application monies will be refunded without interest as soon as practicable.

No applicant under the Public Offer has any assurance of being allocated all or any Shares applied for. The allocation of Shares by Directors (in conjunction with the Joint Lead Managers) will be influenced by the following factors:

- (a) the number of Shares applied for;
- (b) the overall level of demand for the Public Offer;
- (c) the desire for a spread of investors, including institutional investors;
- (d) the desire for an informed and active market for trading Shares following completion of the Public Offer;
- (e) recognising the ongoing support of existing Shareholders;
- (f) the likelihood that particular Applicants will be long-term Shareholders;
- (g) ensuring an appropriate shareholder base for the Company going forward; and
- (h) any other factors that the Company and Joint Lead Managers consider appropriate.

The Company will not be liable to any person not allocated Shares or not allocated the full amount of Shares applied for.

Any applicant under the Public Offer represents and warrants that:

- it understands that the offer and sale of the Securities and any underlying ordinary 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 in the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the US Securities Act and applicable US state securities laws;
- it is resident or domiciled in Australia or, if outside Australia, is an Institutional Investor;
- it is not acting for the account or benefit of any person in the United States; and
- it has not sent and will not send the Prospectus or any other material relating to the Public Offer to any person in the United States or elsewhere outside Australia.

## **6.7 SECONDARY OFFERS**

### **Management and Consultant Offer**

This Prospectus includes the offer of a total of:

- (a) 1,000,000 Management and Consultant Options and 1,020,000 Management and Consultant Performance Rights to Greg Columbus the Non-Executive Chairman of the Company (or his nominees);



- (b) 1,500,000 Management and Consultant Options and 2,400,000 Management and Consultant Performance Rights to David Casey the Managing Director and CEO of the Company (or his nominees);
- (c) 1,500,000 Management and Consultant Options and 2,400,000 Management and Consultant Performance Rights to Matthew Worner an Executive Director of the Company (or his nominees);
- (d) 250,000 Management and Consultant Options and 525,000 Management and Consultant Performance Rights to Cameron O'Brien the Company's Chief Financial Officer and Company Secretary (or his nominees);
- (e) 625,000 Management and Consultant Options and 750,000 Management and Consultant Performance Rights to Milton John Zetzman whose associated entity (Brandfort Resources Corp) is a Consultant of the Company (or his nominees);
- (f) 625,000 Management and Consultant Options and 750,000 Management and Consultant Performance Right to Paul Young whose associated entity (Chalfont Exploration Limited) is a Consultant of the Company (or his nominees);
- (g) 625,000 Management and Consultant Options and 750,000 Management and Consultant Performance Rights to FJ Marx a Consultant of Motuoane (or his nominees); and
- (h) 100,000 Management and Consultant Options and 225,000 Management and Consultant Performance Rights to Zanele Ndhlovu an employee of Motuoane (or her nominee),

in each case divided equally between Class A Management and Consultant Performance Rights, Class B Management and Consultant Rights and Class C Management and Consultant Performance Rights (the **Management and Consultant Offer**).

The Management and Consultant Performance Rights will be issued on the terms and conditions set out in Section 16.2(b) and the Management and Consultant Options will be issued on the terms set out in Section 16.2(c). The Management and Consultant Performance Rights and Management and Consultant Options issued under the Management and Consultant Offer will not be quoted, but the Company will apply for quotation of all Shares issued upon exercise of the Management and Consultant Performance Rights and Management and Consultant Options.

Only Messrs Columbus, Casey, Worner, O'Brien, Zetzman, Young, Marx and Ms. Ndluvho may accept the Management and Consultant Offer. A personalised Application Form will be issued to those people along with a copy of this Prospectus.

All Management and Consultant Performance Rights and Management and Consultant Options are expected to be restricted from trading for 24 months from the date of Official Quotation in accordance with the ASX Listing Rules. A summary of the anticipated escrow of the Company's Securities is set out in Section 6.17.

Any applicant under the Management and Consultant Offer represents and warrants that:

- it understands that the offer and sale of the Securities and any underlying ordinary 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 in the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the US Securities Act and applicable US state securities laws;
- it is a director, officer or consultant of the Company in South Africa, United Kingdom or the United States;



- if in the United States, it is an Accredited Investor and has signed and returned to the Company a US investor certificate;
- it is not acting for the account or benefit of any person in the United States; and
- it has not sent and will not send the Prospectus or any other material relating to the Management and Consultant Offer to any person in the United States or elsewhere outside Australia.

### **Advisor Offer**

This Prospectus includes the offer of 4,000,000 Advisor Options to be issued to the Joint Lead Managers (or their nominees) (on the basis of 2,000,000 Advisor Options to each Joint Lead Manager) in consideration to corporate advisory and capital raising services provided by the Joint Lead Managers (**Advisor Offer**).

The Adviser Options offered under the Advisor Offer will be issued on the terms and conditions set out in Section 16.2(d). The Advisor Options will not be quoted, but the Company will apply for quotation of all Shares issued upon exercise of the Advisor Options.

Only the Joint Lead Managers and their nominees may accept the Advisor Offer. A personalised Application Form in relation to the Advisor Offer will be issued to the Joint Lead Managers or their nominees together with a copy of this Prospectus.

All Advisor Options are expected to be restricted from trading for 24 months from the date of Official Quotation in accordance with the ASX Listing Rules. A summary of the anticipated application of escrow to the Company's Securities is set out in Section 6.17.

### **6.8 CONDITIONS OF THE OFFERS**

The Offers are conditional upon each of the following events occurring:

- (a) the Company raising the Minimum Subscription under the Public Offer (being \$10,000,000);
- (b) the Company receiving a letter from ASX confirming that ASX will approve the Shares for Official Quotation, on terms which are acceptable to the Company, acting reasonably;
- (c) the Company completing its acquisition of the remaining 13.23% interest in Motuoane under the Motuoane Acquisition Agreement; and
- (d) the Official Quotation of the Shares on ASX.

If these conditions are not satisfied then the Offers will not proceed and the Company will repay all application monies received under the Offers within the time prescribed under the Corporations Act, without interest.

### **6.9 HOW TO APPLY FOR SECURITIES**

Applications for Securities offered under this Prospectus must be made using the relevant Application Form as follows:

- (a) using an online Application Form at [www.d3energy.com.au](http://www.d3energy.com.au) and pay the application monies electronically; or
- (b) completing a paper-based application using the relevant Application Form attached to, or accompanying, this Prospectus or a printed copy of the relevant Application Form attached to the electronic version of this Prospectus.





By completing an Application Form, each applicant will be taken to have declared that all details and statements made are complete and accurate and that the applicant has personally received the Application Form together with a complete and unaltered copy of the Prospectus.

Participation in the Secondary Offers is personal and Application Forms in relation to the Secondary Offers will be issued to the relevant participants together with a copy of this Prospectus.

Payment for the Shares under the Public Offer must be made in full at the issue price of \$0.20 per Share. Applications for Shares under the Public Offer must be for a minimum of 10,000,000 Shares and thereafter in multiples of 2,500 Shares.

If paying by BPAY® or EFT, please follow the instructions on the Public Offer Application Form. A unique reference number will be quoted upon completion of the online application. Your BPAY reference number will process your payment to your application electronically and you will be deemed to have applied for such Shares for which you have paid. Applicants using BPAY or EFT should be aware of their financial institution's cut-off time (the time payment must be made to be processed overnight) and ensure payment is processed by their financial institution on or before the day prior to the Closing Date.

Completed Application Forms and accompanying cheques must be either:

(a) mailed to:

D3 Energy Limited  
C/- Automic Pty Ltd  
GPO Box 5193  
SYDNEY NSW 2001

(b) delivered to:

D3 Energy Limited  
C/- Automic Pty Ltd  
Level 5, 126 Phillip Street  
SYDNEY NSW 2000

Cheques should be made payable to **D3 Energy Limited** and crossed "Not Negotiable". A completed Application Form and accompanying cheques must reach one of the above addresses by no later than the Closing Date. Detailed instructions on how to complete an Application Form are set out on the reverse of the form.

If an Application Form is not completed correctly or if the accompanying payment is the wrong amount, the Company may, in its discretion, still treat the Application Form to be valid. The Company's decision to treat an application as valid, or how to construe, amend or complete it, will be final.

If you require assistance in completing an Application Form, please contact Automic Registry Services on 1300 288 664.

The Company reserves the right to close the Public Offer early without notice.

## **6.10 ISSUE OF SECURITIES**

Subject to the Minimum Subscription being reached, the ASX granting conditional approval for the Company to be admitted to the Official List and the Company completing its acquisition of the



remaining 13.23% interest in Motuoane under the Motuoane Acquisition Agreement, the issue of Securities offered by this Prospectus will take place as soon as practicable after the Closing Date.

Following issue, statements of security holdings will be dispatched to successful applicants. It is your responsibility to determine your allocation prior to trading in Shares. If you sell Shares before receiving your holding statement you do so at your own risk.

Prior to allotment, all application monies shall be held by the Company on trust for the Applicants in a separate bank account as required by the Corporations Act. The Company will retain any interest earned on the application monies irrespective of whether the issue of Shares takes place.

The Directors reserve the right to issue Shares in full for any application or to issue any lesser number of Shares or to decline any application. Where the number of Shares issued is less than the number applied for, or where no issue is made, the surplus application monies will be refunded without any interest to the applicant as soon as practicable after the issue date.

### **6.11 PURPOSE OF THE PUBLIC OFFER**

The purpose of the Public Offer is to:

- (a) assist the Company to meet the requirements of ASX and satisfy Chapters 1 and 2 of the Listing Rules, as part of the Company's application for admission to the Official List;
- (b) provide the Company with additional funding:
  - (i) to conduct exploration, appraisal and development activities on the D3 Project;
  - (ii) for considering acquisition opportunities that may be presented to the Board from time to time;
  - (iii) to meet the costs of the Offers and to fund administration costs; and
  - (iv) so as to position the Company to achieve the objectives set out in Section 7.5.
- (c) remove the need for an additional disclosure document to be issued upon the sale of any Securities that are to be issued under the Offers, including any Shares issued upon the exercise of convertible Securities issued under the Management and Consultant Offer and the Advisor Offer.

Refer to Section 7.7 in respect of the proposed use of funds and Section 7.6 for details of the Company's objectives and strategy.

### **6.12 ASX LISTING**

The Company will apply to the ASX within seven (7) days after the date of this Prospectus for admission to the Official List and for Quotation of the Shares offered under this Prospectus. If the ASX does not grant permission for Quotation of the Shares within three (3) months after the date of this Prospectus, or such longer period as is varied by ASIC, the Company will not issue any Shares offered for subscription under this Prospectus and will repay all application monies received as soon as practicable thereafter, or within the time prescribed under the Corporations Act. The ASX takes no responsibility for the contents of this Prospectus. The fact that the ASX may grant Quotation of Shares is not to be taken in any way as an indication of the merits of the Company or the Shares offered under this Prospectus.



### **6.13 APPLICANTS OUTSIDE AUSTRALIA**

This Prospectus does not and is not intended to constitute an offer in any place or jurisdiction in which, or to any person to whom, it would not be lawful to make such an offer or to issue this Prospectus.

Applicants outside Australia should refer to Section 2.4 for further information.

### **6.14 NOT UNDERWRITTEN**

The Offer is not underwritten.

### **6.15 COMMISSIONS PAYABLE**

The Company reserves the right to pay a commission of up to 6% (exclusive of goods and services tax) of amounts subscribed through any licensed securities dealers or Australian Financial Services licensees in respect of valid applications lodged and accepted by the Company and bearing the stamp of the licensed securities dealer or Australian Financial Services licensee. Payments will be subject to the receipt of a proper tax invoice from the licensed securities dealer or Australian Financial Services licensee.

### **6.16 RISK FACTORS**

You should be aware that subscribing for Securities the subject of this Prospectus involves a number of risks. The Key Risks are set out in the Investment Overview in Section 5 and the other Risk Factors are set out in Section 8. Potential investors are urged to consider those risks carefully and if necessary, consult their professional advisers before deciding whether to invest in the Company.

The Key Risks in the Investment Overview in Section 5 and the other Risk Factors in Section 8, and other general risks applicable to all investments in listed securities not specifically referred to, may in the future affect the value of the Securities. Accordingly, an investment in the Company should be considered highly speculative.

### **6.17 RESTRICTED SECURITIES**

None of the Shares issued under the Public Offer will be subject to escrow.

However, generally, Securities on issue at the date of this Prospectus that were issued to promoters or related parties will be escrowed for a period of 24 months from the date of the Company's admission to the Official List.

It is expected that the Securities issued to the Vendors or nominees under the Motuoane Acquisition Agreement will be escrowed for 24 months from the date of the Company's admission to the Official List.

During the period in which these Securities are prohibited from being transferred, assigned or otherwise disposed of, trading in Shares may be less liquid which may impact on the ability of a Shareholder to dispose of Shares in a timely manner.

As at the date of this Prospectus, the Company expects the following Securities to be subject to ASX imposed escrow:

- (a) approximately 41,320,00 Shares will be subject to 24 months escrow from the date of the Company's admission to the Official List;
- (b) approximately 11,320,000 Performance Rights will be subject to 24 months escrow from the date of the Company's admission to the Official List; and



- (c) approximately 10,225,000 Options will be subject to 24 months escrow from the date of the Company's admission to the Official List;

The Company will announce to ASX details of the number and duration of the Securities that the ASX require to be held in escrow prior to the Shares commencing trading on the ASX (which admission is subject to ASX's discretion and approval).

The Company confirms its 'free float' (the percentage of the Shares that are not restricted and are held by shareholders who are not related parties (or their associates) of the Company) at the time of admission to the Official List of ASX will be not less than 20% in compliance with ASX Listing Rule 1.1 Condition 7.

The anticipated free float at the time of listing is 65.8%.

## **6.18 TAXATION**

The acquisition and disposal of Securities will have tax consequences which will differ depending upon the individual financial affairs of each investor. You are urged to obtain independent financial advice about the consequences of acquiring Securities from a taxation viewpoint and generally.

To the maximum extent permitted by law, the Company, its officers and each of their respective advisers accept no liability or responsibility with respect to the taxation consequences of subscribing for Securities under this Prospectus.

## **6.19 WITHDRAWAL OF OFFERS**

The Company reserves the right not to proceed with the Offers at any time before the issue or transfer of Securities to successful applicants. If the Offers do not proceed, application monies will be refunded (without interest).

## **6.20 QUERIES**

This Prospectus provides information to assist potential investors to decide if they wish to invest in the Company and should be read in its entirety. If you have any questions about investing in the Company after reading this Prospectus, please contact your sharebroker, financial planner, accountant, lawyer or independent financial adviser.



## 7. COMPANY AND D3 PROJECT OVERVIEW

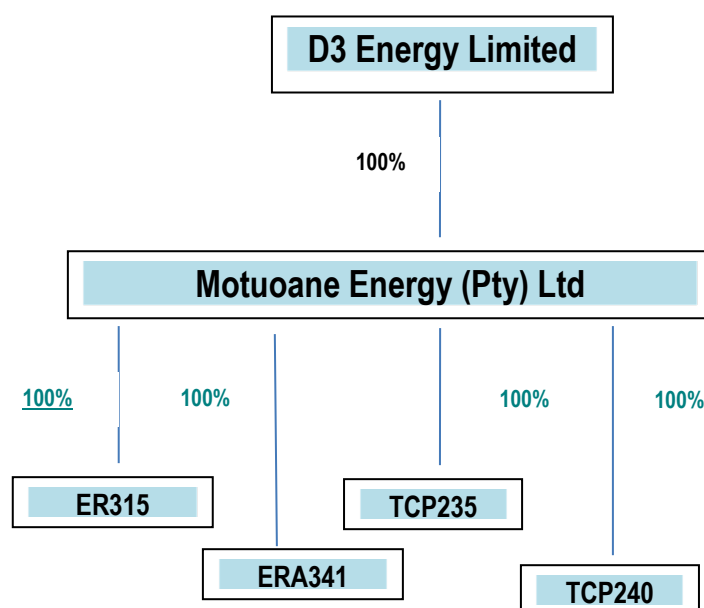
### 7.1 BACKGROUND

D3 Energy is an emerging natural gas and helium exploration company and was incorporated on 7 April 2021 as a public company to acquire and explore interests in natural gas and helium projects in South Africa and, potentially, other parts of the world prospective for natural gas and/or helium.

The Company intends to conduct natural gas and helium resource exploration focussed on the Company's exploration portfolio located in the Free State Province, onshore South Africa. Each of the Company's exploration assets constituting the D3 Project are held 100% by Motuoane Energy (Pty) Ltd (**Motuoane**) a company incorporated in South Africa.

The Company currently holds 86.77% of Motuoane. Subject to the Company receiving conditional approval to be admitted to the Official List the Company will complete its acquisition of the remaining 13.23% interest in Motuoane under the Motuoane Acquisition Agreement such that upon ASX Listing Motuoane will be a wholly owned subsidiary of the Company. Details of the Motuoane Acquisition Agreement are set out in Section 15.2.

Set out below is an illustration of the Company's ownership of the Company's exploration assets constituting the D3 Project upon admission to the Official List.



D3 Energy's primary focus is on the exploration for, and where possible, the commercial production of natural gas and helium at the D3 Project, where recent exploration work by the Company has allowed for the independent certification of both Contingent Resources and Prospective Resources.

The Company's natural gas resource is biogenic and a continuing regenerating resource.

D3 Energy's exploration areas are located in an energy scarce area within the Free State and indeed, South Africa as a nation is experiencing severe energy supply difficulties making the identification of natural gas reserves an important part of the present energy supply as well as South Africa's energy transition.



Importantly for D3 Energy, gas samples taken at the Company's Exploration Right ER315 indicate the presence of helium within the natural gas and the Company intends, where possible, to separate helium from the methane for the purposes of potential commercial sale.

## **7.2 OVERVIEW OF THE D3 PROJECT**

### *Introduction and Background*

The D3 Project is located in the Free State Province, onshore South Africa approximately 250km southwest of Johannesburg and nearby to the towns of Welkom, Virginia and Hennenman. Immediately to the west of the D3 Project lies the Renegen Limited (ASX:RLT) Virginia Gas Field which is currently producing liquid natural gas for sale.

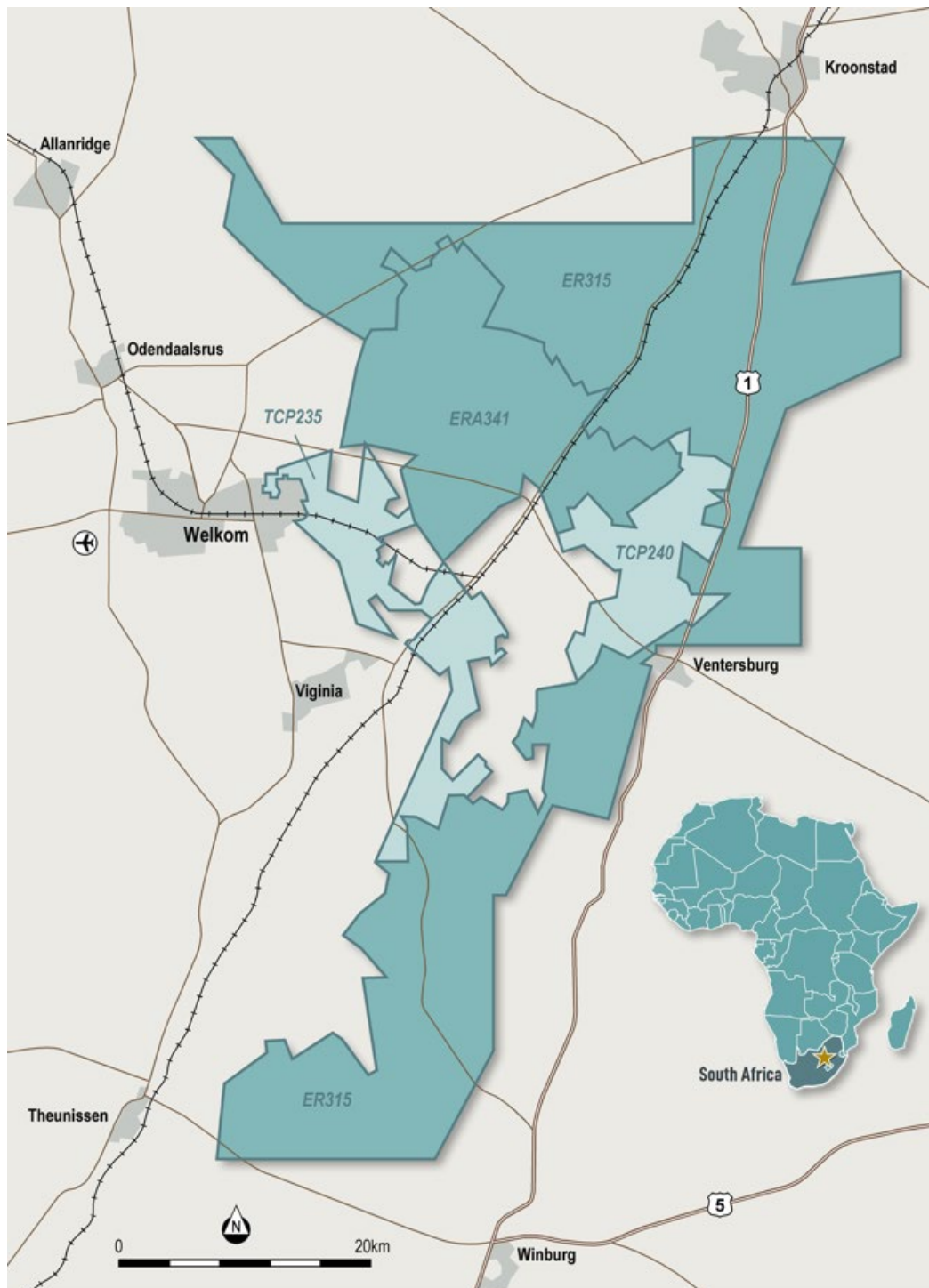
The D3 Project consists of:

- Exploration Right, ER315 (ER315)
- Exploration Right Application, ERA341
- Technical Co-operation Permit 240
- Technical Co-operation Permit 235

(together, the **Permits**).

The initial focus of the Company is the exploration and where possible, the development of the identified resources within ER315. The Company intends to apply for a renewal of ER315 for a Second Renewal Period (of 2 years) and for an amendment to its existing Environmental Authorisation over ER315 so that it covers a broader drilling programme for the purposes of the work programme and exploration budget in Section 7.6. As at the date of this Prospectus, the exploration right application ERA 341 is not granted and remains an application only. The Company does not expect that the exploration right application ERA341 will be granted as at ASX Listing. See also Key Risks in Part 4 of the Investment Overview in Section 5 in relation to these matters.

Section 12 of this Prospectus contains a Solicitor's Report on the Permits which contains detailed information about the Permits and certain relevant legal matters.



Figure– 1 - Map of D3 Energy portfolio, Free State, South Africa

### **Geological Setting**

The Permits are situated in the eastern part of the Greater Karoo Basin, a Permian aged large terrestrial and glacial basin in eastern South Africa (Figure 2). Within the Karoo Basin is the Ecca Group coal sequence which contains multiple thin-bedded coal seams that have some coal seam gas potential.

Below the Karoo Basin unconformably lies the Precambrian Witwatersrand Basin, which contains the Free State Gold Field Welkom. The Free State Gold Field is a major graben structure that is bounded on the west by the “Border” fault and on the east by the “deBron” fault. Displacement in



the order of 1000 meters is encountered along the strike of the deBron fault. The displacement is towards the west. In certain areas the fault zone amounts to 150m in width and is partly filled with secondary quartz and calcite with the resulting in permeability along the strike distance of the fault although this can vary considerably.

These 'basement' lithologies have been tectonically flexed into a large east to west trending anticline that is in turn bisected by a large extensional graben (low area) and many faults with significant throw (offset) that extend deep into the earth's crust, as shown in Figure 2 and Figure 3 below.

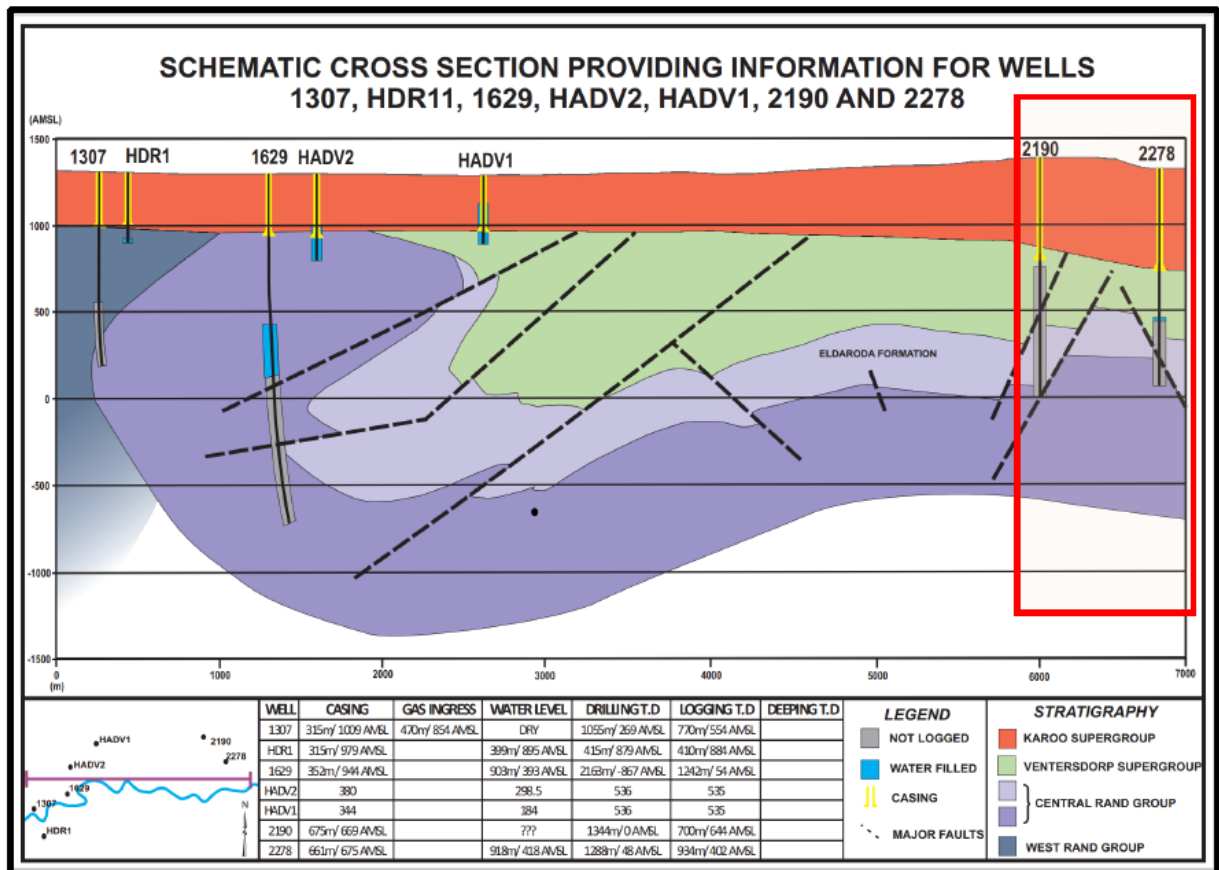
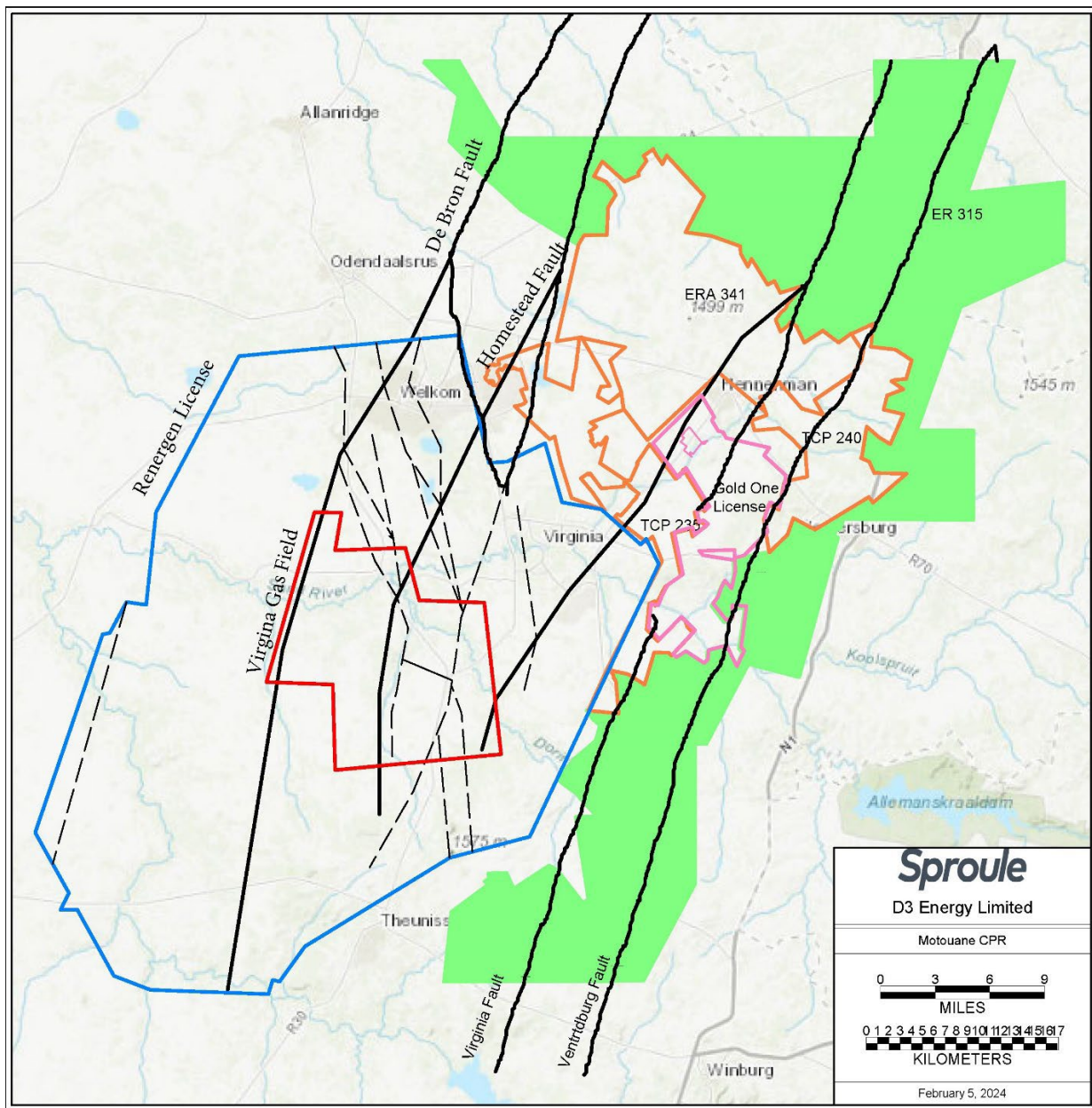


Figure 2: West to East Cross-section across the Virginia Gas Field and into ER315 (Red Box)



**Figure 3: Map of the Major Faults ER315 (Green) into the Virginia Gas Production License and Reserve Area.**

Unconformably overlying the Witwatersrand Supergroup is the Ventersdorp Supergroup of primarily volcanic lithologies. Many of these faults do not extend upwards beyond the upper Ventersdorp Supergroup. Above this unconformity lies the Karoo Supergroup, a Permian aged sedimentary section composed of sandstones, coal seams and carbonaceous shales. There is almost always a basal glacial deposit on top of the unconformity that separates the Karoo from the Ventersdorp known as the Dwyka Tillite. The Witwatersrand and Ventersdorp Supergroups experienced greenschist metamorphism and are both extensively fractured, due to sustained tectonic activity. The primary source of the methane gas is microbial in origin from deep within the Witwatersrand Supergroup with groundwater circulating through the large faults and coming in contact with bacteria living deep within the Archaean crust. Methane isotope studies demonstrate that very little, if any, of the methane can be attributed to the Karoo coal beds or the carbonaceous shales. Thus, the methane is a biogenic and a continuing regenerating resource. There is anecdotal evidence of historic blowers within the area of ER315 producing methane gas for over forty years without any discernible pressure drop, however there are no quantified studies to date.



### **General Geology Structure of ER315**

ER315 is situated towards the east of de Bron fault. In the northern part of the ER315, a major horst structure i.e. de Bron horst is present between the de Bron and Homestead faults respectively. No gold bearing sediments occur in the horst. Detailed drilling defined the eastern limit of this horst structure along the Homestead fault. East of the Homestead fault, gold bearing sediments were intersected again.

Two major fault systems, i.e. the Virginia and Ventersberg faults, occur in the eastern part of ER315. The displacement again was towards the west. Despite this major north-south striking structures several east-west faults are also present or could be extended into the Motuoane License. The east-west structures are the oldest structures in the Witwatersrand basin. Many kimberlite fissures and Karoo age dolerite dykes intruded into the younger strata along these structures. The east-west structures were right laterally displaced by north-south striking structures resulting in a very complex tectonic environment. The importance of these structures is vested in the presence of methane gas occurrence associated in or in close proximity of the structures.

### **Potential for Gas at ER315 based on historical analogies**

The Virginia Fault, which has yielded large volumes of methane gas in nearby gold and gas projects is present within ER315 and constitutes a major area to be explored. The gas potential of this fault and the one directly below it must be considered gas targets.

Also existing within ER315 is the Ventersburg Fault, which requires further investigation to ascertain its potential as a gas target. Outside of ER315, potential gas targets can be present where extensions of the east-west striking faults intersect the Ventersburg Fault. A major gas yielding borehole, directly in or in very close proximity to the Homestead fault occurs on the farm Nootgetdacht in the northern part of ER315. The Company intends on drilling at least one initial well in the areas of the Nootgetdacht blower boreholes as part of its initial drilling program.

### **Overview of Estimated net Methane and Helium Prospective Resources and Contingent Resources**

Set out below are the Independent Estimate of Net Methane and Helium Contingent and Prospective Resources derived by Sproule Incorporated in respect of ER315 only. The Resource volumes as stated are valid as at 1 December 2023 and further detail can be found within the Independent Technical Assessment Report in Section 10. The Company will aim to delineate further resources at each of ERA341 (if and when granted), TCP 235 and TCP240 as further progress is made on the exploration on those areas.

<b>Contingent Resource (BCF)<sup>1</sup></b>	<b>1C</b>	<b>2C</b>	<b>3C</b>
<b>Recoverable Gas Resource</b>	<b>336.65</b>	<b>547.45</b>	<b>858.03</b>
<b>Recoverable Methane</b>	<b>291.88</b>	<b>474.64</b>	<b>743.91</b>
<b>Recoverable Helium</b>	<b>13.803</b>	<b>22.445</b>	<b>35.179</b>

1. Contingent Resources are those volumes that have been discovered but either are not yet defined sufficiently to be classified as reserves or are not currently planned for development. Contingent Resources set out in Figure 4 were calculated from the technically recoverable gas volumes for each



type well multiplied by the number of locations in the portion of ER315 classified as Contingent Resources and, in the case of helium, multiplied by a constant helium content of 4.1%.

**Figure 4: Estimate of net Methane and Helium Contingent Resources**

<b>Prospective Resource (BCF)<sup>1</sup></b>	<b>1U</b>	<b>2U</b>	<b>3U</b>
<b>Recoverable Gas Resource</b>	<b>228.44</b>	<b>661.32</b>	<b>1875.35</b>
<b>Recoverable Methane</b>	<b>198.06</b>	<b>573.36</b>	<b>1625.93</b>
<b>Recoverable Helium</b>	<b>9.366</b>	<b>24.114</b>	<b>76.889</b>

1. Prospective Resources are, by definition, undiscovered resources. In the Virginia Production License there are areas that have not been adequately explored by well control to state that there is continuous gas columns and continuity of the gas reservoir. There is every reason to anticipate that future drilling will expand the field into these areas and there are mapped faults, sills and dykes in the area defined as prospective. These form the drillable targets for gas prospects. Net Prospective Resources were calculated volumetrically as the technically recoverable gas volumes for each type well multiplied by the number of locations in that portion of ER315 classified as Prospective Resources. The estimated quantities of [natural gas] and helium resources that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. Further exploration appraisal and evaluation is required to estimate the existence of a commercial quantity of potentially movable helium. Prospective Resources carry significant exploration risk. All Prospective Resources presented in figure 5 are un-risked.

**Figure 5: Estimate of net Methane and Helium Prospective Resources**

### **Technical Co-operation Permit 235 and Technical Co-operation Permit 240**

On 23 October 2023, the Company was granted two Technical Co-operation Permits being TCP 235 and TCP240 (the **TCPs**). TCP 235 covers an area of 14,810 ha and TCP240 covers an area of 11,892 ha.

The TCPs are each granted for a period of 12 months over the course of which time, the Company will undertake low-cost desktop studies to form an initial assessment of the prospectivity of the area covering the TCPs. At the end of the 12-month period, the Company may apply for the issue of an Exploration Right over each of the areas of the TCPs and the Company holds the exclusive right to apply for and be granted an Exploration Right in respect of those areas

### **Exploration Right Application 341**

The Company has submitted an application for an exploration right to explore for petroleum, natural gas, gas and condensate, which has been accepted by the regulator, PASA. The Company intends on progressing this application upon being admitted to the Official List, including obtaining relevant environmental authorisation approvals. Along with the TCPs, the Company views ERA341 as having the potential to add valuable additional exploration upside to ER315.

For more information on the Resource potential of the D3 Project, refer to the Independent Technical Assessment Report in Section 10.

## **7.3 FURTHER DETAILS ABOUT THE COMPANY'S ASSETS**

- (a) The Independent Technical Assessment Report in Section 10 provides further details on the D3 Project, which will be the main assets of the Company upon completion of the Offer. The Independent Technical Assessment Report contains (among other things)



information regarding the location, geology and previous exploration undertaken within ER315 as well as details of the Independent Estimate of Net Methane and Helium Contingent and Prospective Resources derived by Sproule Incorporated in respect of ER315 only.

- (b) Section 12 of this Prospectus contains a Solicitor's Report on the Permits which contains detailed information about the Permits and certain relevant legal matters.

#### **7.4 OVERVIEW OF THE NATURAL GAS MARKET IN SOUTH AFRICA AND THE INTERNATIONAL HELIUM MARKET**

The South African Natural Gas Market Report in Section 13 contains an overview of the natural gas market in South Africa.

The Helium Market Report in Section 14 contains an overview of the international helium market.

#### **7.5 BUSINESS MODEL**

The Company is a highly speculative natural gas and helium exploration company.

The Company aims to add shareholder value through the discovery and development of natural gas and helium resources.

The Company's business model involves the exploration and evaluation of the D3 Project in South Africa for natural gas and helium.

In line with the Company's proposed use of funds set out in Section 7.7 below, the immediate business strategy and objectives comprises:

- (a) conducting exploration and appraisal activities associated with the D3 Project as outlined below to identify natural gas and helium resources that the Company can monetarise through either further development or sale; and
- (b) identifying new project acquisition targets in South Africa or elsewhere.

Refer also to Sections 10 (Independent Technical Assessment Report) and 12 (Solicitor's Report on Permits) of this Prospectus for further and supplementary information in relation to the D3 Project. Additionally, refer to Section 13 (South African Natural Gas Market Report) for an overview of the natural gas market in South Africa and Section 14 (Helium Market Report) for an overview of the international helium market.

The Company also intends to continue to identify, evaluate and, if warranted, acquire additional natural gas and/or helium resource projects and assets in South Africa or elsewhere if the Board considers that they have the potential to add Shareholder value. The Company will consider acquiring these additional interests by way of direct project acquisition, farm in, joint venture or direct equity in the project owners.

On completion of the Offers, the Board believes the Company will have sufficient working capital to achieve these objectives.

#### **7.6 EXPLORATION WORK PROGRAMMES AND BUDGETS**

The proposed work programme and exploration budget for the D3 Project is set out in the Independent Technical Assessment Report in Section 10 and reflects the initial focus for the Company upon a successful listing and raising of capital pursuant to the Public Offer.

In summary, the first phase of exploration at the D3 Project will include conducting the following exploration work programmes:





### ER315 Initial Work Program

Activity	Estimated Minimum Expenditure (AUD)	
	Year 1	Year 2
Wages	150,000	150,000
Travel	75,000	75,000
Geophysical/Geological, including:		
• Aeromagnetic survey acquisition	200,000	100,000
• Interpretation of Aeromagnetic survey	20,000	10,000
• Processing and interpretation of telluric data	150,000	70,000
• SRK Tellurics Tests	30,000	10,000
• Seismic Acquisition	200,000	75,000
• Seismic Interpretation	75,000	45,000
• Seismic Processing	12,500	7,500
• Other Geophysical/Geological	100,000	58,333
• Drilling (including logging and completion of wells)	1,500,000	2,500,000
• Field Operations	110,000	110,000
• Contingency (20%)	524,500	642,167
<b>Total</b>	<b>3,147,000</b>	<b>3,853,000</b>

### TCP235 and TCP240 Work Programme

The work program for each TCP235 and TCP240 consists of desktop exploration studies over a 12-month period commencing on 23 October 2023. The planned work program for each of TCP235 and TCP240 is as follows:

#### TCP 235



Activity	Estimated Minimum Expenditure (South African Rand)
Desktop Study of geomorphic data using existing Geophysical, Geological data where available from Government (e.g. Council of Geosciences) and other sources	70,000 (approx. AU\$5,560)
Environmental Study of the Project area	30,000 (approx. AU\$2,390)
Desktop study interpretation of above work in-house and using consultants	30,000 (approx. AU\$2,390)
<b>Total</b>	<b>130,000</b> (approx. AU\$10,345)

#### TCP 240

Activity	Estimated Minimum Expenditure (South African Rand)
Desktop Study of LANDSAT/lineament and geomorphic data using existing Geophysical, Geological data where available from Government (e.g Council of Geosciences) and other sources	75,000 (approx. AU\$5,970)
Environmental Study of the Project area	70,000 (approx. AU\$5,560)
Desktop study interpretation of above work in-house and using consultants	100,000 (approx. AU\$7,956)
<b>Total</b>	<b>245,000</b> (approx. AU\$19,490)

## 7.7 USE OF FUNDS

The Company intends to apply its existing cash reserves and the funds raised from the Public Offer over the first two years after the Listing Date as follows:

### *Funds Available*

Source of funds	A\$
Existing cash <sup>(1)</sup>	927,180
Proceeds from the Public Offer	10,000,000
<b>Total funds available</b>	<b>10,927,180</b>

Notes





(1) As at the date of this Prospectus

### Indicative Allocation of Funds

Activity	Total Cash \$10,927,180	
	Total (A\$)	%
Exploration and feasibility costs on D3 Project	\$7,000,000	64.06%
South Africa Exploration Right Applications (ERA341, TCP 235 and TCP240)	\$397,408	3.64%
New project generation and acquisition <sup>(1)</sup>	\$1,000,000	9.15%
Working capital	\$1,910,772	17.49%
Costs of the Offers (not paid as at the date of this Prospectus)	\$619,000	5.66%
<b>Total Expenditure</b>	<b>\$10,927,180</b>	<b>100%</b>

#### Notes

- (1) Pursuant to the Motuoane Acquisition Agreement, the Company has entered into a loan agreement with NOVO Resources Pty Limited for a maximum loan amount of 3,500,000 Rand (\$282,000 based on the prevailing exchange rate as at the date of this Prospectus) as further described in Section 15.2. If the Company is required to loan funds to NOVO under the NOVO Loan Agreement then the amount loaned to NOVO will be diverted from the funds allocated for new project generation and acquisition

Refer to Section 16.8 for further details regarding the costs of the Offers.

It is anticipated that the funds raised under the Public Offer will enable 2 years of full operations based on the current budget.

It should be noted that the Company may not be fully self-funding through its own operational cash flow at the end of this period. Accordingly, the Company may require additional capital beyond this point, which will likely involve the use of additional debt or equity funding. Future capital needs will also depend on the success or failure of the Company's exploration of the D3 Project. The use of further debt or equity funding will be considered by the Board where it is appropriate to fund additional exploration on the D3 Project or to acquisition opportunities in the natural gas and helium sectors in South Africa or elsewhere.

The above table is a statement of current intentions as of the date of this Prospectus. As with any budget, intervening events (including exploration success or failure) and new circumstances have the potential to affect the actual application of funds. In particular, exploration expenditure will be reviewed on an ongoing basis depending on the nature of the results from work programmes. The Board reserves the right to alter the way funds are applied on this basis. The Company may raise additional funds within two years after listing on the ASX to the extent required to increase and accelerate the exploration programmes on the D3 Project, or to acquire or invest in suitable additional projects and assets in the natural gas and helium sectors in South Africa or elsewhere, as determined by the Board.

## 7.8 CURRENT CAPITAL STRUCTURE

The current capital structure of the Company and the terms on which the existing Shares and Vendor Performance Rights have been issued is summarised below:



	Current Securities on Issue	
	Shares	%
Founders Shares <sup>(1)</sup>	10,000,100	14.48%
Vendor Shares <sup>(2)</sup>	21,053,900	30.48%
First Seed Round Shares <sup>(3)</sup>	7,400,000	10.71%
Second Seed Round Shares <sup>(4)</sup>	24,124,906	34.92%
Vendor Performance Rights (2,168,800 Class A Vendor Performance Rights, 2,168,700 Class B Vendor Performance Rights and 2,168,700 Class C Vendor Performance Rights) <sup>(5)(6)</sup>	6,506,200	9.42%

- (1) Consisting of 100 Shares issued at incorporation of the Company on 7 April 2021 at an issue price of \$1.00 per Share and 10,000,000 Founders Shares issued at a price of \$0.001 per Share on 23 August 2021. 5,000,050 Founders Shares are held by Matthew Worner (a Director of the Company) and 5,000,050 Founders Shares are held by D A Casey and Associates Pty Ltd (as trustee for the DA Casey Trust) and Hayrow Pty Ltd, companies controlled by David Casey (a Director of the Company)
- (2) Issued to Vendors of Motuoane on 28 October 2022 as partial consideration to acquire an 86.77% interest in Motuoane under the Motuoane Acquisition Agreement<sup>(7)</sup>
- (3) Issued at a price of \$0.10 per Share on 6 September 2021
- (4) Issued at a price of \$0.16 per Share on 21 October 2022
- (5) Issued to Vendors of Motuoane on 28 October 2022 as partial consideration to acquire an 86.77% interest in Motuoane under the Motuoane Acquisition Agreement<sup>(7)</sup>. The Vendor Performance Rights vest upon achievement of the following milestones within 4 years of issue (as may be extended by up to 1 year where a work programme is delayed due to force majeure) (see Section 16.2(e) for full terms of the Vendor Performance Rights):
- Class A: upon a successful well test being completed on ER315 which either flows at not less than 75mscf/d for a period of 5 consecutive days tests Gas with a helium content of not less than 5%
  - Class B: upon independent certification of a 2C Contingent Resource of not less than 100Bcf of Gas or 1 Bcf of helium on ER315; and
  - Class C: upon achievement of US\$25,000 in cumulative gas sales from ER315
- (6) Prior to ASX Listing, the Company intends to convert all the 2,168,800 Class A Vendor Performance Rights and all the 2,168,700 Class B Vendor Performance Rights into Shares as the applicable milestones have been met resulting in an issue of 4,337,500 Shares.
- (7) See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued to Vendors under the Motuoane Acquisition Agreement and Section 15.2 for details about the Motuoane Acquisition Agreement.

## 7.9 PRO FORMA CAPITAL STRUCTURE

The capital structure of the Company following completion of the Offers and as at ASX Listing is summarised below:

	A\$10,000,000 IPO	
	Shares	%
Founders Shares <sup>(1)</sup>	10,000,100	8.3
Vendor Shares <sup>(2)</sup>	29,270,000	24.2
First Seed Round Shares <sup>(3)</sup>	7,400,000	6.1
Second Seed Round Shares <sup>(4)</sup>	24,124,906	20.0
Public Offer Shares	50,000,000	41.4



<b>Total Shares (undiluted)</b>	<b>120,795,006</b>	<b>100%</b>
Class C Vendor Performance Rights <sup>(5)</sup>	2,500,000	n/a
Advisor Options <sup>(6)</sup>	4,000,000	n/a
Management and Consultant Options <sup>(7)</sup>	6,225,000	n/a
Management and Consultant Performance Rights <sup>(8)</sup>	8,820,000	n/a
<b>Total Shares (diluted)</b>	<b>142,340,006</b>	<b>n/a</b>

(1) See Section 7.8 above

(2) Consisting of:

- (a) 21,053,900 Shares issued to the Vendors on 28 October 2022 as partial consideration to acquire an 86.77% interest in Motuoane under the Motuoane Acquisition Agreement;
- (b) 3,216,100 Shares to be issued to a Vendor of Motuoane upon the Company receiving conditional approval to be admitted to the Official List as partial consideration to acquire the remaining 13.23% interest in Motuoane; and
- (c) 5,000,000 Shares to be issued prior to ASX Listing upon conversion of all the 2,500,000 Class A Vendor Performance Rights and all the 2,500,000 Class B Vendor Performance Rights as the applicable milestones have been met (2,168,800 Class A Vendor Performance Rights and 2,168,700 Class B Vendor Performance Rights having been issued to Vendors of Motuoane on 28 October 2022 as partial consideration to acquire an 86.77% interest in Motuoane and 331,200 Class A Vendor Performance Rights and 331,300 Class B Vendor Performance Rights to be issued to a Vendor of Motuoane upon the Company receiving conditional approval to be admitted to the Official List as partial consideration to acquire the remaining 13.23% interest in Motuoane, in each case under the Motuoane Acquisition Agreement<sup>(9)</sup>

(3) See Section 7.8 above

(4) See Section 7.8 above

(5) Consisting of 2,168,700 Class C Vendor Performance Rights issued to a Vendor on 28 October 2022 as partial consideration to acquire an 86.77% interest in Motuoane and 331,300 Class C Vendor Performance Rights to be issued to a Vendor of Motuoane upon the Company receiving conditional approval to be admitted to the Official List as partial consideration to acquire the remaining 13.23% interest in Motuoane, in each case under the Motuoane Acquisition Agreement<sup>(9)</sup>. The Class C Vendor Performance Rights vest upon achievement of US\$25,000 in cumulative gas sales from ER315. See Section 16.2(e) for full terms of the Vendor Performance Rights.

(6) Advisor Options to be issued under the Advisor Offer exercisable at \$0.30 each and with an expiry date of 4 years from date of grant. See Section 16.2(d) for full terms of the Advisor Options. The Advisor Options are being issued to the Joint Lead Managers (split equally between the Joint Lead Managers) as a fee for services provided by the Joint Lead Managers. For further information in relation to the appointment of the Joint Lead Managers, please refer to Section 15.4.

(7) Management and Consultant Options to be issued under the Management and Consultant Offer exercisable at \$0.30 each and with an expiry date of 4 years from date of grant. See Section 16.2(c) for full terms of the Management and Consultant Options.

(8) Management and Consultant Performance Rights to be issued under the Management and Consultant Offer each have an expiry date 5 years from the date of issue and are split evenly across three classes and vest upon the achievement of the following milestones:

- (a) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.40;
- (b) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.50;
- (c) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.60.

See Section 16.2(b) for full terms of the Management and Consultant Performance Rights

(9) See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued to Vendors under the Motuoane Acquisition Agreement and Section 15.2 for details about the Motuoane Acquisition Agreement.

## 7.10 SHARES AND VENDOR PERFORMANCE RIGHTS ISSUED AND TO BE ISSUED UNDER THE MOTUOANE ACQUISITION AGREEMENT

Under the Motuoane Acquisition Agreement:

- (a) on 28 October 2022, the Company acquired an 86.77% interest in Motuoane in consideration for the issue to the Vendors of 21,053,900 Shares, 2,168,800 Class A Vendor Performance Rights, 2,168,800 Class B Vendor Performance Rights and 2,168,700 Class C Vendor Performance Rights (**Initial Completion**); and



- (b) upon the Company receiving conditional approval to be admitted to the Official List the Company will acquire the remaining 13.23% interest in Motuoane in consideration for the issue to a Vendor of 3,216,100 Shares, 331,200 Class A Vendor Performance Rights, 331,300 Class B Vendor Performance Rights and 331,300 Class C Vendor Performance Rights (**Deferred Completion**).

The full terms of the Vendor Performance Rights are set out in Section 16.2(e).

The Company intends to convert all the Class A Vendor Performance Rights and all the Class B Vendor Performance Rights prior to ASX Listing as the applicable milestones for conversion have been met.

Details of the Vendors and the Shares and Vendor Performance Rights issued and to be issued to them under the Motuoane Acquisition Agreement are set out below:

Vendor <sup>(2)</sup>	Initial Completion - Shares	Initial Completion - Vendor Performance Rights <sup>(2)</sup>	Deferred Completion - Shares	Deferred Completion - Vendor Performance Rights <sup>(1)</sup>
NOVO Resources Proprietary Limited	11,405,700	Class A: 1,174,900 Class B: 1,174,900 Class C: 1,174,900 Total: 3,524,700	-	-
Tamlib Investments Pty Ltd	4,824,100	Class A: 496,950 Class B: 496,900 Class C: 496,900 Total: 1,490,750	-	-
Milton John Zetzman	4,824,100	Class A: 496,950 Class B: 496,900 Class C: 496,900 Total: 1,490,750	-	-
Kevin John Rathbun	-	-	3,216,100	Class A: 331,200 Class B: 331,300 Class C: 331,300 Total: 993,800
<b>Total</b>	<b>21,053,900</b>	<b>6,506,200</b>	<b>3,216,100</b>	<b>993,800</b>

Notes:

- (1) The Vendors under the Motuoane Acquisition Agreement are Willow Energy Corporation (**Willow**) in its capacity as the registered holder of 53% of the Motuoane shares being acquired by the Company (**Willow Sale Shares**)



and agent for Tamlib Investments Pty Ltd, Milton John Zetzman and Kevin Rathbun (**Willow Beneficiaries**), NOVO Resources Pty Limited (being the registered holder of 47% of the Motuoane shares being acquired by the Company) and the Willow Beneficiaries. Under the Motuoane Acquisition Agreement, the Shares and Vendor Performance Shares to which Willow would otherwise be entitled under the Motuoane Acquisition Agreement have been and will be issued to the Willow Beneficiaries pro rata to the proportions in which Willow held the Willow Sale Shares on their behalf, being Tamlib Investments Pty Ltd (37.7%), Milton John Zetzman (37.7%) and Kevin Rathbun (25%).

(2) The Vendor Performance Rights vest upon achievement of the following milestones within 4 years of issue (as may be extended by up to 1 year where a work programme is delayed due to force majeure) (see Section 16.2(e) for full terms of the Vendor Performance Rights):

- a. Class A: upon a successful well test being completed on ER315 which either flows at not less than 75mscf/d for a period of 5 consecutive days tests Gas with a helium content of not less than 5%
- b. Class B: upon independent certification of a 2C Contingent Resource of not less than 100Bcf of Gas or 1 Bcf of helium on ER315; and
- c. Class C: upon achievement of US\$25,000 in cumulative gas sales from ER315.

Details of the Shares and Class C Vendor Performance Rights that the Vendors will hold at ASX Listing are set out in the table below:

Vendor	Shares	Class C Vendor Performance Rights	Percentage of Shares (undiluted)	Percentage of Shares (diluted)
NOVO Resources Proprietary Limited	13,755,500	1,174,900	11.4%	10.5%
Tamlib Investments Pty Ltd	5,817,950	496,900	4.8%	4.4%
Milton John Zetzman <sup>(1)</sup>	5,817,950	496,900	4.8%	4.4%
Kevin John Rathbun	3,878,600	331,300	3.2%	3.0%
<b>Total</b>	<b>28,095,100</b>	<b>2,003,100</b>	<b>23.3%</b>	<b>21.1%</b>

Notes:

- (1) Mr Zetzman will also be issued 625,000 Management and Consultant Options and 750,000 Management and Consultant Performance Rights under the Management and Consultant Offer which will increase his percentage interest in Shares on an undiluted basis to 4.8% and on a diluted basis to 5.4%. The Terms of Management and Consultant Options and the Management and Consultant Performance Rights are set out in Section 16.2(c) and 16.2(b) respectively.

The Company did not obtain an independent valuation when determining the consideration to be paid to the Vendors under the Acquisition Agreement for the Project Interests. Rather, the Directors believe that the consideration reflects arm's length terms.

Please refer to Section 15.2 for details of the terms and conditions of the Motuoane Acquisition Agreement.

## 7.11 SUBSTANTIAL SHAREHOLDERS

As at the date of this Prospectus, the Shareholders holding 5% or more of the Shares on issue are as follows:



Shareholder	Shares	Options	Performance Rights	Percentage (undiluted)	Percentage (diluted)
NOVO Resources Pty Ltd <sup>(1)</sup>	11,405,700	nil	3,524,700	18.23%	21.61%
D A Casey & Associates Pty Ltd and Hayrow Pty Ltd <sup>(2)</sup>	5,312,550	nil	nil	8.49%	7.69%
Matthew Worner <sup>(3)</sup>	5,000,050	Nil	nil	7.99%	7.24%
Tamlib Investments Pty Ltd <sup>(4)</sup>	4,824,100	Nil	1,490,750	7.71%	9.14%
Milton John Zetzman <sup>(5)</sup>	4,824,100	Nil	1,490,750	7.71%	9.14%
Discovery Investments Pty Ltd <sup>(6)</sup>	3,187,500	nil	nil	5.09%	4.61%
<p>Notes:</p> <p>(1) Shares and Performance Rights issued to NOVO Resources Limited as a Vendor under the Motuoane Acquisition Agreement<sup>(7)</sup>.</p> <p>(2) Held by D A Casey &amp; Associates Pty Ltd (as trustee for the DA Casey Trust) and Hayrow Pty Ltd, being companies controlled by David Casey, a Director of the Company. 50 Shares were issued upon incorporation of the Company at \$1.00 per Share, 5,000,000 Shares were subscribed for at \$0.001 per Share and 312,500 Shares subscribed for at \$0.16 per Share in a seed funding round</p> <p>(3) 50 Shares issued upon incorporation of the Company at \$1.00 per Share and 5,000,000 Shares subscribed for at \$0.001 per Share.</p> <p>(4) Shares and Performance Rights issued to Tamlib Investments Pty Ltd as a Vendor under the Motuoane Acquisition Agreement<sup>(7)</sup>.</p> <p>(5) Shares and Performance Rights Issued to Milton John Zetzman as a Vendor under the Motuoane Acquisition Agreement<sup>(7)</sup>.</p> <p>(6) Discovery Investments Pty Ltd is controlled by Greg Columbus, a Director of the Company. Subscribed for in the Company's seed funding rounds – 1,000,000 Shares at \$0.10 per Share and 2,187,500 Shares at \$0.16 per Share.</p> <p>(7) See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued to Vendors under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement.</p>					



Set out below are the Shareholders expected to hold 5% or more of the Shares on issue as at ASX Listing on an undiluted and diluted basis. This assumes that no existing significant Shareholder or any Vendor subscribes for and is allotted additional Shares pursuant to the Public Offer.

Shareholder	Shares	Options	Performance Rights	Percentage (undiluted)	Percentage (diluted <sup>(1)</sup> )
NOVO Resources Pty Ltd	13,755,500 <sup>(1)</sup>	Nil	1,174,900 <sup>(2)</sup>	11.39%	10.49%
D A Casey & Associates Pty Ltd and Hayrow Pty Ltd <sup>(3)</sup>	5,312,550 <sup>(4)</sup>	1,500,000 <sup>(5)</sup>	2,400,000 <sup>(6)</sup>	4.40%	6.47%
Matthew Worner <sup>(7)</sup>	5,000,050	1,500,000 <sup>(5)</sup>	2,400,000 <sup>(6)</sup>	4.14%	6.25%
Milton John Zetzman	5,817,950 <sup>(8)</sup>	625,000 <sup>(5)</sup>	1,246,900 <sup>(9)</sup>	4.82%	5.40%
<b>Notes:</b> <sup>(2)</sup> Consisting of 11,405,700 Shares issued to NOVO Resources Limited as a Vendor under the Motuoane Acquisition Agreement and 2,349,800 Shares to be issued on conversion prior to ASX Listing of 1,174,900 Class A Vendor Performance Rights and 1,174,900 Class B Vendor Performance Rights issued to NOVO Resources Limited as a Vendor under the Motuoane Acquisition Agreement <sup>(10)</sup> . <sup>(3)</sup> Being Class C Vendor Performance Rights issued to NOVO Resources Limited as a Vendor under the Motuoane Acquisition Agreement <sup>(10)</sup> . <sup>(4)</sup> Held by D A Casey & Associates Pty Ltd (as trustee for the DA Casey Trust) and Hayrow Pty Ltd, being companies controlled by David Casey, a Director of the Company. <sup>(5)</sup> 50 Shares were issued upon incorporation of the Company at \$1.00 per Share, 5,000,000 Shares were subscribed for at \$0.001 per Share and 312,500 Shares subscribed for at \$0.16 per Share in a seed funding round <sup>(6)</sup> Management and Consultant Options to be issued under the Management and Consultant Offer exercisable at \$0.30 each and with an expiry date of 4 years from date of grant. See Section 16.2(c) for full terms of the Management and Consultant Options. <sup>(7)</sup> Management and Consultant Performance Rights to be issued under the Management and Consultant Offer each have an expiry date 5 years from the date of issue and are split evenly across three classes and vest upon the achievement of the following milestones: (a) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.40; (b) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.50; (c) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.60. See Section 16.2(b) for full terms of the Management and Consultant Performance Rights. <sup>(8)</sup> 50 Shares were issued upon incorporation of the Company at \$1.00 per Share and 5,000,000 Shares subscribed for at \$0.001 per Share. Held by Mr Worner as trustee for the MM Worner Family Trust. <sup>(9)</sup> Consisting of 4,824,100 Shares issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement and 993,850 Shares to be issued on conversion prior to ASX Listing of 496,950 Class A Vendor Performance Rights and 496,900 Class B Vendor Performance Rights issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement <sup>(10)</sup> . <sup>(10)</sup> Consisting of 496,900 Class C Vendor Performance Rights issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement and 750,000 Management and Consultant Performance Rights to be issued under the Management and Consultant Offer (see further Note <sup>(6)</sup> above). <sup>(11)</sup> See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement.					

The Company will announce to the ASX details of its top 20 Shareholders after completion of the Offer and prior to the Shares commencing trading on the ASX.





## **7.12 FINANCIAL INFORMATION**

Historical financial information of the Company is included in the Independent Limited Assurance Report contained in Section 11. Potential investors should read the Independent Limited Assurance Report in full.

The Company has audited financial statements for the Company for the period from incorporation to 30 June 2021 and for the financial years ended 30 June 2022 and 30 June 2023. The Company will give a copy of these statements to any person who requests one during the Offer period, free of charge.

## **7.13 DIVIDEND POLICY**

The Company has not declared a dividend since its incorporation and, at the date of this Prospectus, does not expect to pay any dividends in the two- year period following the date of this Prospectus. During this period the Board expects to incur significant expenditure on the exploration and development of the D3 Project and in identifying, evaluating and, if warranted, acquiring other resource projects or assets in South Africa or elsewhere that have the potential to add Shareholder value. The extent, timing and payment of dividends by the Company in the future will be at the discretion of the Directors and will depend on a number of factors including future earnings, the operating results and financial condition of the Company, future capital requirements, general business and other factors considered relevant by the Directors. No assurances in relation to the payment of dividends, or the franking credits attached to such dividends, can be given.



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## **8. RISK FACTORS**

### **8.1 INTRODUCTION**

Subscribing for Securities involves a number of risks. Prospective investors in the Company should consider the risk factors described below, together with information contained elsewhere in this Prospectus, before deciding whether to apply for the Securities offered under this Prospectus.

The Company is a natural gas and helium exploration company and you should consider that an investment in the Company is highly speculative. You should consult your professional advisers before deciding whether to apply for Securities pursuant to this Prospectus.

The risk factors set out below and others not specifically referred to below must not to be taken as exhaustive of the risks faced by the Company or by investors in the Company.

These risk factors may materially affect the financial performance of the Company and the value of the Securities offered under this Prospectus. Accordingly, the Securities to be issued pursuant to this Prospectus carry no guarantee with respect to the payment of dividends, returns of capital or the market value of those Securities. Some risks can be mitigated by the use of appropriate safeguards and appropriate systems and controls by the Company, however, some are unpredictable and outside the control of the Company and the extent to which they can be mitigated or managed is very limited or not possible.

### **8.2 KEY RISKS SPECIFIC TO THE COMPANY**

The key risks which the Directors consider are associated with an investment in the Company are:

- (a) Future Capital Requirements
- (b) No Dividends
- (c) Equity Market Conditions
- (d) Commodity Prices
- (e) Foreign Exchange Rates
- (f) Regulatory Risk Relation to South African Foreign Exchange Regulations
- (g) Exploration and Appraisal Risks
- (h) Nature of Exploration and Production
- (i) Limited Operating History
- (j) Land Access Risks
- (k) Operational Matters
- (l) Title Risk
- (m) Exploration Right ER315 Renewal Risk
- (n) Exploration Right Application ERA 341 Grant Risk
- (o) Environmental Regulation Risks Including Amendment to Exploration Authorisation



- (p) Future Environmental Regulation
- (q) Climate Change Risks
- (r) Greenhouse Gas Emissions
- (s) Regulation and Tenure
- (t) Key Personnel
- (u) Contract Risks
- (v) Litigation Risk
- (w) New Projects and Acquisitions
- (x) Investing in Emerging Markets
- (y) Health and Safety
- (z) Economic and Government Risks
- (aa) Taxation

Refer to the Key Risks in Part 4 of the Investment Overview in Section 5 (above) for a summary of the key risks relevant to the Company listed above. Further general risks are set out in paragraphs 8.3 - 8.9 below.

All of those risks (and others) have the potential to have a significant adverse impact on the Company and may affect the Company's financial position or prospects or the price or value of the Company's Securities. Those risks ought not to be taken as exhaustive of the risks faced by the Company or by investors in the Company. The Securities to be issued pursuant to this Prospectus carry no guarantee with respect to the payment of dividends, returns of capital or the market value of those Securities. Potential investors should consult their professional advisers.

### **8.3 COMMERCIAL RISK**

The natural gas and helium resources industries are competitive and there is no assurance that, even if commercial quantities of natural gas and helium resources are discovered by the Company on the D3 Project or future projects it may acquire an interest in, a profitable market will exist for sales of such resources. There can be no assurance that the quality of any such natural gas and helium resources will be such that they can be extracted economically.

### **8.4 INSURANCE RISKS**

Exploration for and production of natural gas and helium resources involves hazards and risks that could result in the Company incurring losses or liabilities that could arise from its operations. If the Company incurs losses or liabilities which are not covered by its insurance policies, the funds available for exploration and development will be reduced and the value and/or title to the Company's assets may be at risk.

The Company intends to insure its operations in accordance with industry practice. However, in certain circumstances the Company's insurance may not be of a nature or level to provide adequate insurance cover. The occurrence of an event that is not covered or fully covered by insurance could have a material adverse effect on the business, financial condition and results of the Company.



Insurance against all risks associated with natural gas and helium exploration and production is not always available and, where available, the costs can be prohibitive or not adequate to cover all claims.

## **8.5 ACCESS TO INFRASTRUCTURE**

If the Company progresses to production there is no guarantee that appropriate and affordable road, rail and or port capacity will be available, which could have an adverse effect on the Company. In the event of production the Company will also require the use of both power and water infrastructure. In the event that there is high demand for and limited access to power and water access there is a risk that the Company may not be able to procure such access which could have an adverse effect on the Company.

## **8.6 GENERAL ECONOMIC CONDITIONS**

General economic conditions, introduction of tax reform, new legislation, the general level of activity within the natural gas and helium resources industry, movements in interest and inflation rates and currency exchange rates may have an adverse effect on the Company's exploration, development and possible production activities, as well as on its ability to fund those activities both in Australia and overseas.

## **8.7 SHARE MARKET CONDITIONS**

Share market conditions may affect the value of the Company's quoted Securities regardless of the Company's operating performance. Share market conditions are affected by many factors such as:

- (a) general economic outlook;
- (b) the introduction of tax reform or other new legislation (such as royalties);
- (c) interest rates and inflation rates;
- (d) currency fluctuations;
- (e) changes in investor sentiment toward particular market sectors in Australia and/or overseas (such as the natural gas and helium exploration industries);
- (f) the demand for, and supply of, capital; and
- (g) terrorism or other hostilities.

The market price of the Securities can fall as well as rise and may be subject to varied and unpredictable influences on the market for equities in general and resource exploration stocks in particular, which influences are beyond the Company's control and which are unrelated to the Company's performance. Neither the Company nor the Directors warrant the future performance of the Company or the Securities and subsequently any return on an investment in the Company. Shareholders who decide to sell their Securities after the Listing Date may not receive the entire amount of their original investment.

## **8.8 VOLATILITY IN GLOBAL CREDIT AND INVESTMENT MARKETS**

Global credit, commodity and investment markets have recently experienced a high degree of uncertainty and volatility. The factors which have led to this situation have been outside the control of the Company and may continue for some time resulting in continued volatility and uncertainty in world stock markets (including the ASX). This may impact the price at which the Securities trade regardless of operating performance and affect the Company's ability to raise additional equity and/or debt to achieve its objectives, if required.



## **8.9 UNFORESEEN EXPENDITURE RISK**

Expenditure may need to be incurred that has not been considered in this Prospectus. Although the Company is not aware of any such additional expenditure requirements, if such expenditure is subsequently incurred this may adversely affect the expenditure proposals and activities of the Company, as the Company may be required to reduce the scope of its operations and scale back its exploration programmes. This could have a material adverse effect on the Company's activities and the value of the Securities.



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## **9. BOARD, MANAGEMENT AND CORPORATE GOVERNANCE**

### **9.1 DIRECTORS AND MANAGEMENT**

The Board of the Company consists of:

**(a) Gregory Columbus - Non-Executive Chairman**

Mr Columbus has 15 years' experience as managing director and main board Director for Clarke Energy Limited, being a privately owned multinational company in the sale, engineering, installation and maintenance of power plants that utilise gas compressors and gas engines. Clarke Energy is a wholly owned company of the Kohler Group and operates in over 28 countries today. He was also Chairman of Warrego Energy Limited (ASX:WGO), an oil and gas exploration company which held assets in Western Australia and Spain. Warrego's main asset was a 50% interest in the West-Erregulla gas discovery in Western Australia. Warrego was acquired by Hancock Energy for a cost of around A\$440mm. Greg was formerly Non-executive Chairman of Talon Energy Limited (ASX:TPD) until its acquisition by Strike Energy Limited in December 2023. Additionally, Mr Columbus is a Non-exec Director of Galilee Energy Limited a CSG focussed E&P company whose flagship asset is its Glenaras Gas Project in Queensland. Mr Columbus is also a Non-Executive Director of ASX-listed Noble Helium Limited and a Director of the Port Adelaide Football Club.

**(b) David Casey - Managing Director and CEO**

Mr Casey has over 30 years' experience in the oil and gas sector. Mr Casey was the former Managing Director and CEO of Eastern Star Gas Limited (ESG) and was instrumental in the appraisal, development and commercialisation of the Narrabri Gas Project in Northern NSW. ESG grew to be an ASX 200 company until it was taken over by Santos Limited for A\$924 million. Mr Casey was formerly CEO Australia and Asia Pacific at Warrego Energy Limited (ASX:WGO), and a former Managing Director and non-executive director of Talon Energy Limited (ASX:TPD) as well as previously holding the position of Managing Director of Galilee Energy Limited (ASX:GLL).

**(c) Matthew Worner - Executive Director**

Mr Worner is a former lawyer, with extensive experience in the oil and gas sector having worked in various legal, commercial and Company Secretarial positions with ASX listed companies. He is formerly a Non-executive Director of Talon Energy Limited (ASX:TPD), Patriot Lithium Limited (ASX:PAT) and currently a Non-executive Director of RBR Group Ltd (ASX:RBR). Mr Worner is also a part-time employee of Automic Finance Pty Ltd (part of the Automic Group) where he provides corporate advisory services to listed and private companies.

### **9.2 KEY MANAGEMENT PERSONNEL AND CONSULTANTS**

**(a) Cameron O'Brien – Company Secretary & Chief Financial Officer**

Mr O'Brien specialises in corporate advisory, company secretarial and financial management services at Automic Group. He is a qualified chartered accountant formerly focusing on external audit across the natural resources and industrial sectors at a leading accounting firm. Mr O'Brien also worked within the accounting firm's Corporate Finance division where he was focused on due diligence, expert reports, valuations and ASX listings.

**(b) Milton John Zetzman – Technical Manager**



Mr Zetzman has over 30 years' experience working in the energy exploration sector. John was among the first to identify the shale potential in South Africa. In 2008 they submitted the first application for a large-scale exploration right focussed on shale. He was integral to the identification and application for the exploration right now held by Renergen, which is now the first onshore Production Right in South Africa

(c) **Marek Ranoszek – South African Director of Motuoane**

Mr Ranoszek is an experienced leader in the oil and gas exploration and production sectors. He has over 30 years' experience having served as Managing Director and Country Manager for several large US independent oil and gas production companies in South Africa, including Anadarko, Pioneer Natural Resources as well as Asset Manager and Services Manager for Total Energies EP in South Africa.

### 9.3 DISCLOSURE OF INTERESTS

Directors are not required under the Constitution to hold any Securities. As at the date of this Prospectus, the Directors and Key Management Personnel have relevant interests in Securities as follows:

DIRECTORS	NO. OF SHARES	NO. OF OPTIONS	NO. OF PERFORMANCE RIGHTS
Gregory Columbus <sup>(1)</sup>	3,187,500 <sup>(1)</sup>	nil	nil
Matthew Worner <sup>(2)</sup>	5,000,050 <sup>(2)</sup>	nil	nil
David Casey <sup>(3)</sup>	5,312,550 <sup>(3)</sup>	nil	nil
Cameron O'Brien	nil	nil	nil
Milton John Zetzman <sup>(4)</sup>	4,824,100 <sup>(4)</sup>	nil	1,490,750 <sup>(5)</sup>
Marek Ranoszek	nil	nil	nil
<b>Notes:</b> <sup>(1)</sup> Subscribed for in the Company's seed funding rounds – 1,000,000 Shares at \$0.10 per Share and 2,187,500 Shares at \$0.16 per Share. These Shares are held by Discovery Investments Pty Ltd, a company controlled by Greg Columbus. <sup>(2)</sup> Consisting of 50 Shares issued upon incorporation at \$1.00 per Share, 5,000,000 Shares subscribed for at \$0.001 per Share and 312,500 Shares subscribed for at \$0.16 per Share in a seed funding round. These Shares are held by D A Casey and Associates Pty Ltd (as trustee of the DA Casey Trust) and Hayrow Pty Ltd, companies controlled by David Casey. <sup>(3)</sup> Consisting of 50 Shares issued upon incorporation at \$1.00 per Share and 5,000,000 Shares subscribed for at \$0.001 per Share. <sup>(4)</sup> Issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement <sup>(6)</sup> . <sup>(5)</sup> Consisting of 496,950 Class A Vendor Performance Rights, 496,900 Class B Vendor Performance Rights and 496,900 Class C Performance Rights issued to Mr Zetzman under the Motuoane Acquisition Agreement <sup>(6)</sup> . The Company intends to convert all the Class A Vendor Performance Rights and all the Class B Vendor Performance Rights prior to ASX Listing as the applicable milestones for conversion have been met. <sup>(6)</sup> See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued under the Motuoane Acquisition Agreement and Section 15.2 for a summary of the Motuoane Acquisition Agreement.			

For each of the Directors, the expected annual remuneration (excluding superannuation) for the financial year following the Company being admitted to the Official List is set out in the table below. The table below also contains details of the interest of each of the Directors and the Key Management Personnel in the Company upon ASX Listing assuming that such Directors or Key Management Personnel do not subscribe for additional Shares under the Public Offer.





Director/Key Management Personnel	Cash Remuneration (\$)	Shares	Options	Performance Rights	Percentage (undiluted)	Percentage (diluted)
David Casey	300,000	5,312,550 <sup>(1)</sup>	1,500,000 <sup>(2)</sup>	2,400,000 <sup>(3)</sup>	4.40%	6.47%
Matthew Worner	200,000	5,000,050 <sup>(4)</sup>	1,500,000 <sup>(2)</sup>	2,400,000 <sup>(3)</sup>	4.14%	6.25%
Gregory Columbus	70,000	3,187,500 <sup>(5)</sup>	1,000,000 <sup>(2)</sup>	1,020,000 <sup>(3)</sup>	2.64%	3.66%
Cameron O'Brien	– <sup>(6)</sup>	–	250,000 <sup>(2)</sup>	525,000 <sup>(3)</sup>	–%	0.54%
Milton John Zetzman	125,000 <sup>(7)</sup>	5,817,950 <sup>(8)</sup>	625,000 <sup>(2)</sup>	1,246,900 <sup>(9)</sup>	4.82%	5.40%
Marek Ranoszek	ZAR 15,000 (approx. AU\$1,190): per day	–	–	–	–	–

**Notes:**

- (1) Consisting of 50 Shares were issued upon incorporation of the Company at \$1.00 per Share, 5,000,000 Shares subscribed for at \$0.001 per Share and 312,500 Shares subscribed for at \$0.16 per Share in a seed funding round. These Shares are held by D A Casey & Associates Pty Ltd (as trustee of the DA Casey Trust and Hayrow Pty Ltd, companies controlled by David Casey.
- (2) Management and Consultant Options to be issued under the Management and Consultant Offer exercisable at \$0.30 each and with an expiry date of 4 years from date of grant. See Section 16.2(c) for full terms of the Management and Consultant Options.
- (3) Management and Consultant Performance Rights to be issued under the Management and Consultant Offer each have an expiry date 5 years from the date of issue and are split evenly across three classes and vest upon the achievement of the following milestones:
- (a) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.40;
  - (b) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.50;
  - (c) Class A: the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.60.
- See Section 16.2(b) for full terms of the Management and Consultant Performance Rights.
- (4) Consisting of 50 Shares issued upon incorporation of the Company at \$1.00 per Share and 5,000,000 Shares subscribed for at \$0.001 per Share.
- (5) Subscribed for in the Company's seed funding rounds – 1,000,000 Shares at \$0.10 per Share and 2,187,500 Shares at \$0.16 per Share. These Shares are held by Discovery Investments Pty Ltd is controlled by Greg Columbus, a Director of the Company.
- (6) The Company has engaged Grange Consulting Group Pty Ltd, which is part of the Automic Group, to provide company secretarial and financial management services to the Company – see summary of this engagement in Section 15.6. Pursuant to this engagement, Mr Cameron O'Brien has been appointed to the position Company Secretary and Chief Financial Officer of the Company. Mr O'Brien receives no cash remuneration from the Company
- (7) Payable pursuant to an Independent Contractor Agreement between the Company and an entity associated with Mr Zetzman (Brandfort Resources Corp.). See Section 9.6(b) for further details.
- (8) Consisting of 4,824,100 Shares issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement and 993,850 Shares to be issued on conversion prior to ASX Listing of 496,950 Class A Vendor Performance Rights and 496,900 Class B Vendor Performance Rights issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement<sup>(10)</sup>.
- (9) Consisting of 496,900 Class C Vendor Performance Rights issued to Mr Zetzman as a Vendor under the Motuoane Acquisition Agreement<sup>(10)</sup> and 750,000 Management and Consultant Performance Rights to be issued under the Management and Consultant Offer (see further Note <sup>(3)</sup> above).
- (10) See Section 7.10 for details of the Shares and Vendor Performance Rights issued and to be issued under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement.



#### 9.4 DIRECTOR DISCLOSURES

No Director, has been the subject of any disciplinary action, criminal conviction, personal bankruptcy or disqualification in Australia or elsewhere in the last 10 years, which is relevant or material to the performance of their duties as a Director or which is relevant to an investor's decision as to whether to subscribe for Shares.

No Director has been an officer of a company that has entered into any form of external administration as a result of insolvency during the time that they were an officer or within a 12-month period after they ceased to be an officer.

#### 9.5 DIRECTOR APPOINTMENTS AND AGREEMENTS

Each of Gregory Columbus, David Casey and Matthew Worner have entered into director appointment letters with the Company to act in the capacity of non-executive Directors (and in the case of Mr Columbus to act as non-executive Charman). The director appointment letters for Mr Columbus, Mr Casey and Mr Worner are on standard terms for non-executive Directors. The terms of the director appointment letters for Mr Casey and Mr Worner have been replaced by their respective employment agreements set out below.

Mr Columbus will receive \$75,000 per annum (exclusive of statutory superannuation) for executing the role of non-executive Chairman of the Company and each of Mr Casey's and Mr Worner's remuneration under the director appointment letters was \$125,000 per annum (exclusive of statutory superannuation) for executing the role of non-executive Director of the Company and taking into account the operational status of the D3 Project.

The Company has also entered into executive employment agreements with Mr Casey and Mr Worner (which have replaced the terms of the above director appointment letters) as follows:

##### David Casey Executive Services Agreement

The Company has entered into an executive services agreement with David Casey (**Casey Agreement**), the material terms and conditions of which are summarised below:

<b>Position</b>	Managing Director and CEO
<b>Commencement Date</b>	3 March 2024.
<b>Remuneration</b>	<p>Mr Casey shall be entitled to the following remuneration:</p> <p>A\$300,000 per annum (excluding superannuation).</p> <p>In addition, Mr Casey will be issued with 1,500,000 Management and Consultant Options and 2,400,000 Management and Consultant Performance Rights (the details of which are set out in Section 6.7, Section 16.2(b) and Section 16.2(c)) which will occur under the terms of the Management and Consultant Offer. The Company's Shareholders approved the issue of these Management and Consultant Options and 2,400,000 Management and Consultant Performance Rights at a general meeting of the Company on 9 February 2024.</p>
<b>Termination</b>	The Company may at its discretion, terminate the Casey Agreement in the following manner:



- (a) By giving not less than one month's written notice if at any time Mr Casey is or becomes:
  - (i) in breach of any of the terms of the Casey Agreement;
  - (ii) in the reasonable opinion of the Board, is absent in, or demonstrates incompetence with regard to the performance of the duties under the Casey Agreement, or is neglectful of any duties or otherwise does not perform all duties in a satisfactory manner;
  - (iii) in breach of Company policies in respect of internet or email;
  - (iv) of unsound mind or a person whose person or estate is liable to be dealt with under any law relating to mental health;
  - (v) refuses or neglects to comply with any lawful reasonable direction or order given by the Company;
  - (vi) guilty of gross misconduct in the performance of Mr Casey's duties under the Casey Agreement; or
  - (vii) incapacitated by illness or injury of any kind which prevents Mr Casey from performing his duties under the Casey Agreement for a period of three consecutive months or any periods aggregating three months in any period of 12 months during the term of the Casey Agreement; or
- (b) summarily without notice:
  - (i) if at any time Mr Casey is found guilty of serious misconduct or is convicted of any major criminal offence which brings the Company into lasting disrepute;
  - (ii) if Mr Casey discloses, communicates, uses or misuses price sensitive information in breach of applicable law.

The Company may at its sole discretion terminate the Casey Agreement by giving six month's written notice.

Mr Casey may terminate the Casey Agreement in the following manner:

- (c) if at any time the Company commits a serious and persistent breach of the Casey Agreement, by giving notice effective immediately; or
- (d) by giving three month's written notice to the Company.

In the event that the Company decides to make Mr Casey's position redundant or significantly reduces Mr Casey's skills, responsibility or status of Mr Casey's position, Mr Casey is entitled to a redundancy or severance payment of 12 month's salary.

The Casey Agreement otherwise contains provisions considered standard for an agreement of its nature (including representations and warranties and confidentiality provisions).



### Matthew Worner Executive Services Agreement

The Company has entered into an executive services agreement with Matthew Worner (**Worner Agreement**), the material terms and conditions of which are summarised below:

<b>Position</b>	Executive Director
<b>Commencement Date</b>	3 March 2024
<b>Remuneration</b>	<p>Mr Worner shall be entitled to the following remuneration:</p> <p>A\$200,000 per annum (excluding superannuation) as and from the date the Company is admitted to the Official List of the ASX.</p> <p>In addition, Mr Worner will be issued with 1,500,000 Management and Consultant Options and 2,400,000 Management and Consultant Performance Rights (the details of which are set out in Section 6.7, Section 16.2(b) and Section 16.2(c)) which will occur under the terms of the Management and Consultant Offer. The Company's Shareholders approved the issue of these Management and Consultant Options and 2,400,000 Management and Consultant Performance Rights at a general meeting of the Company on 9 February 2024.</p>
<b>Termination</b>	<p>The Company may at its discretion, terminate the Worner Agreement in the following manner:</p> <ul style="list-style-type: none"><li>(a) By giving not less than one month's written notice if at any time Mr Worner is or becomes:<ul style="list-style-type: none"><li>(i) in breach of any of the terms of the Worner Agreement;</li><li>(ii) in the reasonable opinion of the Board, is absent in, or demonstrates incompetence with regard to the performance of the duties under the Worner Agreement, or is neglectful of any duties or otherwise does not perform all duties in a satisfactory manner;</li><li>(iii) in breach of Company policies in respect of internet or email;</li><li>(iv) of unsound mind or a person whose person or estate is liable to be dealt with under any law relating to mental health;</li><li>(v) refuses or neglects to comply with any lawful reasonable direction or order given by the Company;</li><li>(vi) guilty of gross misconduct in the performance of Mr Worner's duties under the Casey Agreement; or</li><li>(vii) incapacitated by illness or injury of any kind which prevents Mr Worner from performing his duties under the Worner Agreement for a period of three consecutive months or any periods aggregating three months in any period of 12 months during the term of the Worner Agreement; or</li></ul></li></ul>



	<p>(b) summarily without notice:</p> <ul style="list-style-type: none"><li>(i) if at any time Mr Worner is found guilty of serious misconduct or is convicted of any major criminal offence which brings the Company into lasting disrepute;</li><li>(ii) if Mr Worner discloses, communicates, uses or misuses price sensitive information in breach of applicable law.</li></ul> <p>The Company may at its sole discretion terminate the Worner Agreement by giving six month's written notice.</p> <p>Mr Worner may terminate the Worner Agreement in the following manner:</p> <ul style="list-style-type: none"><li>(c) if at any time the Company commits a serious and persistent breach of the Worner Agreement, by giving notice effective immediately; or</li><li>(d) by giving three month's written notice to the Company.</li></ul> <p>In the event that the Company decides to make Mr Worner's position redundant or significantly reduces Mr Worner's skills, responsibility or status of Mr Worner's position, Mr Worner is entitled to a redundancy or severance payment of 12 month's salary.</p>
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The Worner Agreement otherwise contains provisions considered standard for an agreement of its nature (including representations and warranties and confidentiality provisions).

#### **Deeds of indemnity, insurance and access**

The Company has entered into a deed of indemnity, insurance and access with each of its Directors. Under these deeds, the Company will agree to indemnify each officer to the extent permitted by the Corporations Act against any liability arising as a result of the officer acting as an officer of the Company. The Company will also be required to maintain insurance policies for the benefit of the relevant officer and allow the officers to inspect board papers in certain circumstances. The deeds of indemnity, insurance and access are on standard terms.

### **9.6 AGREEMENTS WITH KEY MANAGEMENT**

#### **(a) Cameron O'Brien – Company Secretary & Chief Financial Officer**

The Company has engaged Grange Consulting Group Pty Ltd, which is part of the Automic Group, to provide company secretarial and financial management services to the Company – see summary of this engagement in Section 15.6. Pursuant to this engagement, Mr Cameron O'Brien has been appointed to the position Company Secretary and Chief Financial Officer of the Company. Mr O'Brien receives no cash remuneration from the Company.

#### **(b) Milton John Zetzman – Technical Manager**

Mr John Zetzman has been appointed by the Company as Technical Manager.

The Company has entered into an Independent Contractor Agreement with an entity associated with Mr Zetzman (Brandfort Resources Corp), pursuant to which the following technical management services are provided to the Company (which such services the Company expects will be provided by Mr Zetzman):



<b>Fees Payable</b>	A\$125,000 per annum payable monthly.
<b>Services</b>	<ul style="list-style-type: none"> <li>(a) Review and comment on technical and business data, methods and interpretations.</li> <li>(b) Provision of insights on methods, geological history, regional studies that would support the Company in the evaluation of prospects.</li> <li>(c) Oversight of exploration work programs undertaken at the Company's South African projects including oversight of geological and operational staff and activities.</li> </ul>
<b>Term and Termination</b>	The agreement remains in force as long as the services are being performed; and may be terminated by either party by the giving of at least ten days written notice to the other party.

(d) **Marek Ranoszek – South African Director of Motuoane**

Motuoane has entered into a Service Level Agreement with Mr Marek Ranoszek, pursuant to which Mr Ranoszek provides the following services:

<b>Fees Payable</b>	<p>A service fee is payable under the agreement on a daily rate of ZAR15,000 (approx. AU\$1,190) (exclusive of VAT).</p> <p>No fees are payable in respect of the duties performed by Mr Ranoszek as a director of Motuoane.</p>
<b>Services</b>	<ul style="list-style-type: none"> <li>(a) assisting in the identification of the services required for the exploration and production of natural gas and helium at Motuoane's assets;</li> <li>(b) input into Motuoane's budgeting process;</li> <li>(c) assessment and evaluation of new business development opportunities;</li> <li>(d) assistance with the identification of potential Motuoane growth assets;</li> <li>(e) assistance with the sourcing and supervision of specialist contractors and consultants required by Motuoane;</li> <li>(f) interaction and communication with relevant regulatory and government bodies to ensure compliance with local requirements;</li> <li>(g) other tasks as directed.</li> </ul>
<b>Term and Termination</b>	<p>The Ranoszek Agreement is set for a term of one year as and from 22 August 2023 and is extendable by mutual agreement.</p> <p>The Ranoszek Agreement may be terminated by either party at any time by not less than 30 days' written notice or with immediate effect by</p>



Motuoane for breach by Mr Ranoszek of the Ranoszek Agreement or upon grave misconduct or will neglect in the discharge of duties

## **9.7 CORPORATE GOVERNANCE**

### **(a) ASX Corporate Governance Council Principles and Recommendations**

The Company has adopted comprehensive systems of control and accountability as the basis for the administration of corporate governance. The Board is committed to administering the policies and procedures with openness and integrity, pursuing the true spirit of corporate governance commensurate with the Company's needs.

To the extent applicable, the Company has adopted The Corporate Governance Principles and Recommendations (4th Edition) as published by ASX Corporate Governance Council (Recommendations).

In light of the Company's size and nature, the Board considers that the current board is a cost effective and practical method of directing and managing the Company. As the Company's activities develop in size, nature and scope, the size of the Board and the implementation of additional corporate governance policies and structures will be reviewed.

The Company's main corporate governance policies and practices as at the date of this Prospectus are outlined below and the Company's full Corporate Governance Plan is available in a dedicated corporate governance information section of the Company's website [www.d3energy.com.au](http://www.d3energy.com.au)

### **(b) Board of Directors**

The Board is responsible for corporate governance of the Company. The Board develops strategies for the Company, reviews strategic objectives and monitors performance against those objectives. The goals of the corporate governance processes are to:

- (i) maintain and increase Shareholder value;
- (ii) ensure a prudential and ethical basis for the Company's conduct and activities consistent with the Company's stated values; and
- (iii) ensure compliance with the Company's legal and regulatory objectives.

Consistent with these goals, the Board assumes the following responsibilities:

- (i) leading and setting the strategic direction, values and objectives of the Company;
- (ii) appointing the Chairman of the Board, Managing Director or Chief Executive Officer and approving the appointment of senior executives and the Company Secretary;
- (iii) overseeing the implementation of the Company's strategic objectives, values, code of conduct and performance generally;
- (iv) approving operating budgets, major capital expenditure and significant acquisitions and divestitures;
- (v) overseeing the integrity of the Company's accounting and corporate reporting systems, including any external audit (satisfying itself financial statements





released to the market fairly and accurately reflect the Company's financial position and performance);

- (vi) establishing procedures for verifying the integrity of those periodic reports which are not audited or reviewed by an external auditor, to ensure that each periodic report is materially accurate, balanced and provides investors with appropriate information to make informed investment decisions;
- (vii) overseeing the Company's procedures and processes for making timely and balanced disclosure of all material information that a reasonable person would expect to have a material effect on the price or value of the Company's securities;
- (viii) reviewing, ratifying and monitoring the effectiveness of the Company's risk management framework, corporate governance policies and systems designed to ensure legal compliance; and
- (ix) approving the Company's remuneration framework.

The Company is committed to the circulation of relevant materials to Directors in a timely manner to facilitate Directors' participation in the Board discussions on a fully-informed basis.

(c) **Composition of the Board**

Election of Board members is substantially the province of the Shareholders in general meeting, subject to the following:

- (i) membership of the Board of Directors will be reviewed regularly to ensure the mix of skills and expertise is appropriate; and
- (ii) the composition of the Board has been structured so as to provide the Company with an adequate mix of directors with industry knowledge, technical, commercial and financial skills together with integrity and judgment considered necessary to represent Shareholders and fulfil the business objectives and values of the Company as well as to deal with new and emerging business and governance issues.

The Board currently consists of three Directors (one non-executive Director and two executive Directors) of whom Greg Columbus is are considered independent. The Board considers the current balance of skills and expertise to be appropriate given the Company for its currently planned level of activity.

To assist in evaluating the appropriateness of the Board's mix of qualifications, experience and expertise, the Board intends to maintain a Board Skills Matrix to ensure that the Board has the skills to discharge its obligations effectively and to add value.

The Board undertakes appropriate checks before appointing a person as a Director or putting forward to Shareholders a candidate for election as a Director or senior executive.

The Board ensures that Shareholders are provided with all material information in the Board's possession relevant to a decision on whether or not to elect or re-elect a Director.

The Company shall develop and implement a formal induction program for Directors, which is tailored to their existing skills, knowledge and experience. The purpose of this program is to allow new directors to participate fully and actively in Board decision-making at the earliest opportunity, and to enable new directors to gain an understanding of the Company's policies and procedures.



The Board maintains oversight and responsibility for the Company's continual monitoring of its diversity practices. The Company's Diversity Policy provides a framework for the Company to achieve enhanced recruitment practices whereby the best person for the job is employed, which requires the consideration of a broad and diverse pool of talent.

(d) **Identification and management of risk**

The Board's collective experience will enable accurate identification of the principal risks that may affect the Company's business. Key operational risks and their management will be recurring items for deliberation at Board meetings.

(e) **Ethical standards**

The Board is committed to the establishment and maintenance of appropriate ethical standards and to conducting all of the Company's business activities fairly, honestly with integrity, and in compliance with all applicable laws, rules and regulations. In particular, the Company and the Board are committed to preventing any form of bribery or corruption and to upholding all laws relevant to these issues as set out in the Company's Anti-Bribery and Anti-Corruption Policy. In addition, the Company encourages reporting of actual and suspected violations of the Company's Code of Conduct or other instances of illegal, unethical or improper conduct. The Company and the Board provide effective protection from victimisation or dismissal to those reporting such conduct as set out in its Whistleblower Protection Policy.

(f) **Independent professional advice**

Subject to the Chairman's approval (not to be unreasonably withheld), the Directors, at the Company's expense, may obtain independent professional advice on issues arising in the course of their duties.

(g) **Remuneration arrangements**

The remuneration of an executive Director will be decided by the Board, without the affected executive Director participating in that decision-making process.

In accordance with the Constitution, the total maximum remuneration of non-executive Directors is initially set by the Board and subsequent variation is by ordinary resolution of Shareholders in general meeting in accordance with the Constitution, the Corporations Act and the ASX Listing Rules, as applicable. The determination of non-executive Directors' remuneration within that maximum will be made by the Board having regard to the inputs and value to the Company of the respective contributions by each non-executive Director. The current amount has been set at an amount not to exceed \$500,000 per annum.

In addition, a Director may be paid fees or other amounts for example, and subject to any necessary Shareholder approval, non-cash performance incentives such as Options) as the Directors determine where a Director performs special duties or otherwise performs services outside the scope of the ordinary duties of a Director.

Directors are also entitled to be paid reasonable travelling, hotel and other expenses incurred by them respectively in the performance of their duties as Directors.

The Board reviews and approves the remuneration policy to enable the Company to attract and retain executives and Directors who will create value for Shareholders having regard to the amount considered to be commensurate for a company of its size and level of activity as well as the relevant Directors' time, commitment and responsibility. The Board is also responsible for reviewing any employee incentive and equity-based plans including the appropriateness of performance hurdles and total payments proposed.



(h) **Trading policy**

The Board has adopted a policy that sets out the guidelines on the sale and purchase of securities in the Company by its key management personnel (i.e. Directors and, if applicable, any employees reporting directly to the managing director). The policy generally provides that, the written acknowledgement of the Chair (or the Board in the case of the Chairman) must be obtained prior to trading.

(i) **External audit**

The Company in general meetings is responsible for the appointment of the external auditors of the Company. From time to time, the Board will review the scope, performance and fees of those external auditors.

(j) **Audit committee**

The Company will not have a separate audit committee until such time as the Board is of a sufficient size and structure, and the Company's operations are of a sufficient magnitude for a separate committee to be of benefit to the Company. In the meantime, the full Board will carry out the duties that would ordinarily be assigned to that committee under the written terms of reference for that committee, including but not limited to:

- (i) monitoring and reviewing any matters of significance affecting financial reporting and compliance;
- (ii) verifying the integrity of those periodic reports which are not audited or reviewed by an external auditor;
- (iii) monitoring and reviewing the Company's internal audit and financial control system, risk management systems; and
- (iv) management of the Company's relationships with external auditors.

(k) **Diversity policy**

The Company is committed to workplace diversity. The Company is committed to inclusion at all levels of the organisation, regardless of gender, marital or family status, sexual orientation, gender identity, age, disabilities, ethnicity, religious beliefs, cultural background, socio-economic background, perspective and experience.

The Board has adopted a diversity policy which provides a framework for the Company to achieve, amongst other things, a diverse and skilled workforce, a workplace culture characterised by inclusive practices and behaviours for the benefit of all staff, improved employment and career development opportunities for women and a work environment that values and utilises the contributions of employees with diverse backgrounds, experiences and perspectives.

(l) **Departures from Recommendations**

Under the ASX Listing Rules the Company will be required to provide a statement in its annual financial report or on its website disclosing the extent to which it has followed the Recommendations during each reporting period. Where the Company has not followed a Recommendation, it must identify the Recommendation that has not been followed and give reasons for not following it.

The Company's compliance and departures from the Recommendations will also be announced prior to admission to the Official List of the ASX.



---

## 10. INDEPENDENT TECHNICAL ASSESSMENT REPORT



Estimation of Methane and Helium  
Contingent and Prospective Resources  
in the Motuoane Gas Project,  
Free State Province,  
Republic of South Africa,  
as of February 1, 2024

Prepared for D3 Energy Limited  
February 9, 2024



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**February 12, 2024**

Mr. David Casey  
Executive Director – Technical  
D3 Energy Limited  
945 Wellington Street  
West Perth WA 6005  
Australia

**RE: Estimation of Methane and Helium Contingent and Prospective Resources in the Motuoane Gas Project, Free State Province, Republic of South Africa, as of February 1, 2024**

Dear Mr. Casey,

At the request of D3 Energy Limited (“D3”), Sproule Incorporated (“Sproule”), an independent sub-surface consultancy based in Calgary, Canada, has conducted an independent evaluation of unconventional methane and helium resources in Motuoane License, 315ER, east of the Tetra4 production right 24/04/07PR, located in the Free State of the Republic of South Africa. This geologic and engineering evaluation, based on the analysis methodology described herein, utilizes technical and economic data supplied by D3 has an effective date of February 1, 2024. This evaluation includes estimates of recoverable methane and helium volumes from Contingent Resources. Contingent Resources have commercial risk. Sproule has estimated the volumes of Contingent Resources, those volumes of gases that are discovered but are not yet considered commercially viable for extraction due to one or more contingencies. Sproule has also estimated the volumes of Prospective Resources, those volumes of gases that are undiscovered, but the likelihood of their existence can be estimated. Prospective Resources thus carry significant exploration risk. The estimates of Resources and future net revenue for individual properties may not reflect the same confidence level as estimates of Resources and future net revenue for all properties, because of aggregation. Further, estimates of Net Present Value, either discounted or undiscounted, are a calculation of the Resource value at a given date and are not a representation of the fair market value of a company or corporation owning a working interest in the project.

Sproule has reviewed the work program and budget for License 215 ER as well as two newly granted licenses, TCP 235 and 240. Sproule finds these work programs and budgets will meet industry standards for advancing the status of these block, reducing the technical risk and meeting the work requirements.



## Resource Estimates

The independent Resource estimates and contained in this report are prepared in accordance with the Society of Petroleum Engineers (SPE) Petroleum Resources Management (PRMS) guidance and all volumes are calculated upon a standard pressure of 14.7 psia (101.325 kPa) and a temperature of 60 F (15.6 C). This study provides a Technical Value, defined as an assessment of a mineral asset's future net economic benefit at the valuation date under a set of assumptions deemed most appropriate by a practitioner excluding any premium or discount to account for market considerations. These estimates are also in accordance with both the Australian Stock Exchange (ASX) rules (specifically Listing Rule 05 for Oil and Gas Companies) and the Johannesburg SAMOG code for oil and gas reporting in conjunction with the SPE PRMS guidance and specific additional rules. Sproule's evaluation is based upon data supplied by D3, supplemented where necessary by Sproule's corporate awareness of current South African industry costs and best practices. Sustained commercial sales of methane gas from pilots located on the adjacent Tetra4 licenses and periodic measurements of the free flow gas volumes from multiple blowers, some producing for decades, allow estimation of the gas production decline rate and thus ultimate recoverable volumes of gas.

Contingent Resources are those volumes that have been discovered but either are not yet defined sufficiently to be classified as reserves or are not currently planned for development. Contingent Resources were calculated from the technically recoverable gas volumes for each type well multiplied by the number of locations in the portion of the Motuoane License classified as Contingent Resources and, in the case of helium, multiplied by a constant helium content of 4.1%. No economics were calculated for either methane or helium Contingent Resources. Similar to the Reserve categories, the 1C category of Contingent Resources has a 90% confidence the calculated volumes are technically capable of being produced, without economic consideration, the 2C category has a 50% or greater confidence level and the 3C has a 10% or greater confidence level. Estimated net methane and helium Contingent Resources are summarized in Table 1.

**Table 1: Estimated Net Methane and Helium Contingent Resources**

Contingent Resources (BCF)	1C	2C	3C
<b>Recoverable Gas Resource</b>	336.65	547.45	858.03
<b>Recoverable Methane</b>	291.88	474.64	743.91
<b>Recoverable Helium</b>	13.803	22.445	35.179

Prospective Resources are, by definition, undiscovered resources. In the Virginia Production License there are areas that have not been adequately explored by well control to state that there is continuous gas columns and continuity of the gas reservoir. There is every reason to anticipate that future drilling will expand the field into these areas and there are mapped faults, sills and dykes in the area defined as the Prospective Area. These form the drillable targets for gas prospects. Net Prospective Resources were calculated volumetrically as the technically recoverable gas volumes for each type well multiplied by the number of locations in that portion of the Motuoane License classified as Prospective Resources. No economics were calculated for Prospective Resources. Estimated net methane and helium Prospective Resources are summarized in Table 2.

**Table 2: Estimated Net Methane and Helium Prospective Resources**

Prospective Resources (BCF)	1U	2U	3U
<b>Recoverable Gas Resource</b>	228.44	661.32	1875.35
<b>Recoverable Methane</b>	198.06	573.36	1625.93
<b>Recoverable Helium</b>	9.366	27.114	76.889

The estimated quantities of helium resources 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 estimate the existence of a commercial quantity of potentially movable helium. Prospective Resources carry significant exploration risk. All Prospective Resources volumes presented in this report are un-risked.

## Statement of Risk

The accuracy of reserves, resources, and economic evaluations is always subject to uncertainty. The magnitude of this uncertainty is generally proportional to the quantity and quality of data available for analysis. As a prospect, project, or well matures and new information becomes available revisions may be required which may either increase or decrease the previous estimates. Sometimes these revisions may result not only in a significant change to the reserves, resources and value assigned to a property, but also may impact the total company reserves, resources and economic status. The independent reserves, resources and economic forecasts contained in this report were based upon a technical analysis of the available data using accepted geoscience and engineering principles. However, they must be accepted with the understanding that further information and future reservoir performance subsequent to the date of the estimate may justify their revision. It is Sproule's opinion that the independent estimated reserves, resources, economics, and other information as specified in this report are reasonable and have been prepared in accordance with generally accepted geoscience and petroleum engineering and evaluation principles. Notwithstanding the aforementioned opinion, Sproule makes no warranties concerning the data and interpretations of such data. Neither Sproule, nor any of its employees have any interest in the subject properties and neither the employment to do this work, nor the compensation, is contingent on Sproule's estimates of the resources or economic evaluations for the properties in this report. This report was prepared for the exclusive use of D3 and will not be released by Sproule to any other parties without D3's written permission (other than the stated purpose set out above). The data and work papers used in this preparation of this report are available for examination by authorized parties in Sproule's offices. Sproule gives its permission for the release of this report, for public use, by D3.

Thank you for this opportunity to be of service to D3. If you have any questions or wish to discuss any aspect of the report further, please feel free to contact either of us.

Sincerely,

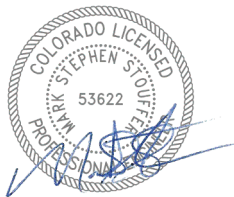
## Qualified Reserves and Evaluators Statement

The evaluation contained in this report is prepared in accordance with the Society of Petroleum Engineers (SPE) Petroleum Resources Management System (PRMS) guidance and provides a review under a set of assumptions deemed most appropriate by the practitioner. These estimates are also in accordance with the Australian Securities Exchange (ASX) rules (specifically Listing Rule 5 for Oil and Gas Companies). In August of 2022 the SPE published a statement on its website extending the PRMS principles to commercial non-hydrocarbons such as helium and hydrogen and this evaluation follows that guidance. Both Jeffrey Aldrich and Mark Stouffer are QREs under SPE and ASX guidelines and their qualifications are presented below.



Feb. 12 2024

Jeffery B. Aldrich, L.P.G.  
*Senior Geoscientist*



Feb. 12, 2024

Mark Stouffer, P.E.  
*Senior Petroleum Engineer*

The following Responsible Member of Sproule Incorporated certifies that our internal quality control process has been completed in accordance with our Professional Practice Management Plan.

A blue ink signature of Alexey Romanov.

Feb. 12, 2024

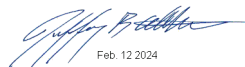
Alexey Romanov, Ph.D., P.Geo.  
*Senior Manager, Geoscience*

## Certificate of Qualifications

**Jeffrey Aldrich, L.P.G., P.Geo.**

I, Jeffrey B. Aldrich, Principal Geoscientist of Sproule, 1000, 1700 Broadway Street, Denver, Colorado, USA, declare the following:

1. I hold the following degree:
  - a. B.S. Geology (1977) Vanderbilt University, Nashville, TN, USA
  - b. M.S. Geology (1983) Texas A&M University, College Station, Texas, USA
2. I am a licensed professional:
  - a. Licensed Professional Geoscientist (P.G.) Louisiana, USA #394
  - b. Licensed Professional Geoscientist (P.G.) Texas, USA # 15140
  - b. Certified Petroleum Geologist (C.P.G) The American Association of Petroleum Geologists #6254
3. I am a member of the following professional organizations:
  - a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
  - b. American Association of Petroleum Geologists (AAPG)
  - c. Society of Petroleum Engineers (SPE)
4. I am a qualified reserves evaluator and reserves auditor as defined in:
  - a. the "Canadian Oil and Gas Evaluation Handbook" as promulgated by the Society of Petroleum Evaluation Engineers (Calgary Chapter) and,
  - b. the "Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information" as promulgated by the Society of Petroleum Engineers and incorporated into the "Petroleum Resource Management System" (SPE-PRMS).
5. My contribution to the report entitled "Estimation of Methane and Helium Contingent and Prospective Resources in the Motuoane Gas Project, Free State Province, Republic of South Africa, as of February 1, 2024" is based on my geoscience knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule.
6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of D3 Energy Limited.

  
Feb. 12 2024

---

Jeffrey Aldrich, L.P.G., P.Geo.

## Certificate of Qualification

**Mark Stouffer, P.E.**

I, Mark Stouffer, Senior Petroleum Engineer of Sproule, 1000, 1700 Broadway Street, Denver, Colorado, declare the following:

1. I hold the following degrees:
  - a. M.E. in Petroleum Engineering (1988), Texas A&M University, College Station, Texas
  - b. B.S. in Petroleum Engineering (1983), The University of Tulsa, Tulsa Oklahoma
2. I am a registered professional:
  - a. Professional Engineer (P.E.), State of Colorado, USA.
3. I am a member of the following professional organizations:
  - a. Society of Petroleum Engineers (SPE)
4. I am a qualified reserves evaluator and reserves auditor as defined in:
  - a. the "Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information" as promulgated by the Society of Petroleum Engineers and incorporated into the "Petroleum Resource Management System" (SPE-PRMS).
5. My contribution to the report entitled "Estimation of Methane and Helium Contingent and Prospective Resources in the Motuoane Gas Project, Free State Province, Republic of South Africa, as of February 1, 2024". is based on my engineering knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule.
6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of D3 Energy Limited.



Feb. 12, 2024

Mark Stouffer, P.E.

## Certificate of Qualification

**Alexey Romanov, Ph.D., P.Geo.**

I, Alexey Romanov, Senior Manager, Geoscience of Sproule, 900, 140 Fourth Avenue SW, Calgary, Alberta, declare the following:

1. I hold the following degrees:
  - a. Ph.D. Eng. (2007), Kazan State Technological University, Kazan, Russia
  - b. M.Sc. Reservoir Evaluation and Management (2004), Heriot-Watt University, Edinburgh, UK
  - c. M.Sc. (Honours), Petroleum Geology (2003), Kazan State University, Kazan, Russia
2. I am a registered professional:
  - a. Professional Geoscientist (P.Geo.), Province of Alberta, Canada
3. I am a member of the following professional organizations:
  - a. Society of Petroleum Engineers (SPE)
  - b. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
  - c. Canadian Society of Petroleum Geologists (CSPG)
4. I am a qualified reserves evaluator and reserves auditor as defined in:
  - a. the "Canadian Oil and Gas Evaluation Handbook" as promulgated by the Society of Petroleum Evaluation Engineers (Calgary Chapter) and,
  - b. the "Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information" as promulgated by the Society of Petroleum Engineers and incorporated into the "Petroleum Resource Management System" (SPE-PRMS).
5. My contribution to the report entitled "Estimation of Methane and Helium Contingent and Prospective Resources in the Motuoane Gas Project, Free State Province, Republic of South Africa, as of February 1, 2024" is based on my geoscience knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule.
6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of D3 Energy Limited.



Feb. 12, 2024

Alexey Romanov, Ph.D., P.Geo.

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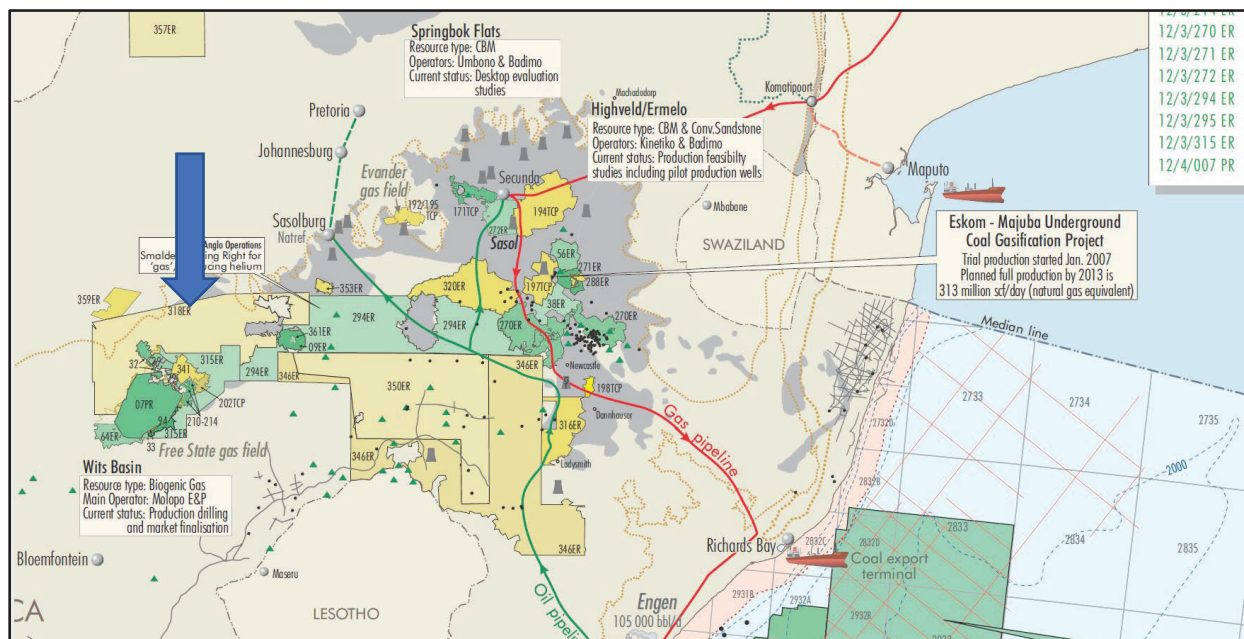
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## BACKGROUND

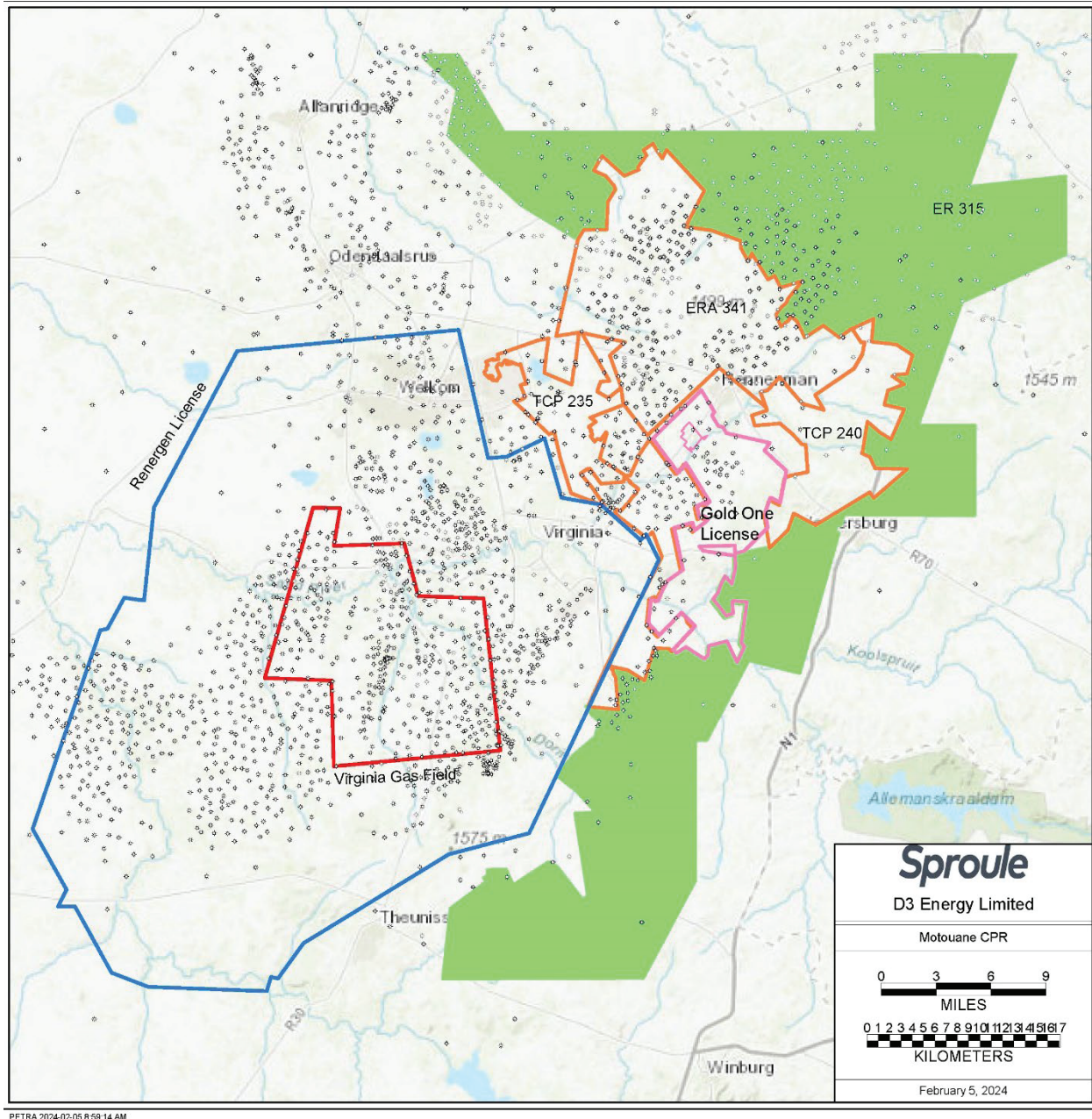
The D3 Motuoane gas project, located in the Free State Province, is approximately 250 km southwest of Johannesburg (Figure 1). The Motuoane License Application Area is near the towns of Welkom, Virginia and Hennenman.



**Figure 1: Detail from the Official Lease and Rights Map from the Petroleum Agency of South Africa. 315ER is the Motuoane Exploration Right.**

The Renergen Virginia Gas Field Production Right (07PR) lies immediately to the west of the 315ER license (Figure 1 “Motuoane Licence”). The Virginia Gas Field was used as an analog for the style of gas trap and construction of type wells for expected well performance within the Motuoane License. This exploration right covers a large area and contains multiple gas emitting boreholes drilled as part of mineral exploration activities. Several of these boreholes are flowing gas at relatively high production rates and have been doing so for decades. Past work programs involved the cataloging and sampling of the gas emitting boreholes, a soil gas geochemistry survey, and structural mapping. The gas emitting boreholes (“blowers”) were drilled by mining companies to explore for gold in Witwatersrand formations which underlie the coal-bearing Karoo and Ventersdorp lavas. Some flowing wells were reportedly capped due to dangerously high gas emission rates. D3 now owns 100 percent working interest in 118,000 hectares (29,158,435 acres or 1,180 Km<sup>2</sup>) that currently has 8 active blowers and 6 inactive blowers Figure 2. In addition, the project also has over 100 shallow wells drilled into the Permian Karoo section but are not considered for the Contingent Resources portion of this report as they do not penetrate the deeper Witwatersrand Formation and the basement faulting. The D3 Motuoane License is subject to a 5% government tax as described in the Mineral and Petroleum Resource Development Act of 2002. Additionally, D3, through Motuoane, has applied for an additional Exploration Right

ERA341 and has been granted two Technical Cooperation Permits (TCPs) TCP235 & TCP 240. This report does not include an evaluation of resources of that application and those licenses.



**Figure 2: Detail of Motuoane License ER 315, Exploration Right Application ERA 341, & TCP 235, 240.**



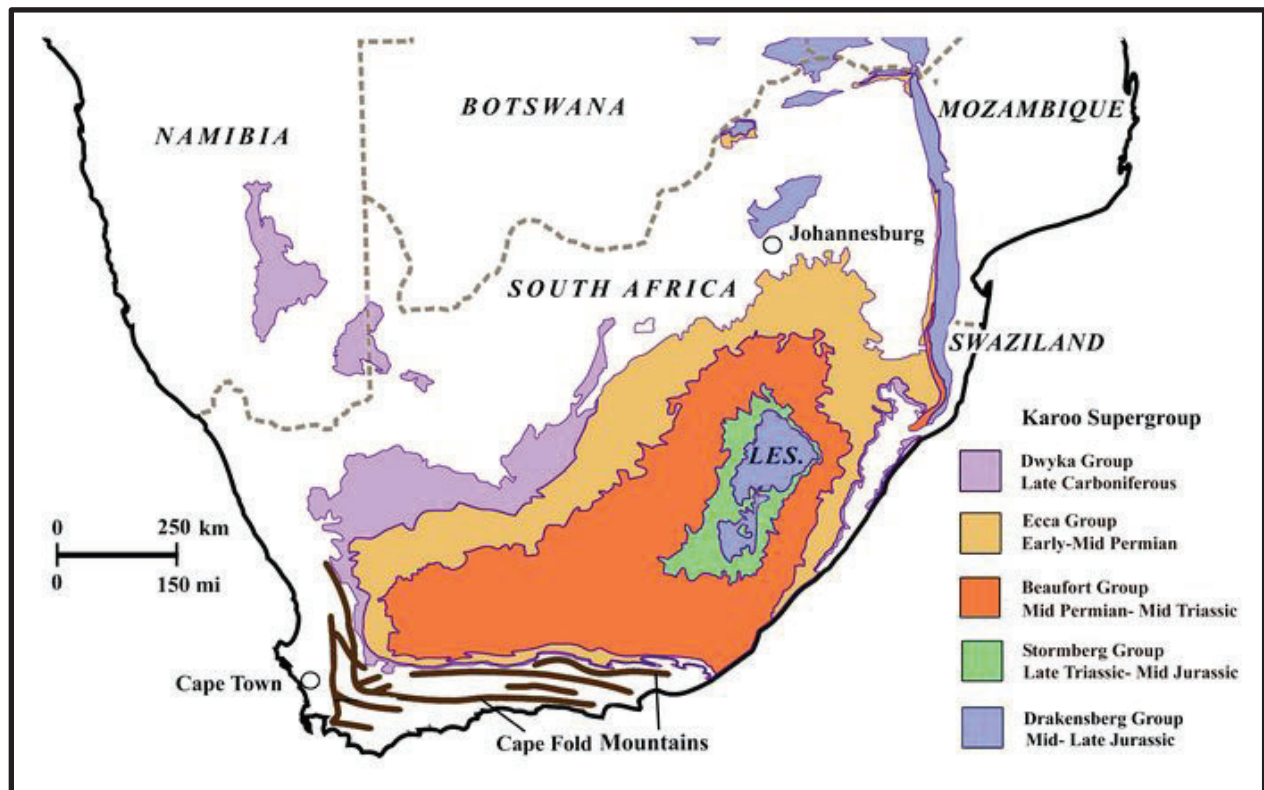
The current holdings and applications of Motuoane are detailed in Table 3 below:

**Table 3: Hectares of Each of the Motuoane Licenses and Applications**

ER/TCP	Ha
ER 315	119,377.00
TCP 235	14,910.00
TCP 240	11,892.00
ERA 341	32,996.00

## GEOLOGIC SETTING

The Motuoane License is situated in the eastern part of the Greater Karoo Basin, a Permian aged large terrestrial and glacial basin in eastern South Africa (Figure 3). Within the Karoo Basin is the Ecca Group coal sequence which contains multiple thin-bedded coal seams that have some coal seam gas potential.



**Figure 3: The Greater Karoo Basin, from Rubridge, 1995**

Below the Karoo Basin unconformably lies the Precambrian Witwatersrand Basin, which contains the Free State Gold Field Welkom (Figure 4). The Free State Gold Field is a major graben structure that is bounded on the west by the “Border” fault and on the east by the “de Bron” fault.

Displacement in the order of 1000 meters is encountered along the strike of the de Bron fault. The displacement is towards the west. In certain areas the fault zone amounts to 150 m in width and is partly filled with secondary quartz and calcite with the resulting in permeability along the strike distance of the fault that varies considerably.

Geologic Map of the Central and West Rand Groups from Welkom north to Johannesburg. The Motuoane License lies within the red box.

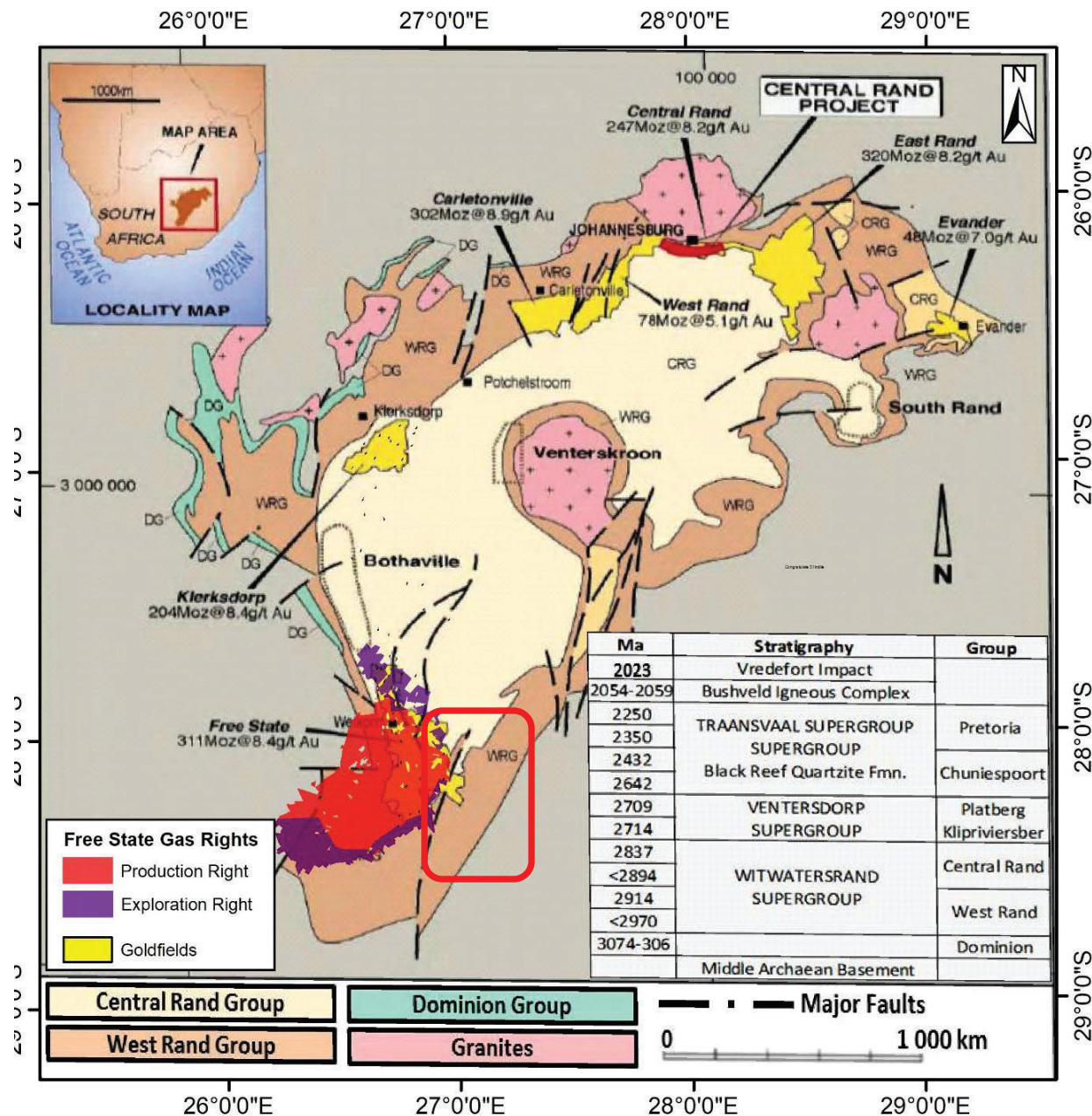
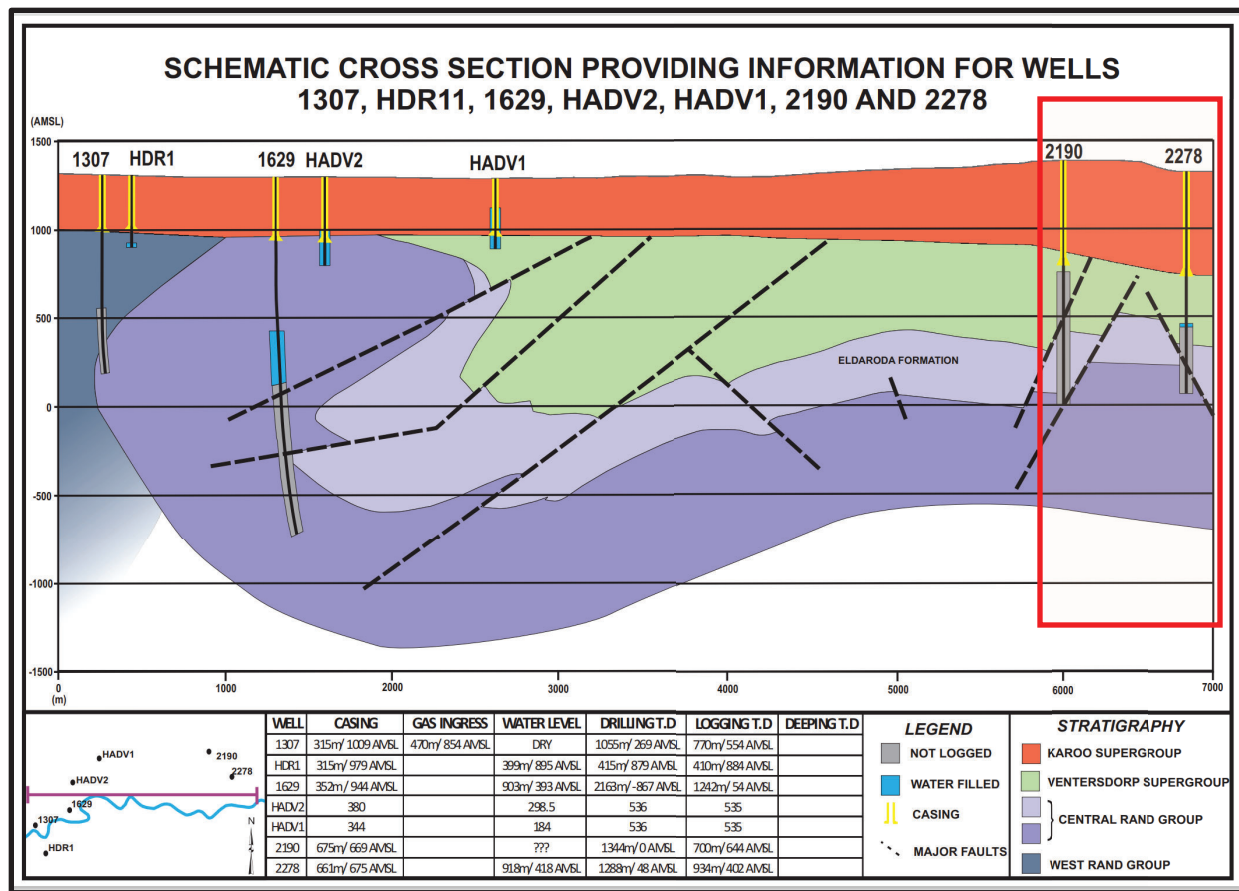


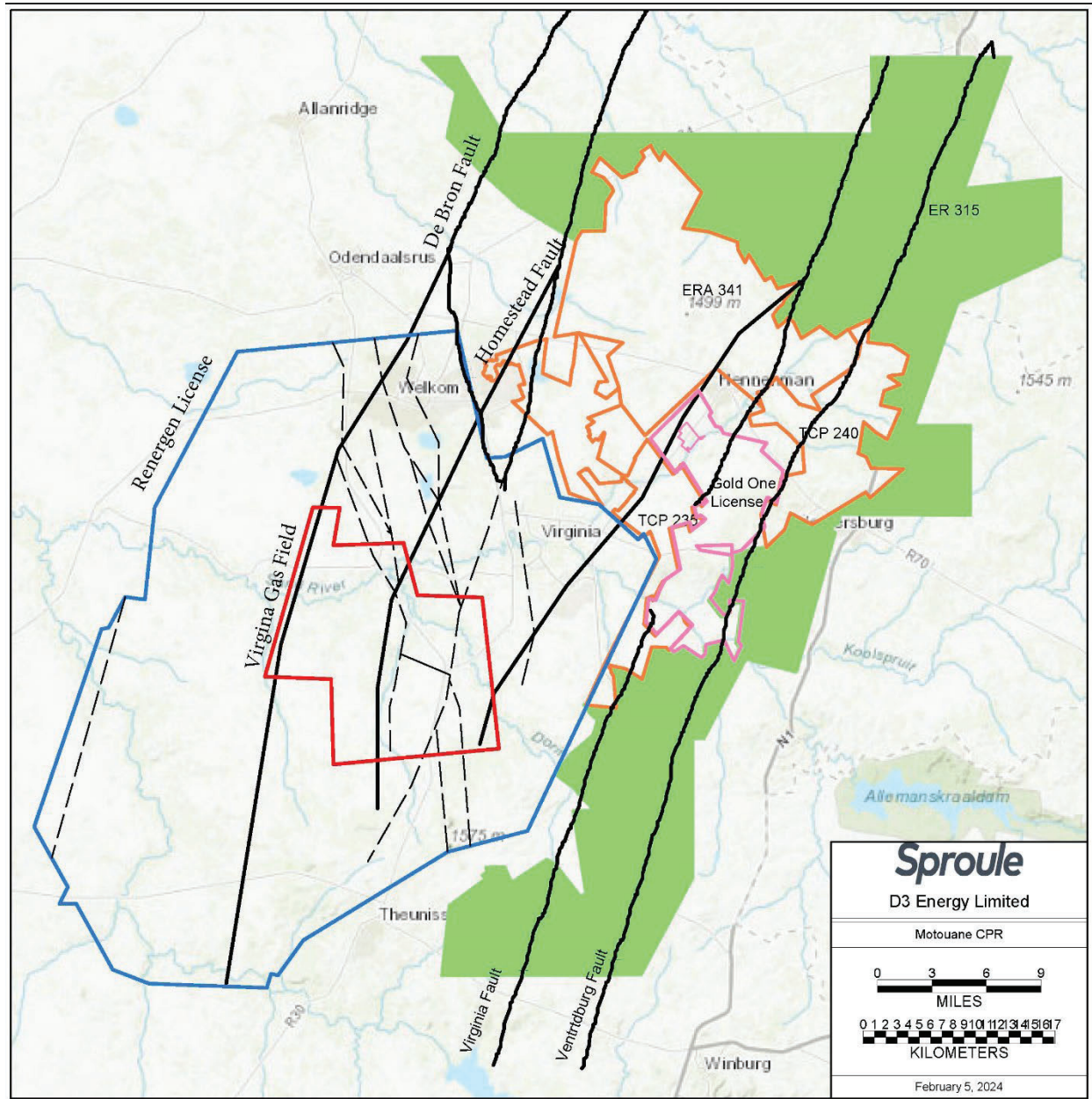
Figure 4: Geologic Map of the PreCambrian Groups in the Witwatersrand Basin and the Gold Fields (Image from Renergen Public Reports)



**Figure 5: West to East Cross-section Across the Virginia Gas Field and into the Motuoane License [Red Box] (Image from Renergen Public Reports)**

These 'basement' lithologies have been tectonically flexed into a large east to west trending anticline that is in turn bisected by a large extensional graben (low area) and many faults with significant throw (offset) that extend deep into the earth's crust, as shown in Figure 5 and Figure 6.





**Figure 6: Map of the Major Faults from the Motuoane License (Green) into the Renegen Production License and Virginia Gas Field Reserve Area.**

Unconformably overlying the Witwatersrand Supergroup is the Ventersdorp Supergroup of primarily volcanic lithologies. Many of these faults do not extend upwards beyond the upper Ventersdorp Supergroup. Above this unconformity lies the Karoo Supergroup, a Permian aged sedimentary section composed of sandstones, coal seams and carbonaceous shales. There is almost always a basal glacial deposit on top of the unconformity that separates the Karoo from the Ventersdorp known as the Dwyka Tillite. The Witwatersrand and Ventersdorp Supergroups experienced greenschist metamorphism and are both extensively fractured, due to sustained

tectonic activity. The primary source of the methane gas is microbial in origin from deep within the Witwatersrand Supergroup with groundwater circulating through the large faults and coming in contact with bacteria living deep within the Archaean crust. Methane isotope studies demonstrate that very little, if any, of the methane can be attributed to the Karoo coal beds or the carbonaceous shales. Thus, the methane is a biogenic and a continuing regenerating resource. There is anecdotal evidence of historic blowers within the Motuoane License area producing methane gas for over forty years without any discernable pressure drop, however there are no quantified studies to date.

## General Geology Structure of the Motuoane License

The Motuoane License is situated towards the east of de Bron fault. In the northern part of the Motuoane License, a major horst structure i.e. de Bron horst is present between the de Bron and Homestead faults respectively. No gold bearing sediments occur in the horst. Detailed drilling defined the eastern limit of this horst structure along the Homestead fault. East of the Homestead fault, gold bearing sediments were intersected again.

Two major fault systems, i.e. the Virginia and Ventersberg faults, occur in the eastern part of the Motuoane License. The displacement again was towards the west. Despite this major north-south striking structures several east-west faults are also present or could be extended into the Motuoane License. The east-west structures are the oldest structures in the Witwatersrand basin. Many kimberlite fissures and Karoo age dolerite dykes intruded into the younger strata along these structures. The east-west structures were right laterally displaced by north-south striking structures resulting in a very complex tectonic environment. The importance of these structures is vested in the presence of methane gas occurrence associated in or in close proximity of the structures.

## HELIUM OCCURRENCE

---

The helium, as with almost all helium around the world, is either mantle-derived, that is from deep within the earth or from radioactive decay of radioactive minerals within the crust, and as the helium moves up along the faults, it mixes with the microbial methane in the deep subsurface. The formation and resource estimates of the helium were detailed in the Sproule 2020 report "Evaluation of Certain Helium Prospective Resources on the Tetra4 Virginia Gas Project, Free State, South Africa", and in the Gilfillan and Stuart Report, 2020, which examined the origin of the helium at the Virginia Gas Field. Excerpts of the Gilfillan and Stuart report state: Helium (He) production within the Earth's crust is primarily controlled by the radioactive decay of  $^{235}\text{U}$ ,  $^{238}\text{U}$  isotopes of uranium and  $^{232}\text{Th}$  isotope of thorium and their daughter isotopes, via  $\alpha$  particles. The helium concentration in any rock or mineral is dependent primarily on the radioelement concentration and the age of that rock or mineral (Ballentine and Burnard, 2002). The degassing of helium in the crust is controlled by two stages: (1) release from the mineral in which the noble gas was produced/trapped; and (2) transport from the site of production. He in minerals can be released to the gas phase at grain boundaries or pores by four main mechanisms:  $\alpha$  recoil, diffusion, fracturing or mineral transformation. Typically, concentrations of helium increase in the subsurface over time in stable continental regions, as these act as closed systems with helium

either remaining within producing minerals or in the fluid within the porosity of the rocks (Holland et al., 2013). As a result of the different release mechanisms the rate of helium release from minerals may not be constant. The abundant evidence of severe radiation damage to the main U-bearing mineral phases in the Reef lithologies (Hiemstra, 1968) implies that the diffusion of helium into the free gas phase is likely to be on the higher end of theoretical estimates within the units beneath Renegen's Virginia prospect. total volume of between 2,827 to 4,772 billion cubic feet (BCF) of helium at standard temperature and pressure (STP) conditions (14.696 pounds per square inch or 1.0 atm; 101.325 kPa – the SI system standard pressure), produced since deposition of the Witswatersrand Supergroup, Dominion Group and formation of the Basement Granites. It is important to convey that only a proportion of this will be accessible from connected pore space within these rocks, and subsequent geological events since deposition may have resulted in substantial loss of this resource. The rate of recharge of the methane, and thus also the helium gas is not known.

There are nearly two thousand wellbores which have been drilled, either for water, mining assessment, or disposal, across the Welkom District over the past several decades and many tens of these wells have produced natural flammable gas (known as blowers). Data from the South Africa Council for Geosciences lists at least 136 historic wells within the production area and notes that 68 of them produced gas in the past, 18 are currently capable of producing gas (blowers), 29 have odors, and 28 are dormant.

## **Methane Gas Occurrences in the Free State Gold Field**

The most recent evaluation of gas occurrences in proximity of the Motuoane License was done by Gold One during the evaluation of the economic potential of the A-Reef. Research on behalf of Molopo Gas in the western part of the Free State Gold Field resulted in a model whereby gas occurrence can directly be related to major tectonic structures. In order to delineate these structures (faults) a soil sampling exercise was conducted to establish whether these structures still release detectable amounts of gas. This exercise was successful in that Motuoane License's along faults could be demarcated for future drilling purposes. A similar model for gas occurrences in the Gold One area was established. A total number of 41 boreholes yielded gas of which 6 boreholes were considered as blowers. Three of the six boreholes were capped with a valve. Every one of the gas-yielding boreholes occur in close proximity of faults and diabase dikes, intersected during exploration drilling.

## **Potential Gas Occurrences in the Motuoane License Based on Historical Analogies**

It is important to note that the number of historical boreholes drilled in or adjacent to the Motuoane License is by far outnumbered by the number of boreholes drilled towards the west. The Virginia fault in the Gold One area yielded large volumes of methane gas. The Virginia fault is present in the Motuoane License and constitutes a major gas target to be explored. The east-west striking gas-yielding fault on Gold One area can be extended into the Motuoane License. The gas potential of this fault and the one directly below it must be considered as gas targets. Very little geological information pertaining to the Ventersberg fault as a gas target is known.

Potential gas targets can be present where extensions of the east-west striking faults intersect the Ventersberg fault i.e. south of the Gold One area. This is outside the Motuoane License but must be considered as an extension into the existing Motuoane License. A major gas yielding borehole, directly in or in very close proximity of the Homestead fault occurs on the farm Nooitgedacht in the northern part of the Motuoane License. Additional work needs to be done in order to determine the aerial extent of this fault in and in areas adjacent to the Motuoane License. No major gas intersections were recorded along the strike distance of the de Bron fault. Gas targets along the de Bron fault in the western part of the de Bron horst is a possibility and need to be investigated by means of studying historical boreholes drilled in that area.

Due to the fact that the methane gas occurrences are associated with linear structures of which the widths and depths are unknown, a different approach other than the traditional calculation of average width is required. It is recommended that a method, similar to the one created by Molopo, be used for resource calculations in the Motuoane License. The Motuoane License as defined by the Hennenman and Motuoane gas areas constitutes a potential methane gas bearing area. The gas, based on previous observations, will be associated with north-south and east-west tectonic features such as the known faults. The areas affected by these faults need to be investigated, either by geophysical methods or detailed drilling. Where applicable and/or required, directional deflections can also be considered in order to demarcate the faults at depth. It should be advantageous for future research to acquire all relevant borehole data in the Motuoane License in order to define gas Motuoane Licenses prior to any drilling. A detail geophysical interpretation based on available data is also recommended.

Renegen reported that twelve wells were evaluated for the original 2008 Molopo reserves evaluation study (Burning Flame, Burning Cross, Flame 1, ML-1, Retreat, Sand, SP-3, Squatter, DBE-1, Kotze EX-1, ST23, and Tewie). Molopo drilled three additional wells in 2009 (HADV1, HADV2, and HADR1). Tetra4 took over the project and drilled 4 wells in 2016 (MDR1, MDR4, MDR5 and 2057) and in 2017 reworked an older well that had resumed flowing gas (2190). These original twelve wells were flow tested for extended periods of time which provided sufficient data that allowed Sproule to calculate three different well type curves representing a range of production profiles; a low case, an expected or best case, and a maximum case. These extended well tests and type well profiles have been used and checked against all subsequent well and test data. For the 2019 update Sproule included a new well that Tetra4 drilled in 2018, the T4 WN 01, which was drilled to test a shallow conventional sandstone play, plus 12 historic wells or vents (AD1A, SH3, P7, W1, SP8, TR3, TR4, TR5, TR6, TR7, TR8, and AL4) that were described in the publication of Hugo, P. "Helium in the Orange Free State Gold-Field" (1963) which documented these wells and vents as far back as 1957. Using the published data and on-site verifications, as far as possible, these wells were added to the Tetra4 database. The importance of this data is twofold, A) the new well opens an additional play for Tetra4 within the lease area and, B) the data from the historic wells support both the longevity of the wells and the gas composition, including the high helium concentrations.



## FLUID PROPERTIES AND ANALYSIS OF THE MOTUOANE LICENSE

A total of 17 gas analyses were available for this study. The samples were fairly recent (9 in 2022, 4 in 2021, 1 in 2017, and 3 undated) and compositions were reported on an air-free basis. Average produced gas composition was 86.7% methane, 9.0% nitrogen, 4.1% helium, and 0.1% CO<sub>2</sub> and higher hydrocarbons. Gross and net heating values were 32.4 and 29.0 MJ/m<sup>3</sup> (0.869 and 0.778 mmbtu/mcf), respectively. Calculated gas gravity was 0.584.

As reservoir temperature was not reported, one was estimated from published geothermal gradients (Jones, 2018) and a depth of 374 m, the median depth of ten D3 Energy boreholes. Subsurface temperatures in this region of South Africa are relatively cool. Reported geothermal gradients range from 9 to 21 deg C/km as compared to the global average of 25 deg C/km (1.4 deg F/100 ft). Combining these gradients and the median borehole depth with an assumed surface temperature of 10 deg C gives an average reservoir temperature of 16 deg C (61 deg F).

Stabilized reservoir pressures were not available but wellhead pressures recorded during short shutins of three Bloemskraal wells were reported. These wells were shutin weekly in June and July (year unspecified but presumably 2022) and responded with rapidly rising wellhead pressures. Final reported pressures after shutins lasting “Longer than 24H” averaged 200 kPag (29.1 psig). The wells reportedly make no water and no fluid levels were reported. Pressure for a static gas column down to median borehole depth was calculated as 7.7 kPa (1.1 psi). Reported barometric pressures during the shutins averaged 87 kPa (12.6 psi). Summing the average wellhead shutin pressure, the static gas column pressure and the average barometric pressure yields a current reservoir pressure of 295 kPa (42.8 psia).

Summing the average wellhead shutin and the static gas column pressures then dividing by the median borehole depth gives a pressure gradient of 0.56 kPa/m (0.025 psi/ft). Compared to the normal hydrostatic gradient of 9.80 kPa/m (0.433 psi/ft), this reservoir appears to be significantly underpressured.

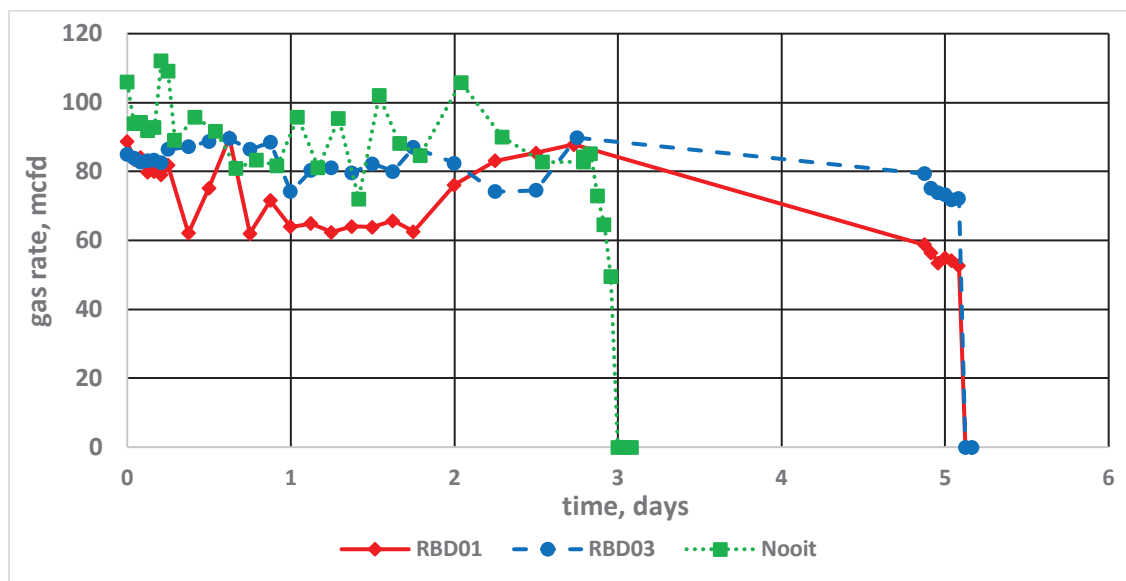
Fluid properties of the D3 Energy produced gas mixture calculated using the reservoir gas composition, temperature, and pressure discussed above in industry standard correlations (Corredor, et al, SPE 24864; Piper, et al, SPE 26668) are given in Table 4 below.

**Table 4: D3 Energy Gas Properties at Current Reservoir Conditions of 43 psia and 61 deg F**

Parameter	Value
Gas gravity	0.584
Compressibility factor, Z	0.996
Gas formation volume factor, B <sub>g</sub> , rcf/scf	0.342
Inverse gas FVF, E <sub>g</sub> , scf/rcf	2.92
Viscosity, μ, cp	0.0109
Compressibility, c, psi <sup>-1</sup>	0.0235

## TYPE WELLS

Expected performance of D3 Energy wells was estimated with type wells published for an analogous field (Renergen/Sproule (2021) adjusted to reflect recent (Aug and Sep 2022) D3 Energy production tests. Gas production rates recorded during short-term (3 to 5 day) flow tests on three wells (Bloemskraal Nr 2 – RBD01, Bloemskraal Nr 1 – RBD03, and Nooitgedacht Major) are shown in Figure 7 below.



**Figure 7: Flow Test Gas Production Rates**

Gas flow rates and wellhead pressures and temperatures were reported on an hourly basis, resulting in noisy plots. All three wells behaved similarly, showing gentle declines probably more reflective of wellbore transients than reservoir response. The tests were too brief to establish clear declines, precluding traditional decline curve analysis to forecast future gas production. During the tests, gas production rates varied between 58 and 97 mcf/d with an average gas rate of 80 mcf/d. The subject acreage directly offsets the Renergen acreage and exploits the same formation. Produced gas compositions are similar. Thus, the Renergen type wells were utilized as analogs for D3 Energy type wells.

The initial rate of the Renergen 1P type well was set to the 80 mcf/d average rate seen in the flow tests and the exponential decline rate was unchanged. The 2P and 3P Renergen type wells were used without modification for the same categories of D3 Energy wells. Type well coefficients are in Table 5 below and gas production rate and 30-year cumulative gas plots follow in Figure 8 and 9, respectively.

Table 5: D3 Energy Type Well Coefficients

Category	Initial Rate, mcf/d	Plateau Duration, months	Decline Rate, %/yr	Exponential Decline Rate, yr <sup>-1</sup>	30-Yr Cum Gas, bcf
1P	80	2	4.8	0.0492	0.462
2P	260	2	5.0	0.0513	1.465
3P	380	2	4.8	0.0492	2.223

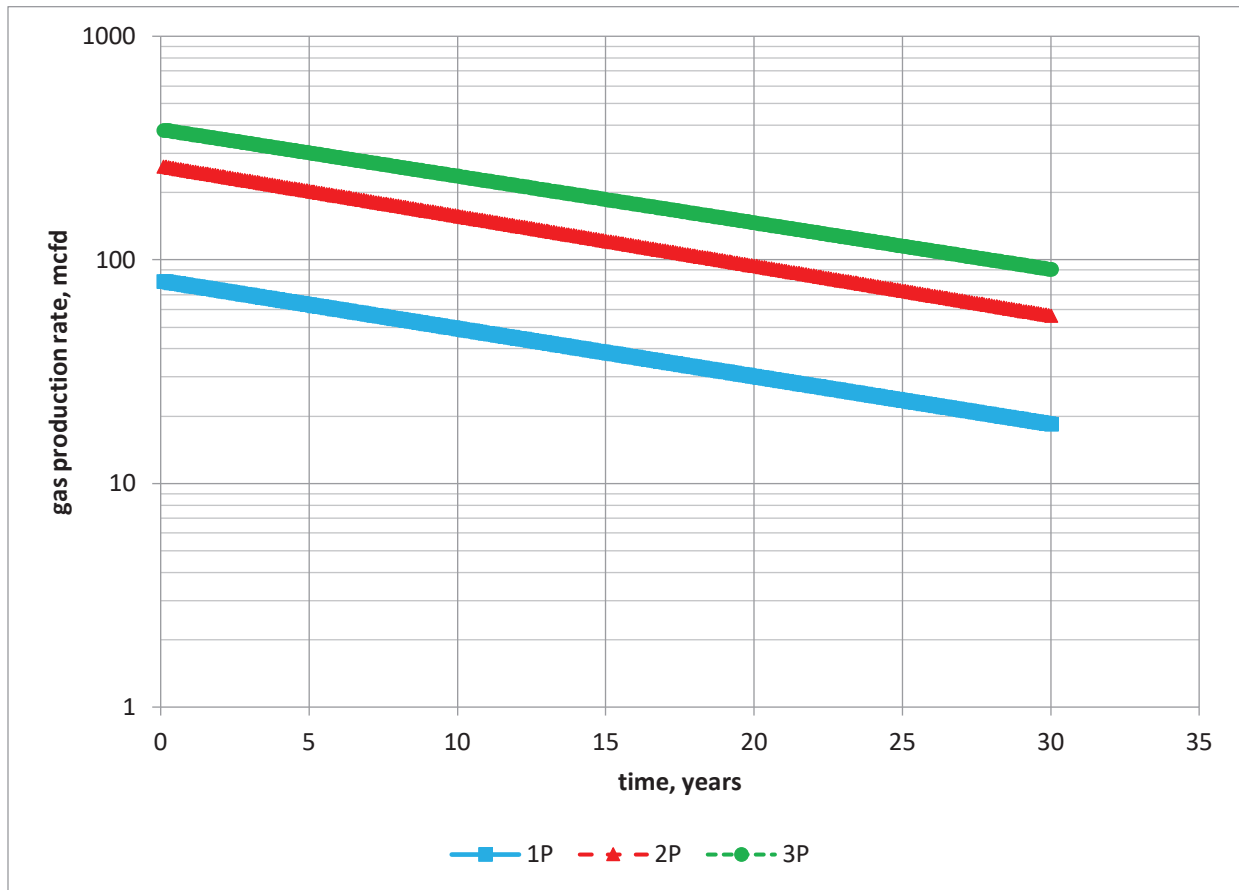
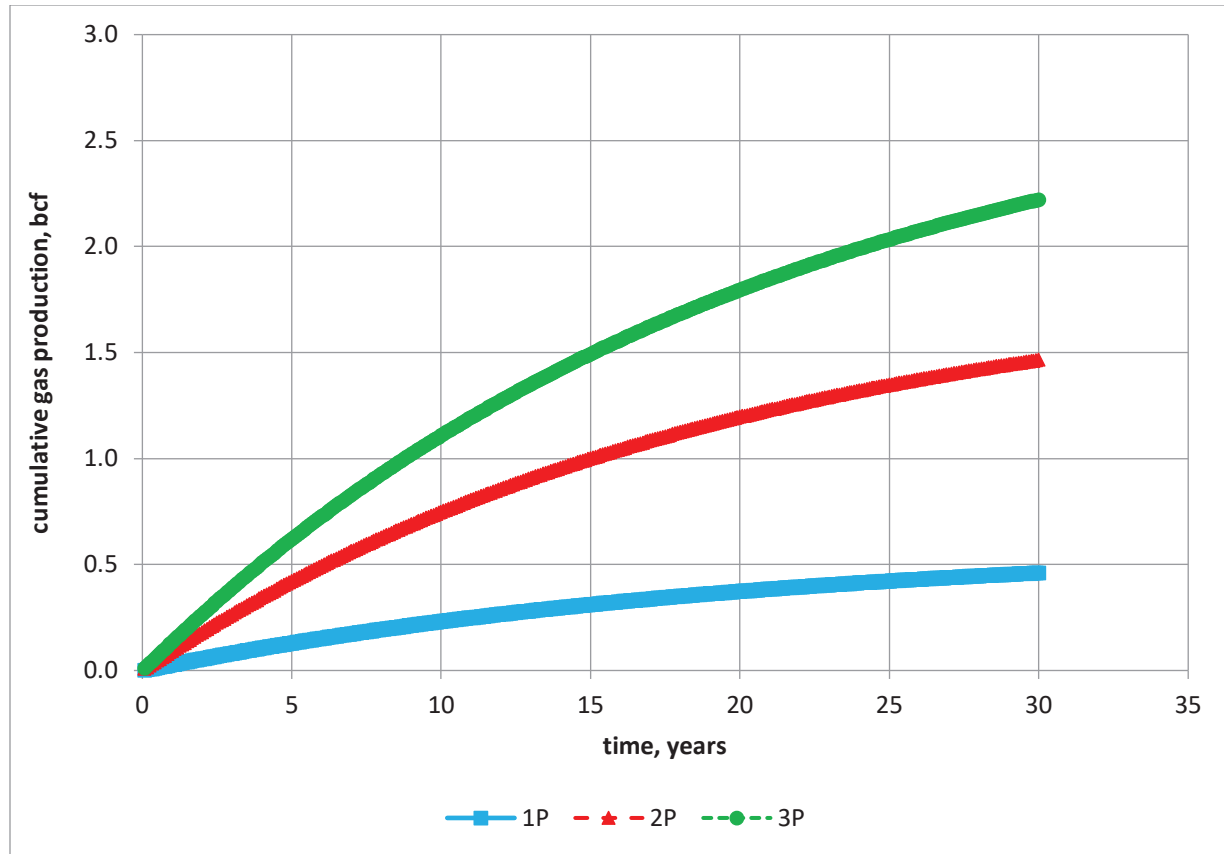


Figure 8: D3 Energy 1P, 2P and 3P Gas Production Type Wells

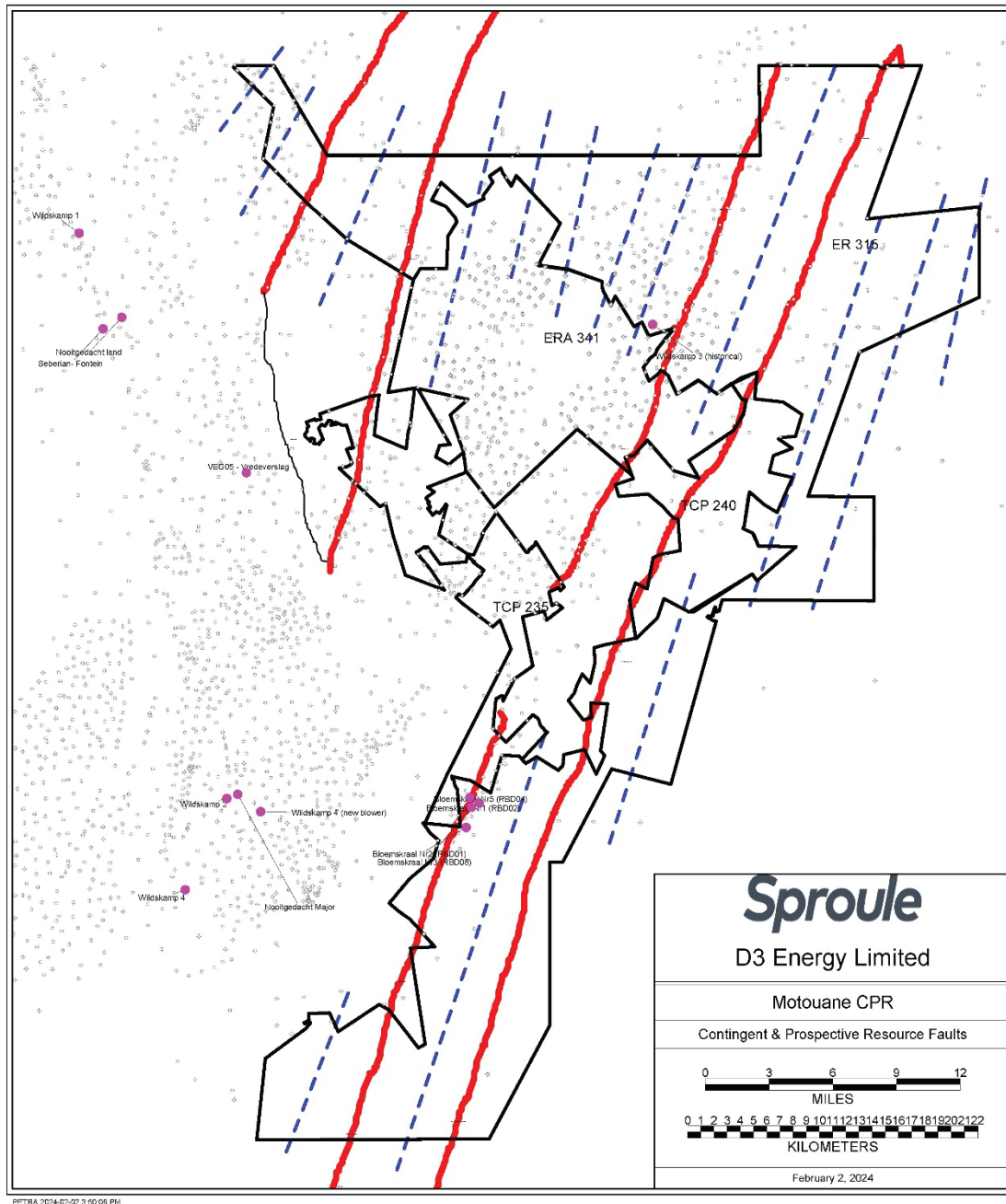




**Figure 9: D3 Energy 1P, 2P, and 3P Type Well Cumulative Gas Production**

While Renergen has published, based on well tests, a planned 300m well spacing, the optimal well spacing on the subject acreage has yet to be determined. Sproule has chosen the 300m well spacing as the most likely well spacing with a range from 200 meters to 400 meters to capture the drainage uncertainty. The analysis has used the total mapped length of faults within the licensed block, with a 25% uncertainty range, to determine the number of wells to be used for the stochastic analysis.

The map below, Figure 10, shows the lengths of the known faults (in red) that were used to calculate the Contingent Resources. These faults have been mapped into the Renergen Virginia Gas Field where there are productive wells with gas reserves.



**Figure 10: Contingent Resource Faults (Red Lines) and Prospective Resource Faults (Blue Dashed Lines). Evaluated Blowers are in Purple Dots.**

The EUR/well published by Renegen of 0.462, 1.465, and 2.223 BCF/well were used as a basis for the stochastic inputs to determine the technically recoverable volumes of gas listed in Table 6 and Table 7 below. The Low Case estimate was decreased by 20% to account for the lower initial rates observed in the well tests as described above.

**Table 6: Estimated Net Methane and Helium Contingent Resources**

Contingent Resources (BCF)	1C	2C	3C
<b>Recoverable Gas Resource</b>	336.65	547.45	858.03
<b>Recoverable Methane</b>	291.88	474.64	743.91
<b>Recoverable Helium</b>	13.803	22.445	35.179

The blue dashed lines are mapped out Prospective faults. The known, mapped faults have a consistent distance of 7,620 meters between the faults. Prospective fault distances of ½ that distance were used to map out additional prospective fault lengths. This was used as the 2U case. The 1U case was estimated at 33% of that length and the 3U case at 160% of the 2U case for a lognormal distribution of reservoir area. All other factors were kept identical as the Contingent Resource case to create a stochastic distribution for the 1U (P90) \ 2U (P50) \ and 3U (P10) cases.

**Table 7: Estimated Net Methane and Helium Prospective Resources**

Prospective Resources (BCF)	1U	2U	3U
<b>Recoverable Gas Resource</b>	228.44	661.32	1875.35
<b>Recoverable Methane</b>	198.06	573.36	1625.93
<b>Recoverable Helium</b>	9.366	27.114	76.889

The estimated quantities of helium resources 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 estimate the existence of a commercial quantity of potentially movable helium. Prospective Resources carry significant exploration risk. All Prospective Resources volumes presented in this report are un-risked.

## WORK PROGRAM

The Company has provided Sproule with its proposed, and approved two-year budgeted work program which Sproule has reviewed and found reasonable.

## ER 315 EXPLORATION & APPRAISAL BUDGET & USE OF FUNDS

Table 8: ER 315 Exploration & Feasibility Cost

Activity	Estimated Minimum Expenditure (AUD)	
	Year 1	Year 2
Wages	150,000	150,000
Travel	75,000	75,000
Geophysical/Geological, including:		
Aeromagnetic survey acquisition	200,000	100,000
Interpretation of Aeromagnetic survey	20,000	10,000
Processing and interpretation of telluric data	150,000	70,000
SRK Tellurics Tests	30,000	10,000
Seismic Acquisition	200,000	75,000
Seismic Interpretation	75,000	45,000
Seismic Processing	12,500	7,500
Other Geophysical/Geological	100,000	58,333
Drilling (including logging and completion of wells)	1,500,000	2,500,000
Field Operations	110,000	110,000
Contingency (20%)	524,500	642,167
<b>Total</b>	<b>\$3,147,000</b>	<b>\$3,853,000</b>

### Wages

Wages, in this context, constitute primarily South African-based personnel, including Country Manager, Field Geologist and field helpers, office assistant, and local geological/engineering consultants as needed.

### Travel

Travel includes primarily local travel expenses for in-country personnel. These expenses include mileage, air fare, lodging, meals, hire car and other miscellaneous travel costs. Occasional international travel is also included.

## GEOPHYSICS/GEOLOGICAL

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### **Aeromag Acquisition**

While ER315 is in close proximity to the Renegen gas/helium project, ER315 has far fewer gold exploration boreholes on the property. Consequently, D3 has collected plans to collect aeromag data over portions of the project. These data identify dykes, sills and other structural features that will enhance D3's understanding of the subsurface of the project. This understanding will promote more accurate drilling operations.

### **Aeromag Interpretation**

Once additional Aeromag data are collected, a local geophysical expert will interpret the data and provide a report of his findings.

### **Process & Interpret Tellurics**

Again, as D3 does not have a great deal of subsurface data, the company has conducted Audio Magnetic Telluric surveys in order to gather additional data regarding subsurface structures (faults and fractures) and, perhaps, fluids and gasses. Telluric data are gathered at points along lines and interpreted at each point. As it is accepted that the best gas wells in the play are drilled into faults and associated fracture zones, it is anticipated that the telluric data will indicate these features upon interpretation.

So far, all AMT (Audio Magneto Tellurics) points on known gas wells have displayed a strong gas response. So far, the lines that pass over gas producing wells have good telluric signal over that zone. The deeper zones are all showing moderate or good for water. The depth zones are not expected to be exact but within 10s of ft rather than 100s of ft. How good this prediction is will have to be tested by the bit. D3 has acquired telluric equipment and uses its local personnel to conduct the surveys.

### **SRK Telluric Tests**

A local geological consulting company, SRK, has proposed a tellurics program across portions of ER315, which is under consideration. This methodology is different and could perhaps show additional subsurface structures.

### **Seismic Acquisition**

There are typically no seismic crews in South Africa. At this time, however, there is a seismic crew in South Africa and D3 has commissioned an environmental survey in order to apply for a permit to conduct seismic activities. The initial seismic program is expected to include 29 line Km of 2D seismic. Additionally, D3 is liaising with a company that could undertake a 3D seismic program using innovative seismic technology which could be a potential game changer for seismic acquisition in terms of significantly reducing the time required for field operations and the level of

resourcing, both of which lead to considerable cost reductions, while not impacting the quality of the data recorded.

## **Seismic Processing**

After "shooting" the seismic lines, the data will be processed, then forwarded to D3's geophysicist for interpretation. Processing will be done either in the UK, the US or Australia.

## **Seismic Interpretation**

After the seismic data are acquired, the results of the survey will be interpreted by D3's highly qualified geophysicist.

## **"Other" Geological/Geophysical**

In addition to the activities listed above, D3 has logged several open boreholes located on ER315, some of which are emitting gas. In addition, the gas from these gas-emitting boreholes has been analyzed in a local laboratory and the flow rates have been measured using industry standards. Additionally, wellheads have been installed and the wells are being monitored over time to measure changes of pressure and flow rates. In addition, water levels are being measured and monitored.

## **Drilling**

D3 has acquired sufficient geological and geophysical data, to commence the drilling of two new pre-IPO wells on ER315. Using telluric surveys and geological mapping, D3 believes these locations are most likely to be located on a major fault and fracture system. Based on this initial work D3 plans to drill up to 5 additional vertical wells within ER315 to refine future drilling location rationale and to develop and appraise optimal completion methodologies. These wells will range in depth from 400 to 600 meters in order to contact the fracture systems in the Ventersdorp and Wittwatersrand sections. Further refinement will be possible once well results are reconciled with either 2D or 3D seismic which will assist in determining future well locations.

## **Field Operations**

Field operations include maintaining relations with landowners and farmers, preparing for seismic, drilling, telluric testing and monitoring the wells. Other activities included in "Field Operations" include well testing and sampling, maintaining well sites and keeping them free of debris, as well as searching for additional open boreholes that may be emitting gas. If found, these wells will be tested and a well head will be installed.

The Company proposes to apply funds raised from the Public Offer, together with existing cash reserves, over the first two years following admission of the Company to the Official List of ASX toward exploration activities as outlined in the table above. It should be noted that the budgets

will be subject to modification on an ongoing basis depending on the results obtained from exploration efforts. These efforts are designed to reduce the uncertainties around key aspects of the Company's projects and may lead to increased or decreased levels of expenditure on certain projects, reflecting a change in emphasis. Following successful admission to the Official List of ASX, the Company may also allocate funds to new projects as part of its project generation strategy in accordance with the Company's business model. The intent of the Company is to increase Shareholder wealth by way of undertaking the systematic exploration activities on the Projects as specified with its planned exploration program and the acquisition, exploration and development of natural gas projects throughout South Africa and elsewhere.

Sproule has reviewed the proposed budget from a technical and a reasonable framework to accomplish the stated objectives and finds that the proposed work program will at least meet and in most cases exceed the minimum required work program and will additionally meet or exceed standard industry practice for meeting the stated objectives.

## **TCP 235 EXPLORATION BUDGET & USE OF FUNDS**

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D3 has been granted TCP 235 with an area of 14,810 ha as of the 23<sup>rd</sup> of October, 2023. This study period is granted for twelve months and has a work commitment of ZAR130,000. Additionally, the Company is to file quarterly activity reports and has the exclusive right to apply for an Exploration and/or Production Right.

## **TCP 240 EXPLORATION BUDGET & USE OF FUNDS**

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D3 has been granted TCP 240 with an area of 11,892 ha as of the 23<sup>rd</sup> of October, 2023. This study period is granted for twelve months and has a work commitment of ZAR245,000. Additionally, the Company is to file quarterly activity reports and has the exclusive right to apply for an Exploration and/or Production Right.



## CONTINGENCIES

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The contingent resources that Sproule has evaluated for this report have several contingencies before the gas volumes can be considered as reserves.

- 1) D3 needs to demonstrate the ability to operate successful wells, drilled to the Witswatersrand, intersecting known faults, setting production strings of casing, and flow testing multiple wells for extended periods of time.
- 2) D3 will need to take multiple gas samples and correctly analyze them for gas contents and BTU contents.
- 3) D3 will need to validate reservoir pressures and well deliverability.
- 4) D3 will need to develop a field development plan that will include a gas sales plan, gas gathering and processing and a drilling schedule to which the company has committed to and budgeted.

## POTENTIAL UPSIDE

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Sproule has not evaluated, in this report, the Coal Seam Gas (CSG) also known as CBM potential of the block. There are scores of wells that have reported intersecting Karoo aged coals and the operator has supplied an amalgamated map of total coal thickness within the block. There is sufficient thickness, over 100 meters of total coal, in the northern portion of the Motuoane License to potentially support a CSG development program however Sproule was not given any direct access to coal desorption, adsorption, thermal maturity or other basic data needed to assess the prospectivity of the CSG potential.

## **UPDATES AND CHANGES: DECEMBER 1, 2023**

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The addition of a Work Program and Budget section can be found on page 26 – 27.

## **UPDATES AND CHANGES: FEBRUARY 1, 2024**

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- 1) A QRE Statement was added on page 6.
- 2) A new Figure 2 was included to show the ER Application 341 and the new TCPs that have been added on page 14.
- 3) A new table 3 was included on page 15 to show the hectares of each of the licenses.
- 4) New text was added on pages 13 and 14 to refer to the ER Application 341 and TCPs 235 and 340 have been awarded to Motuoane.
- 5) Figure 6 was updated to include TCP and ER application licenses
- 6) Figure 10 was updated to include TCP and ER application licenses
- 7) The Work Program and Budget text was modified to show that the budget is for two years.
- 8) The Work Program and Budget section on page 27 (Table 7) was modified to show both year 1 and year 2 budgets.

## **APPENDIX A - PETROLEUM RESOURCES MANAGEMENT SYSTEM**

The table below identifies the categories that form the basis of our classification of resources and values presented in this report. The definitions used in this report are those set out in the Petroleum Resources Management System (PRMS) as sponsored by Society of Petroleum Engineers (“SPE”), World Petroleum Council (“WPC”), American Association of Petroleum Geologists (“AAPG”), Society of Petroleum Evaluation Engineers (“SPEE”), Society of Exploration Geophysicists (“SEG”), Society of Petrophysicists and Well Log Analysts (“SPWLA”), and the European Association of Geoscientists & Engineers (“EAGE”).

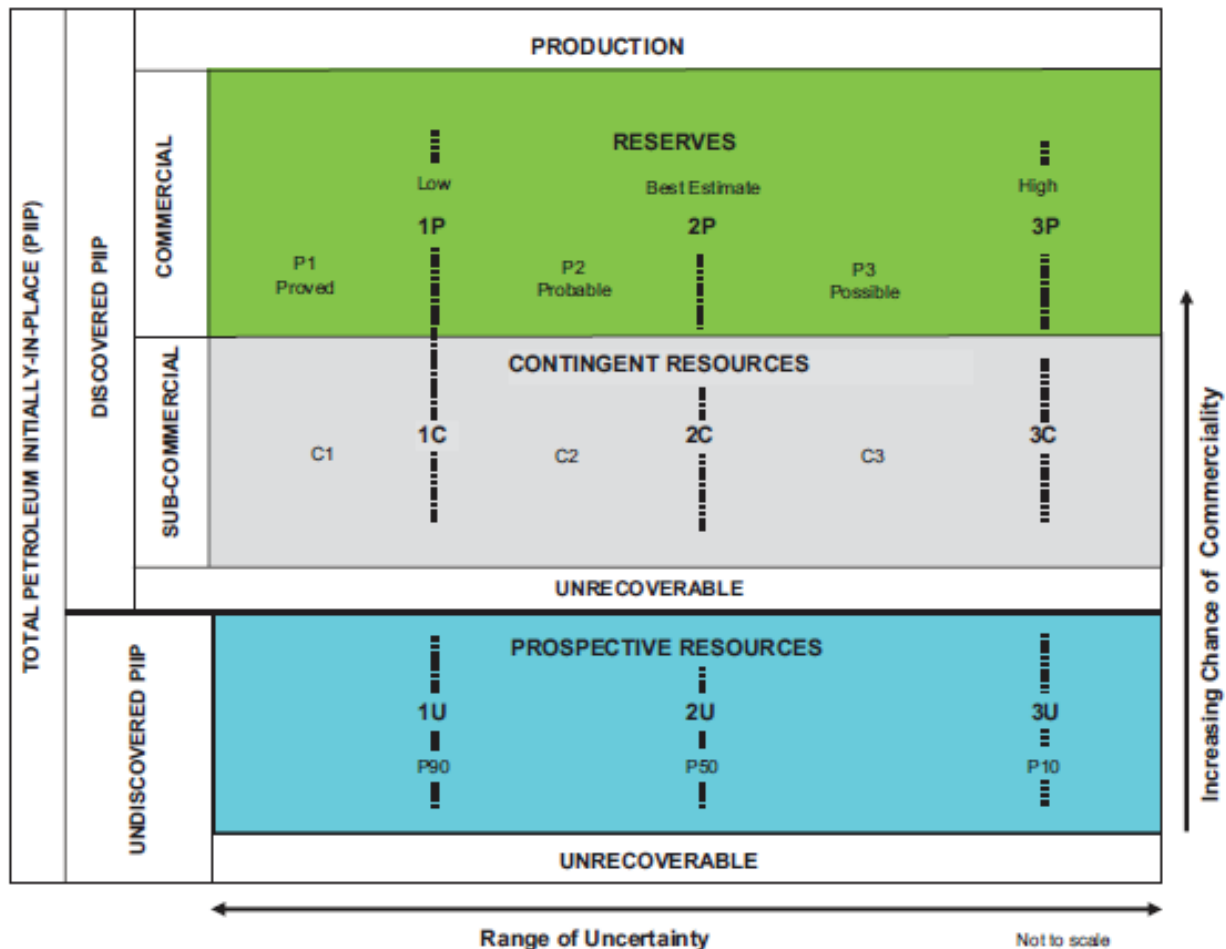
These definitions have been adopted by the Canadian Oil and Gas Evaluation Handbook as amended from time to time (the “COGE Handbook”), maintained by the Society of Petroleum Evaluation Engineers (Calgary Chapter) and incorporated into Canadian National Instrument 51-101 (NI 51-101) by reference. The product types are as defined in NI 51-101 and are only applicable to reports prepared according to NI 51-101 requirements as identified in the Introduction section of this report.

Although not all the definition groupings may be applicable to this report, they have been included here to ensure appropriate context of the definitions that do apply to this report. Guidance on the application of, and further explanation of, the definitions in this Appendix can be found in either PRMS or the COGE Handbook as applicable.

Resources Categories	Included	Excluded
Petroleum Initially-in-Place	✓	-
Prospective Resources	✓	-
Contingent Resources	✓	-
Reserves	✓	-

- Resources** encompass all petroleum quantities that originally existed on or within the earth’s crust in naturally occurring accumulations, including discovered and undiscovered plus quantities already produced. Total Resource is equivalent to Petroleum Initially-in-Place (PIIP).

The following figure illustrates the relationship of the different resources within the PRMS Resources classification framework and aids in placing the subsequent definitions in context.



2. **Total Petroleum Initially-in-Place** is that quantity of petroleum that is estimated to exist originally in naturally occurring accumulations and is potentially producible. It includes that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations, prior to production, plus those estimated quantities in accumulations yet to be discovered.
3. **Undiscovered Petroleum Initially-in-Place** is that quantity of petroleum that is estimated, on a given date, to be contained in accumulations yet to be discovered. The potentially recoverable portion of Undiscovered PIIP is referred to as Prospective Resources; the remainder is unrecoverable
4. **Discovered Petroleum Initially-in-Place** is that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production. Discovered PIIP includes production, Reserves and Contingent Resources; the remainder is unrecoverable.
5. **Discovery** is the confirmation of the existence of an accumulation of a significant quantity of potentially recoverable petroleum.

6. A **Known Accumulation** is one that has been penetrated by a well that has demonstrated the existence of a significant quantity of potentially recoverable petroleum.
7. **Prospective Resources** are those quantities of petroleum estimated, as of a give date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of geologic discovery and a chance of development. Prospective Resources are further categorized in accordance with the range of uncertainty associated with recoverable estimates, assuming discovery and development, and may be sub-classified based on project maturity.
8. **Contingent Resources** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, by the application of development projects not currently considered to be commercial due to one or more contingencies. Contingent Resources have an associated chance of development.
9. **Reserves** are estimated remaining quantities of oil and natural gas and related substances anticipated to be recoverable from known accumulations, from a given date forward, based on:
  - analysis of drilling, geological, geophysical and engineering data;
  - the use of established technology;
  - specified economic conditions, which are generally accepted as being reasonable, and shall be disclosed; and
  - a maximum remaining reserve life of 50 years.

Reserves are classified according to the degree of certainty associated with the estimates.

10. **Proved Reserves** are those reserves that can be estimated with a high degree of certainty to be recoverable. It is likely that the actual remaining quantities recovered will exceed the estimated proved reserves.
11. **Probable Reserves** are those additional reserves that are less certain to be recovered than proved reserves. It is equally likely that the actual remaining quantities recovered will be greater or less than the sum of the estimated proved plus probable reserves.
12. **Possible Reserves** are those additional reserves that are less certain to be recovered than probable reserves. It is unlikely that the actual remaining quantities recovered will exceed the sum of the estimated proved plus probable plus possible reserves. Possible reserves have not been considered in this report.

Other criteria that must also be met for the categorization of reserves are provided in Section 3.1 of PRMS or Section 1.4.7.2.1 of the COGE Handbook.

Each of the reserves categories (proved, probable, and possible) may be divided into developed or undeveloped categories.

**13. Developed Reserves** are those reserves that are expected to be recovered from existing wells and installed facilities or, if facilities have not been installed, that would involve a low expenditure (e.g., when compared to the cost of drilling a well) to put the reserves on production. The developed category may be subdivided into producing and non-producing.

**14. Developed Producing Reserves** are those reserves that are expected to be recovered from completion intervals open at the time of the estimate. These reserves may be currently producing or, if shut in, they must have previously been on production, and the date of resumption of production must be known with reasonable certainty.

**15. Developed Non-Producing Reserves** are those reserves that either have not been on production, or have previously been on production, but are shut in, and the date of resumption of production is unknown.

**16. Undeveloped Reserves** are those reserves expected to be recovered from known accumulations where a significant expenditure (e.g., when compared to the cost of drilling and completing a well) is required to render them capable of production. They must fully meet the requirements of the reserves classification (proved, probable, possible) to which they are assigned and are expected to be developed within a limited time.

In multi-well pools, it may be appropriate to allocate total pool reserves between the developed and undeveloped categories or to subdivide the developed reserves for the pool between developed producing and developed non-producing. This allocation should be based on the estimator's assessment as to the reserves that will be recovered from specific wells, facilities, and completion intervals in the pool and their respective development and production status.

### Levels of Certainty for Reported Reserves

The qualitative certainty levels contained in the definitions 10, 11 and 12 are applicable to individual reserves entities, which refers to the lowest level at which reserves estimates are made, and to reported reserves, which refers to the highest level sum of individual entity estimates for which reserve estimates are made.



Reported total reserves estimated by deterministic or probabilistic methods, whether comprised of a single reserves entity or an aggregate estimate for multiple entities, should target the following levels of certainty under a specific set of economic conditions:

- a. There is a 90% probability that at least the estimated proved reserves will be recovered.
- b. There is a 50% probability that at least the sum of the estimated proved reserves plus probable reserves will be recovered.
- c. There is a 10% probability that at least the sum of the estimated proved reserves plus probable reserves plus possible reserves will be recovered.

A quantitative measure of the probability associated with a reserves estimate is generated only when a probabilistic estimate is conducted. The majority of reserves estimates will be performed using deterministic methods that do not provide a quantitative measure of probability. In principle, there should be no difference between estimates prepared using probabilistic or deterministic methods.

### **Levels of Certainty for Resources**

The same levels of certainty as described above for reserves, represented by a probability distribution of the low, best and high volume estimates, can be applied to Contingent and Prospective Resources as reflected with the 1C, 2C, 3C, C1, C2 and C3; or 1U, 2U and 3U resources categories and shown on the resources classification figure on the horizontal axis.

Additional clarification of certainty levels associated with resources estimates and the effect of aggregation is provided in Sections 2.2 and 4.2 of PRMS or Section 5.7 of the COGE Handbook. Whether deterministic or probabilistic methods are used, evaluators are expressing their professional judgement as to what are reasonable estimates.

**17. Chance of Commerciality** is the product of the chance of geologic discovery and the chance of development and is used to estimate riskd resources by multiplying with the resource volumes. The chance of geologic discovery for Contingent Resources is 100 percent, thus the Chance of Commerciality of Contingent Resources is equal to the chance of development. The Chance of Commerciality is used to estimate the level of maturity of the resource classification as reflected by its' use as an axis on the right side of the Resources Classification Framework as shown in the following figure.

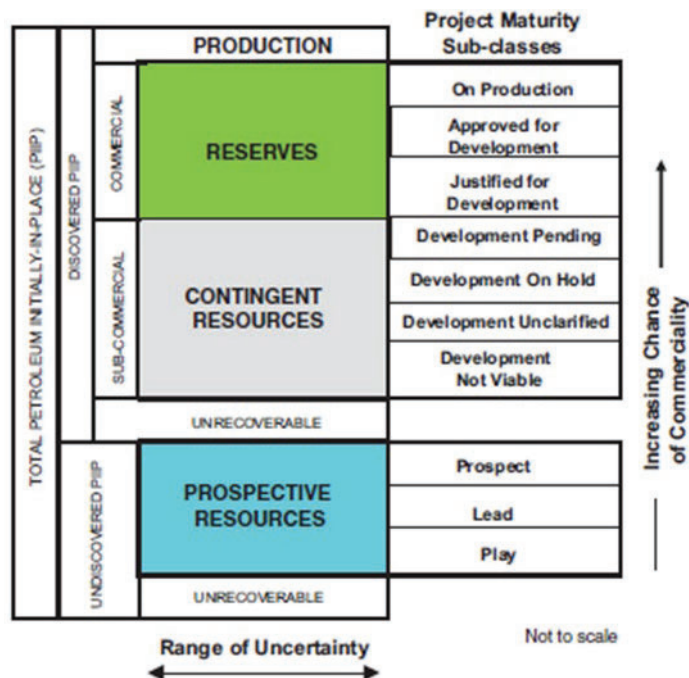
**18. Chance of Development** is the estimated probability that a known accumulation, once discovered, will be commercially developed. The Chance of Development is the product of the contingencies applicable to a particular project. The applicable contingencies may include one or more of the following:

- a. **Evaluation Drilling** – the geological continuity of the reservoir needs to be confirmed to reduce the distance from proven productivity;
- b. **Regulatory Approval** – Approval from the applicable regulatory agency or agencies has not been received;
- c. **Economic Factors** – The future product pricing and capital costs may not be at a level or sufficiently defined - and may also include other underlying factors including market conditions, exchange rates, fiscal terms and taxes - to establish the economic viability of the project;
- d. **Corporate Commitment** – The final investment decision and endorsement from the Company and / or the project co-venturers has not been made, nor is there a reasonable expectation these can be arranged in a reasonable time frame, such that the project can move forward. A technically mature and feasible field development plan may also need to be developed;
- e. **Timing of Production or Development** – The current development plan may not commence within a reasonable time period;
- f. **Market Access** – Infrastructure or access to existing facilities may not be in place or sales contracts have not been executed that will allow the production products to access viable markets;
- g. **Technology Under Development** – The technology required to commercially develop the area is not currently available nor is it under active development;
- h. **Legal Factors** – Factors that have been brought forward regarding the ability to explore, produce and sell the hydrocarbons;
- i. **Political Factors** – Political unrest may impede the development in the area;
- j. **Social License** – One or more of the jurisdictions in which the project area is located has policies in place that restrict certain types of development due to environmental concerns.

**19. Chance of Geologic Discovery** (or just Chance of Discovery) is the estimated probability that exploration activities will confirm the existence of a significant accumulation or potentially recoverable petroleum. The Chance of Geologic Discovery is the product of one or more applicable geologic factors which include:

- a. **Source** – The presence of source rock in reasonable proximity to the target that has generated, or is generating, hydrocarbon from organic material trapped in the rock;
- b. **Migration** – There is a path that allowed for the migration of the hydrocarbon from the source to the reservoir;
- c. **Reservoir** – The presence of rock with sufficient thickness, porosity, and permeability to be commercially productive;
- d. **Trap (or Seal)** – The reservoir rock is bounded by impermeable layers prior to the time of migration that has allowed the migrating hydrocarbon to accumulate within the reservoir rock;
- e. **Structure** – the geometry of the anticipated accumulation is able to contain the migrating hydrocarbons in the form of a stratigraphic and / or structural trap. This factor may not apply to unconventional resources, or accumulations that are pervasive throughout a large area and

not significantly affected by hydrodynamic influences such as coal-bed methane, gas hydrates, natural bitumen, tight oil, tight gas or oil shale.



The **Project Maturity Sub-class** represents the maturity of the project and sets out the associated actions required to move the project towards commercial production. The boundaries between the different levels of project maturity are normally project decision gates and can vary from organization to organization dependent upon the established internal approval process for project expenditures.

**20. A Play** is the lowest and least defined level of Prospective Resources and is a project associated with a prospective trend of potential prospects, but which requires more data acquisition and/or evaluation to define specific leads or prospects.

**21. A Lead** is the next level of Prospective Resources and is a project that is poorly defined and requires additional data acquisition and/or evaluation.

**22. A Prospect** is the best defined level of Prospective Resources and represents a project that is sufficiently well defined to represent a viable drilling target, although remains undiscovered.

**23. Development Not Viable** is the lowest level of Contingent Resources and represents a discovered accumulation for which there are contingencies resulting in there being no current plans to develop or acquire additional data at the time due to limited commercial potential.

- 24. Development Not Clarified** is the second lowest level of Contingent Resources and is a discovered accumulation where project activities are under evaluation and where justification as a commercial development is unknown based on available information. A plan for future evaluation should exist but further study or appraisal work will be ongoing in order to establish the actions necessary to move the project forward to commercial maturity.
- 25. Development On Hold** is the second highest level of Contingent Resources and represents a discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay.
- 26. Development Pending** is the highest level of Contingent Resources and represents a discovered accumulation where development activities are ongoing to justify commercial development in the foreseeable future.
- 27. Justified for Development** is the lowest level of Reserves and represents a development project that has reasonable forecast commercial conditions at the time of reporting and there are reasonable expectations that all necessary approvals/contracts will be obtained.
- 28. Approved for Development** is the second level of Reserves and represents a development project that is commercial under the current and/or forecast conditions, has received all approvals and/or contracts necessary for development including the commitment of capital funds and implementation of the development of the project is underway.
- 29. On Production** is the highest level of Reserves and reflects the operational execution phase of one or more development projects with the Reserves currently producing or capable of production, including Developed Producing and Developed Non-Producing Reserves.
- 30. Remaining Recoverable Reserves** are the total remaining recoverable reserves associated with the acreage in which the Company has an interest.
- 31. Company Gross Reserves** are the Company's working interest share of the remaining reserves, before deduction of any royalties.
- 32. Company Net Reserves** are the gross remaining reserves of the properties in which the Company has an interest, less all Crown, freehold, and overriding royalties and interests owned by others plus all royalty interest volumes received.
- 33. Net Production Revenue** is income derived from the sale of net reserves of oil, non-associated and associated gas, and gas by-products, less all capital and operating costs.

- 34. Fair Market Value** is defined as the price at which a purchaser seeking an economic and commercial return on investment would be willing to buy, and a vendor would be willing to sell, where neither is under compulsion to buy or sell and both are competent and have reasonable knowledge of the facts.
- 35. Barrels of Oil Equivalent (BOE) Reserves** is the sum of the oil reserves, plus the gas reserves divided by a conversion factor, plus the natural gas liquid reserves, all expressed in barrels or thousands of barrels. Equivalent reserves can also be expressed in thousands of cubic feet of gas equivalent (McfGE) using the same conversion factor. Normally the conversion factor represents an approximation of the nominal heating content or calorific value equivalent to a barrel of oil.
- 36. Oil (or Crude Oil)** is a mixture consisting mainly of pentanes and heavier hydrocarbons that exists in the liquid phase in reservoirs and remains liquid at atmospheric pressure and temperature. Crude oil may contain small amounts of sulphur and other non-hydrocarbons, but does not include liquids obtained from the processing of natural gas. Crude oil volumes are further divided into Product Types, for reporting purposes.
- 37. Gas (or Natural Gas)** is a mixture of lighter hydrocarbons that exist either in the gaseous phase or in solution in crude oil in reservoirs, but are gaseous at atmospheric conditions. Natural gas may contain sulphur or other non-hydrocarbon compounds. Natural Gas volumes are further divided into Product Types, for reporting purposes.
- 38. Non-Associated Gas** is an accumulation of natural gas in a reservoir where there is no crude oil.
- 39. Associated Gas** – the gas cap overlying a crude oil accumulation in a reservoir.
- 40. Solution Gas** – gas dissolved in crude oil.
- 41. Natural Gas By Products** – those components that can be removed from natural gas including, but not limited to, ethane, propane, butanes, pentanes plus, condensate, and small quantities of non-hydrocarbons.

**Product Types** sub-classify the principle product types of petroleum, crude oil, gas and by-products, into specific groupings based on the properties of the hydrocarbon and the properties of the accumulation and reservoir rock from which it is found. Regulatory agencies may define in legislation the production types they require to be used for reporting purposes in their jurisdiction. The Canadian Securities Associations (CSA) defines the following Product Types for reporting purposes in National Instrument 51-101, effective July 1, 2015.

## Crude Oil

- I) **Light Crude Oil** means crude oil with a relative density greater than 31.1 degrees API gravity;
- II) **Medium Crude Oil** means crude oil with a relative density greater than 22.3 degrees API gravity and less than or equal to 31.1 degrees API gravity;
- III) **Heavy Crude Oil** means crude oil with a relative density greater than 10 degrees API gravity and less than or equal to 22.3 degrees API gravity;
- IV) **Tight Oil** means crude oil:
  - a. contained in dense organic rich rocks, including low-permeability shales, siltstones and carbonates, in which the crude oil is primarily contained in microscopic pore spaces that are poorly connected to one another, and
  - b. that typically requires the use of hydraulic fracturing to achieve economic production rates;
- V) **Bitumen** means a naturally occurring solid or semi-solid hydrocarbon:
  - a. consisting mainly of heavier hydrocarbons, with a viscosity greater than 10,000 millipascal-seconds (mPa·s) or 10,000 centipoise (cP) measured at the hydrocarbon's original temperature in the reservoir and at atmospheric pressure on a gas-free basis, and
  - b. that is not primarily recoverable at economic rates through a well without the implementation of enhanced recovery methods;
- VI) **Synthetic Crude Oil** means a mixture of liquid hydrocarbons derived by upgrading bitumen, kerogen or other substances such as coal, or derived from gas to liquid conversion and may contain sulphur or other compounds;

## Natural Gas

- VII) **Conventional Natural Gas** means natural gas that has been generated elsewhere and has migrated as a result of hydrodynamic forces and is trapped in discrete accumulations by seals that may be formed by localized structural, depositional or erosional geological features;
- VIII) **Coal Bed Methane** means natural gas that
  - a) primarily consists of methane, and
  - b) is contained in a coal deposit;
- IX) **Shale Gas** means natural gas:
  - a) contained in dense organic-rich rocks, including low-permeability shales, siltstones and carbonates, in which the natural gas is primarily adsorbed on the kerogen or clay minerals, and
  - b) that usually requires the use of hydraulic fracturing to achieve economic production rates;

- X) Synthetic Gas** means a gaseous fluid:
  - a) generated as a result of the application of an in-situ transformation process to coal or other hydrocarbon-bearing rock, and
  - b) comprised of not less than 10% by volume of methane;
- XI) Gas Hydrate** means a naturally occurring crystalline substance composed of water and gas in an ice-lattice structure;

#### **By-Products**

- XII) Natural Gas Liquids** means those hydrocarbon components that can be recovered from natural gas as a liquid including, but not limited to, ethane, propane, butanes, pentanes plus, and condensates.
- XIII) Sulphur** is a non-hydrocarbon elemental by-product of gas processing and oil refining.



## APPENDIX B - REFERENCES

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C. Ballentine, P. Burnard, Production, Release and Transport of Noble Gases in the Continental Crust, *Geology, Environmental Science*, 2002, DOI:10.2138/RMG.2002.47.12

Corredor, Piper, and McCain, (1992), Compressibility Factors for Naturally Occurring Petroleum Gases, SPE 24864

Hugo, P. (1963). Helium in the Orange Free State Gold-Field. Pretoria: The Government Printer

Jones, M.Q.W., (2018), Virgin rock temperatures and geothermal gradients in the Bushveld Complex, *J. S. Afr. Inst. Min. Metall.* vol 118, no. 7 Johannesburg Jul. 2018

Piper, McCain, and Corredor, (1993), Compressibility Factors for Naturally Occurring Petroleum Gases, SPE 26668

Renegen/Sproule, (2021), 2021 Update on the Estimation of Methane and Helium Reserves and Resources and Associated Economics of the Tetra4 Virginia Gas Field in the Free State of the Republic of South Africa as of September 1, 2021.\

Rubridge, B.S. (ed.) 1995. Biostratigraphy of the Beaufort Group. South African Commission on Stratigraphy, Biostratigraphic Series 1, pp.1-45.



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## 11. INDEPENDENT LIMITED ASSURANCE REPORT



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# D3 ENERGY LIMITED Independent Limited Assurance Report

1 March 2024





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5 Spring Street  
Perth, WA 6000  
PO Box 700 West Perth WA 6872  
Australia

1 March 2024

The Directors

D3 Energy Limited

945 Wellington Street

West Perth, WA, 6005

Dear Directors

## INDEPENDENT LIMITED ASSURANCE REPORT

### 1. INTRODUCTION

BDO Corporate Finance (WA) Pty Ltd ('BDO') has been engaged by D3 Energy Limited ('D3 Energy' or 'the Company') to prepare this Independent Limited Assurance Report ('Report') in relation to certain financial information of D3 Energy, for the Initial Public Offering ('IPO') of shares in D3 Energy on the Australian Securities Exchange ('ASX'), for inclusion in the Prospectus.

Broadly, the Prospectus will offer 50 million Shares at an issue price of \$0.20 each to raise a total of \$10,000,000 before costs ('the Offer').

Expressions defined in the Prospectus have the same meaning in this Report. BDO holds an Australian Financial Services Licence (AFS Licence Number 316158) and our Financial Services Guide ('FSG') has been included in this Report in the event you are a retail investor. Our FSG provides you with information on how to contact us, our services, remuneration, associations, and relationships.

This Report has been prepared for inclusion in the Prospectus. We disclaim any assumption of responsibility for any reliance on this Report or on the Financial Information to which it relates for any purpose other than that for which it was prepared.

## 2. SCOPE

You have requested BDO to perform a limited assurance engagement in relation to the historical and pro forma historical financial information described below and disclosed in the Prospectus.

The historical and pro forma historical financial information is presented in the Prospectus 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.

You have requested BDO to review the following historical financial information (together the 'Historical Financial Information') of the Company included in the Prospectus:

- the audited historical Statements of Profit or Loss and Other Comprehensive Income and Statements of Cash flows for the period from incorporation to 30 June 2021, and the years ended 30 June 2022 and 2023; and
- the audited historical Statement of Financial Position as at 30 June 2023.

The 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 the company's adopted accounting policies.

The Historical Financial Information has been extracted from the financial report of D3 Energy for the period from incorporation to 30 June 2021 and the years ended 30 June 2022 and 30 June 2023, which were audited by BDO Audit (WA) Pty Ltd ('BDO Audit') in accordance with the Australian Auditing Standards.

BDO Audit (WA) Pty Ltd issued an unmodified audit opinion on the financial reports for the period from incorporation to 30 June 2021 and the years ended 30 June 2022 and 30 June 2023, with an emphasis of matter for a material uncertainty related to going concern in the 30 June 2021 and 30 June 2023 audit reports. However, the opinions of both reports were not modified in respect of these matters.

### *Pro Forma Historical Financial Information*

You have requested BDO to review the following pro forma historical financial information (the 'Pro Forma Historical Financial Information') of the Company included in the Prospectus:

- the pro forma historical Statement of Financial Position as at 30 June 2023.

The Pro Forma Historical Financial Information has been derived from the Historical Financial Information of D3 Energy, after adjusting for the effects of the subsequent events described in Section 6 of this Report and the pro forma adjustments described in Section 7 of this Report.

The stated basis of preparation is the recognition and measurement principles contained in Australian Accounting Standards applied to the Historical Financial Information and the events or transactions to which the pro forma adjustments relate, as described in Section 7 of this Report, as if those events or transactions had occurred as at the date of the historical financial information.

Due to its nature, the Pro Forma Historical Financial Information does not represent the Company's actual or prospective financial position or financial performance.

The Pro Forma Historical Financial Information has been compiled by D3 Energy to illustrate the impact of the events or transactions described in Section 6 and Section 7 of the Report on the

Company's financial position as at 30 June 2023. As part of this process, information about D3 Energy's financial position has been extracted by the Company from D3 Energy's financial statements for the year ended 30 June 2023.

### 3. DIRECTORS' RESPONSIBILITY

The directors of D3 Energy are responsible for the preparation and presentation of the Historical Financial Information and Pro Forma Historical Financial Information, including the selection and determination of pro forma adjustments made to the Historical Financial Information and included in the Pro Forma Historical Financial Information. This includes responsibility for such internal controls as the directors determine are necessary to enable the preparation of Historical Financial Information and Pro Forma Historical Financial Information are free from material misstatement, whether due to fraud or error.

### 4. OUR RESPONSIBILITY

Our responsibility is to express limited assurance conclusions on the Historical Financial Information and the Pro Forma Historical Financial Information. 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*.

Our limited assurance procedures consisted of making enquiries, primarily of persons responsible for financial and accounting matters, 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 a reasonable assurance engagement. Accordingly, we do not express an audit opinion.

Our engagement did not involve updating or re-issuing any previously issued audit or limited assurance reports on any financial information used as a source of the financial information.

### 5. CONCLUSION

#### *Historical Financial Information*

Based on our limited assurance engagement, which is not an audit, nothing has come to our attention that causes us to believe that the Historical Financial Information, as described in the Appendices to this Report, and comprising:

- the Statement of Profit or Loss and Other Comprehensive Income and Statements of Cash flows of D3 Energy for the period from incorporation to 30 June 2021, and the years ended 30 June 2022 and 30 June 2023; and
- the Statement of Financial Position of D3 Energy as at 30 June 2023,

is not presented fairly, in all material respects, in accordance with the stated basis of preparation, as described in Section 2 of this Report.

#### *Pro Forma Historical Financial information*

Based on our limited assurance engagement, 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 the Appendices to this Report, and comprising:

- the pro forma historical Statement of Financial Position of D3 Energy as at 30 June 2023, is not presented fairly, in all material respects, in accordance with the stated basis of preparation, as described in Section 2 of this Report.

## 6. SUBSEQUENT EVENTS

The pro-forma statement of financial position reflects the following events that have occurred subsequent to the period ended 30 June 2023:

- On 1 August 2023, the Company received \$0.49 million in cash that were recorded as trade and other receivables as at 30 June 2023, relating to cash that was previously held in trust as at 30 June 2023 as part of the acquisition of Motuoane Energy (Pty) Ltd ('MEPL').

Apart from the matters dealt with in this Report, and having regard to the scope of this Report and the information provided by the Directors, to the best of our knowledge and belief no other material transaction or event outside of the ordinary business of D3 Energy not described above, has come to our attention that would require comment on, or adjustment to, the information referred to in our Report or that would cause such information to be misleading or deceptive.

## 7. ASSUMPTIONS ADOPTED IN COMPILING THE PRO-FORMA STATEMENT OF FINANCIAL POSITION

The pro forma historical Statement of Financial Position is shown in Appendix 1. This has been prepared based on the financial statements as at 30 June 2023, the subsequent events set out in Section 6, and the following transactions and events relating to the issue of Shares under this Prospectus:

- The issue of 50,000,000 Shares at an offer price of \$0.20 each to raise \$10 million before costs pursuant to the Prospectus.
- Costs of the Offer are estimated to be \$1,154,950, with the costs of the Offer not directly attributable to the capital raising expensed through accumulated losses, while the remainder is offset against contributed equity. The portion of costs expensed and capitalised is \$328,197 and \$826,753 respectively.
- The issue of 6,225,000 Management and Consultant Options ('Management and Consultant Options') to the following management personnel, consultants and employees:
  - Mr David Casey - 1,500,000;
  - Mr Matthew Worner - 1,500,000;
  - Mr Gregory Columbus - 1,000,000;
  - Mr Cameron O'Brien - 250,000;
  - Mr John Zetzman - 625,000;
  - Mr FJ Marx - 625,000;
  - Mr Paul Young - 625,000; and
  - Ms Zanele Ndhlovu - 100,000.



- The issue of 8,820,000 Management and Consultant Performance Rights ('Management and Consultant Rights') to management personnel, consultants and employees:
  - Mr David Casey - 2,400,000;
  - Mr Matthew Worner - 2,400,000;
  - Mr Gregory Columbus - 1,020,000;
  - Mr Cameron O'Brien - 525,000;
  - Mr John Zetzman - 750,000;
  - Mr FJ Marx - 750,000;
  - Mr Paul Young - 750,000; and
  - Ms Zanele Ndhlovu - 225,000.

Management and Consultants Options are issued with an exercise price of \$0.30 and have an expiry date of four years from the date of issue.

Management and Consultant Rights are issued with an expiry date of five years from the date of issue, split into three equal classes and vesting based on the following conditions:

- Class A: the Company achieving a volume weighted average price for 20 consecutive trading days ('20 Day VWAP') exceeding \$0.40.
- Class B: the Company achieving a 20 Day VWAP exceeding \$0.50.
- Class C: the Company achieving a 20 Day VWAP exceeding \$0.60.
- The issue of 4,000,000 Joint Lead Manager Options ('Advisor Options') exercisable at \$0.30 and expiring four years from the date of listing on the ASX.
- The conversion of 2,168,800 Class A Performance Rights ('Vendor A Rights') and 2,168,700 Class B Performance Rights ('Vendor B Rights') into Shares. The Vendor A Rights and Vendor B Rights were issued to the vendors of MEPL pursuant to the acquisition of MEPL.
- The issue of 331,200 Vendor A Rights, 331,300 Vendor B Rights and 331,300 Class C Performance Rights ('Vendor C Rights') to Mr Kevin Rathbun pursuant to the deferred consideration component of the acquisition of MEPL. The Vendor A Rights and Vendor B Rights are immediately converted to Shares as the vesting conditions have been met.
- The issue of 3,216,100 Shares at an issue price of \$0.16 per Share to Mr Kevin Rathbun ('Vendor Shares') pursuant to the deferred consideration component of the acquisition of MEPL.

## 8. INDEPENDENCE

BDO is a member of BDO International Ltd. BDO does not have any interest in the outcome of the proposed IPO other than in connection with the preparation of this Report and participation in due diligence procedures, for which professional fees will be received. BDO is the auditor of D3 Energy and from time to time, BDO also provides D3 Energy with certain other professional services for which normal professional fees are received.

## 9. DISCLOSURES


This Report has been prepared, and included in the Prospectus, 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 be a substitute for professional advice and potential investors should not make specific investment decisions in reliance on the information contained in this Report. Before acting or relying on any information, potential investors should consider whether it is appropriate for their objectives, financial situation or needs.

Without modifying our conclusions, we draw attention to Section 2 of this Report, 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.

BDO has 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 this consent has not been withdrawn. However, BDO has not authorised the issue of the Prospectus. Accordingly, BDO makes no representation regarding, and takes no responsibility for, any other statements or material in or omissions from the Prospectus.

Yours faithfully

BDO Corporate Finance (WA) Pty Ltd

A handwritten signature in black ink, appearing to read 'Adam Myers', written in a cursive style.

Adam Myers  
Partner

# APPENDIX 1

## D3 Energy Limited

### PRO FORMA HISTORICAL CONSOLIDATED STATEMENT OF FINANCIAL POSITION

Statement of Financial Position		Audited as at 30-Jun-23	Subsequent events	Pro-forma adjustments	Pro-forma after Offer
	Notes	\$	\$	\$	\$
<b>ASSETS</b>					
Current Assets					
Cash and cash equivalents	2	1,885,105	489,391	8,845,050	11,219,546
Trade and other receivables	3	659,885	(489,391)	-	170,494
<b>TOTAL CURRENT ASSETS</b>		<b>2,544,990</b>	<b>-</b>	<b>8,845,050</b>	<b>11,390,040</b>
Non-current Assets					
Property plant & equipment		39,028	-	-	39,028
Exploration and evaluation expenditure		4,584,098	-	-	4,584,098
<b>Total non-current assets</b>		<b>4,623,126</b>	<b>-</b>	<b>-</b>	<b>4,623,126</b>
<b>TOTAL ASSETS</b>		<b>7,168,116</b>	<b>-</b>	<b>8,845,050</b>	<b>16,013,166</b>
<b>LIABILITIES</b>					
Current liabilities					
Trade and other payables		113,040	-	-	113,040
Consideration payable	4	1,714,576	-	(1,714,576)	-
<b>Total current liabilities</b>		<b>1,827,616</b>	<b>-</b>	<b>(1,714,576)</b>	<b>113,040</b>
Non-current liabilities					
<b>Total non-current liabilities</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL LIABILITIES</b>		<b>1,827,616</b>	<b>-</b>	<b>(1,714,576)</b>	<b>113,040</b>
<b>NET ASSETS/(LIABILITIES)</b>		<b>5,340,500</b>	<b>-</b>	<b>10,559,626</b>	<b>15,900,126</b>
<b>EQUITY</b>					
Issued capital	5	7,708,710	-	10,487,823	18,196,533
Reserves	6	(347,622)	-	2,904,000	2,556,378
Accumulated losses	7	(2,020,588)	-	(2,832,197)	(4,852,785)
<b>TOTAL EQUITY</b>		<b>5,340,500</b>	<b>-</b>	<b>10,559,626</b>	<b>15,900,126</b>

*The cash and cash equivalents balance above does not account for working capital movements over the period from 30 June 2023 until completion, other than the subsequent events and pro forma adjustments detailed in Section 6 and Section 7 of our Report.*

The pro-forma statement of financial position after the Offer is as per the statement of financial position before the Offer adjusted for any subsequent events and the transactions relating to the issue of shares pursuant to this Prospectus. The statement of financial position is to be read in conjunction with the notes to and forming part of the historical financial information set out in Appendix 4 and the prior year financial information set out in Appendix 2 and 3.

## APPENDIX 2

### D3 Energy Limited

#### HISTORICAL CONSOLIDATED STATEMENT OF LOSS AND OTHER COMPREHENSIVE LOSS

Statement of Loss and Other Comprehensive Loss	Audited for the year ended 30-Jun-23 \$	Audited for the year ended 30-Jun-22 \$	Audited for the period* from incorporation to 30-Jun-21 \$
Revenue from continuing operations			
Interest received and other income	29,646	298	-
Administration expenses	(102,541)	(49,575)	(19,856)
Public company expenses	(228,636)	(161,233)	-
Exploration expenses	(944,231)	(300,000)	-
Employee benefits expenses	(178,155)	(66,000)	-
Interest expenses	(305)		
Loss before income tax	(1,424,222)	(576,510)	(19,856)
Income tax expense	-	-	-
Loss after income tax	(1,424,222)	(576,510)	(19,856)
Other Comprehensive Income			
Items that may be reclassified to profit or loss			
Exchange difference on translation of foreign operations	(347,622)	-	-
Other comprehensive loss for the year, net of tax	(1,771,844)	(576,510)	(19,856)
Total comprehensive loss for the year	(1,771,844)	(576,510)	(19,856)

*\*Period commences from date of the Company's incorporation of 7 April 2021*

The above Historical Statement of Loss and Other Comprehensive Loss shows the historical financial performance of D3 Energy and is to be read in conjunction with the notes to and forming part of the Historical Financial Information set out in Appendix 4. Past performance is not a guide to future performance.

# APPENDIX 3

## D3 Energy Limited

### HISTORICAL CONSOLIDATED STATEMENT OF CASH FLOWS

Statement of Cash Flows	Audited for the year ended 30-Jun-23 \$	Audited for the year ended 30-Jun-22 \$	Audited for the period* from incorporation to 30-Jun-21 \$
Cash flows from operating activities			
Payments to suppliers and employees	(1,084,080)	(220,796)	-
Interest received	29,646	298	-
Exploration and evaluation expenditure	(990,920)	(300,000)	-
Net cash outflow from operating activities	(2,045,354)	(520,498)	-
Cash flows from investing activities			
Payment for acquisition of projects	(112)	-	-
Acquisition of subsidiary	110,983	-	-
Net cash outflow from investing activities	110,871	-	-
Cash flows from financing activities			
Proceeds from issue of shares (net of costs)	510,000	4,054,985	100
Capital raising costs	(224,999)	-	-
Net cash inflow from financing activities	285,001	4,054,985	100
Net increase in cash and cash equivalents	(1,649,482)	3,534,487	100
Cash and cash equivalents at the beginning of the period	3,534,587	100	-
Cash and cash equivalents at the end of the period	1,885,105	3,534,587	100

\*Period commences from date of the Company's incorporation of 7 April 2021

## APPENDIX 4

### D3 Energy Limited

#### NOTES TO AND FORMING PART OF THE HISTORICAL FINANCIAL INFORMATION

##### 1. STATEMENT OF SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies adopted in the preparation of the historical financial information included in this Report have been set out below.

###### a) Basis of preparation of historical financial information

The historical financial information has been prepared in accordance with the recognition and measurement, but not all the disclosure requirements of the Australian equivalents to International Financial Reporting Standards ('AIFRS') issued by the International Accounting Standard Board ('IASB'), other authoritative pronouncements of the Australian Accounting Standards Board 9 ('AASB'), Australian Accounting Interpretations and the Corporations Act 2001.

The financial information has also been prepared on a historical cost basis.

###### b) Going Concern

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

The ability of the Company to continue as a going concern is dependent on the success of the fundraising under the Prospectus. The Directors believe that the Company will continue as a going concern. As a result the financial information has been prepared on a going concern basis. However should the fundraising under the Prospectus be unsuccessful, the entity may not be able to continue as a going concern. No adjustments have been made relating to the recoverability and classification of liabilities that might be necessary should the Company not continue as a going concern.

###### c) Reporting Basis and Conventions

The report is also prepared on an accrual basis and is based on historic costs and does not take into account changing money values or, except where specifically stated, current valuations of non-current assets.

The following is a summary of the material accounting policies adopted by the company in the preparation of the financial report. The accounting policies have been consistently applied, unless otherwise stated.

###### d) New and amended standards adopted by the entity

In preparing the historical financial information, management has adopted all of the new or amended Accounting Standards and Interpretations issued by the AASB that are mandatory for the current reporting period.

Any new or amended Accounting Standards or Interpretations that are not yet mandatory have not been early adopted.

###### e) Principles of consolidation

The consolidated financial statements incorporate the assets, liabilities and results of entities controlled by D3 Energy Limited at the end of the reporting period. A controlled entity is any entity over which D3 Energy Limited has the power to govern the financial and operating policies so as to obtain benefits from the entity's activities. Control will generally exist when the parent owns, directly or indirectly through

subsidiaries, more than half of the voting power of an entity. In assessing the power to govern, the existence and effect of holdings of actual and potential voting rights are also considered.

Where controlled entities have entered or left the Group during the year, the financial performance of those entities are included only for the period of the year that they were controlled.

In preparing the consolidated financial statements, all inter-group balances and transactions between entities in the consolidated group have been eliminated on consolidation. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with those adopted by the parent entity.

Non-controlling interests, being the equity in a subsidiary not attributable, directly or indirectly, to a parent, are shown separately within the Equity section of the consolidated statement of financial position and statement of financial performance. The non-controlling interests in the net assets comprise their interests at the date of the original business combination and their share of changes in equity since that date.

### *Business combinations*

Business combinations occur where an acquirer obtains control over one or more businesses and results in the consolidation of its assets and liabilities.

A business combination is accounted for by applying the acquisition method, unless it is a combination involving entities or businesses under common control. The acquisition method requires that for each business combination one of the combining entities must be identified as the acquirer (i.e. parent entity). The business combination will be accounted for as at the acquisition date, which is the date that control over the acquiree is obtained by the parent entity. At this date, the parent shall recognise, in the consolidated accounts, and subject to certain limited exceptions, the fair value of the identifiable assets acquired and liabilities assumed. In addition, contingent liabilities of the acquiree will be recognised where a present obligation has been incurred and its fair value can be reliably measured.

The acquisition may result in the recognition of goodwill or a gain from a bargain purchase. The method adopted for the measurement of goodwill will impact on the measurement of any non-controlling interest to be recognised in the acquiree where less than 100% ownership interest is held in the acquiree.

The acquisition date fair value of the consideration transferred for a business combination plus the acquisition date fair value of any previously held equity interest shall form the cost of the investment in the separate financial statements. Consideration may comprise the sum of the assets transferred by the acquirer, liabilities incurred by the acquirer to the former owners of the acquiree and the equity interests issued by the acquirer.

Fair value uplifts in the value of pre-existing equity holdings are taken to the statement of financial performance. Where changes in the value of such equity holdings had previously been recognised in other comprehensive income, such amounts are recycled to profit or loss.

Included in the measurement of consideration transferred is any asset or liability resulting from a contingent consideration arrangement. Any obligation incurred relating to contingent consideration is classified as either a financial liability or equity instrument, depending upon the nature of the arrangement. Rights to refunds of consideration previously paid are recognised as a receivable. Subsequent to initial recognition, contingent consideration classified as equity is not re-measured and its subsequent settlement is accounted for within equity. Contingent consideration classified as an asset or a liability is re-measured each reporting period to fair value through the statement of financial performance unless the change in value can be identified as existing at acquisition date.

All transaction costs incurred in relation to the business combination are expensed to the statement of financial performance.



#### f) Income Tax

The income tax expense or benefit (revenue) for the period is the tax payable on the current period's taxable income based on the national income tax rate for each jurisdiction adjusted by changes in deferred tax assets and liabilities attributable to temporary differences between the tax base of assets and liabilities and their carrying amounts in the financial statements, and to unused tax losses.

The charge for current income tax expenses is based on the profit for the year adjusted for any non-assessable or disallowed items. It is calculated using tax rates that have been enacted or are substantively enacted by the balance sheet date.

Deferred tax is accounted for using the balance sheet liability method in respect of temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. No deferred income tax will be recognized from the initial recognition of an asset or liability, excluding a business combination, where there is no effect on accounting or taxable profit or loss.

Deferred tax assets are recognised to the extent that it is probable that future tax profits will be available against which deductible temporary differences can be utilised.

The amount of benefits brought to account or which may be realised in the future is based on the assumption that no adverse change will occur in income taxation legislation and the anticipation that the economic entity will derive sufficient future assessable income to enable the benefit to be realised and comply with the conditions of deductibility imposed by the law.

#### g) Cash and Cash Equivalents

Cash and cash equivalents includes cash at bank and in hand, deposits held at call with financial institutions, other short-term highly liquid deposits with an original maturity of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities on the statement of financial position.

#### h) Trade and other receivables

Trade receivables are recognised as the amount receivable and are due for settlement no more than 90 days from the date of recognition. Collectability of trade receivables is reviewed on an ongoing basis. Debts which are known to be uncollectible are written off against the receivable directly unless a provision for impairment has previously been recognised.

A provision for impairment of receivables is established when there is objective evidence that the Company will not be able to collect all amounts due according to the original terms of receivables. The amount of the provision is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the effective interest rate.

Loans granted are recognised at the amount of consideration given or the cost of services provided to be reimbursed.

#### i) Revenue Recognition

Revenues are recognised at fair value of the consideration received net of the amount of GST.

#### *Interest*

Revenue is recognised as interest accrues using the effective interest method. The effective interest method uses the effective interest rate which is the rate that exactly discounts the estimated future cash receipts over the expected life of the financial asset.

j) Provisions

Provisions are recognised when the Company has a present legal or constructive obligation as a result of past events; it is more likely than not that an outflow of resources will be required to settle the obligation; and the amount has been reliably estimated. Provisions are not recognised for future operating losses.

k) Trade and Other Payables

Liabilities are recognised for amounts to be paid in the future for goods or services received, whether or not billed to the Company. Trade accounts payable are normally settled within 30 days of recognition.

l) Borrowings

Borrowings are initially recognised at fair value, net of transaction costs incurred. Borrowings are subsequently measured at amortised cost. Any difference between proceeds (net of transaction costs) and the redemption amount is recognised in the statement of financial performance over the period of the borrowings using the effective interest method.

Borrowings are classified as current liabilities unless the Company has an unconditional right to defer settlement of the liability for at least 12 months after the statement of financial position date.

m) Goods and Services Tax (GST)

Revenues, expenses and assets are recognised net of GST except where GST incurred on a purchase of goods and services is not recoverable from the taxation authority, in which case the GST is recognised as part of the cost of acquisition of the asset or as part of the expense item.

Receivables and payables are stated with the amount of GST included. The net amount of GST recoverable from, or payable to, the taxation authority is included as part of receivables or payables in the statement of financial position.

Cash flows are included in the statement of cash flow on a gross basis and the GST component of cash flows arising from investing and financing activities, which is recoverable from, or payable to, the taxation authorities are classified as operating cash flows.

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

n) Exploration and Evaluation Expenditure

Exploration and evaluation expenditure, including costs of acquiring the licences, are capitalised as exploration and evaluation assets on an area of interest basis. Costs incurred before the Company has obtained the legal rights to explore the area are recognised in the statement of financial performance.

Exploration and evaluation assets are only recognised if the rights of the area of interest are current and either:

- I. The expenditures are expected to be recouped through successful development and exploitation or from sale of the area of interest; or
- II. Activities in the area of interest have not at the reporting date, reached a stage which permits a reasonable assessment of the existence or otherwise of economically recoverable reserves, and active and significant operations in, or in relation to, the areas of interest are continuing.

Exploration and evaluation assets are assessed for impairment if (i) sufficient data exists to determine technical feasibility and commercial viability, and (ii) facts and circumstances suggest that the carrying amount exceeds the recoverable amount. For the purpose of impairment testing, exploration and

evaluation assets are allocated to cash-generating units to which the exploration activity relates. The cash generating unit shall not be larger than the area of interest.

Once the technical feasibility and commercial viability of the extraction of mineral resources in an area of interest are demonstrable, exploration and evaluation assets attributable to that area of interest are first tested for impairment and then reclassified to mining property and development assets within property, plant and equipment.

When an area of interest is abandoned or the directors decide that it is not commercial, and accumulated costs in respect of that area are written off in the financial period the decision is made.

#### o) Impairment of assets

At each reporting date, the Company reviews the carrying values of its tangible and intangible assets to determine whether there is any indication that those assets have been impaired. If such an indication exists, the recoverable amount of the asset, being the higher of the asset's fair value less costs to sell and value in use, is compared to the asset's carrying value. Any excess of the asset's carrying value over its recoverable amount is expensed to the income statement.

Impairment testing is performed annually for goodwill and intangible assets with indefinite lives. Where it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs.

#### *Financial Assets*

A financial asset is considered to be impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flows of that asset.

#### *Non-Financial Assets*

The carrying amounts of the non-financial assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists then the asset's recoverable amount is estimated. For goodwill and intangible assets that have indefinite lives or that are not yet available for use, recoverable amount is estimated at each reporting date.

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. A cash-generating unit is the smallest identifiable asset group that generates cash flows that largely are independent from other assets and groups. Impairment losses are recognised in the statement of financial performance. Impairment losses recognised in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to the units and then to reduce the carrying amount of any goodwill allocated to the units and then to reduce the carrying amount of the other assets in the unit (group of units) on a pro rata basis.

#### p) Contributed Equity

Ordinary shares are classified as equity.

Costs directly attributable to the issue of new shares or options are shown as a deduction from the equity proceeds, net of any income tax benefit. Costs directly attributable to the issue of new shares or options associated with the acquisition of a business are included as part of the purchase consideration.

#### q) Financial Instruments

##### *Recognition*

Financial instruments are initially measured at cost on trade date, which includes transaction costs, when the related contractual rights or obligations exist. Subsequent to initial recognition these instruments are measured as set out below.

### *Loans and receivables*

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and are stated at amortised cost using the effective interest rate method.

### *Financial liabilities*

Non-derivative financial liabilities are recognised at amortised cost, comprising original debt less principal payments and amortisation.

#### r) Employee Benefits

##### *Wages and Salaries, Annual Leave and Sick Leave*

Liabilities for wages and salaries, including non-monetary benefits, annual leave and accumulating sick leave expected to be settled within 12 months of the statement of financial position date are recognised in respect of employees' services rendered up to statement of financial position date and measured at amounts expected to be paid when the liabilities are settled.

Liabilities for non-accumulating sick leave are recognised when leave is taken and measured at the actual rates paid or payable. Liabilities for wages and salaries are included as part of Other Payables and liabilities for annual and sick leave are included as part of Employee Benefit Provisions.

##### *Long Service Leave*

Liabilities for long service leave are recognised as part of the provision for employee benefits and measured as the present value of expected future payments to be made in respect of services provided by employees to the statement of financial position date using the projected unit credit method. Consideration is given to expect future salaries and wages levels, experience of employee departures and periods of service. Expected future payments are discounted using national government bond rates at the statement of financial position date with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

##### *Share-based payments transactions*

The Company provides benefits to employees (including directors) of the Company in the form of share options. The fair value of options granted is recognised as an employee expense with a corresponding increase in equity. The fair value is measured at grant date and spread over the period during which the employee becomes unconditionally entitled to the options. The fair value of the options granted is measured using Black-Scholes valuation model, taking into account the terms and conditions upon which the options were granted.

The cost of equity-settled transactions is recognised, together with a corresponding increase in equity, on a straight line basis over the period from grant date to the date on which the relevant employees become fully entitled to the award ("vesting date"). The amount recognised as an expense is adjusted to reflect the actual number that vest.

The dilutive effect, if any, of outstanding options is reflected as additional share dilution in the computation of earnings per share.

#### s) Accounting estimates and judgements

In the process of applying the accounting policies, management has made certain judgements or estimations which have an effect on the amounts recognised in the financial information.

The carrying amounts of certain assets and liabilities are often determined based on estimates and assumptions of future events. The key estimates and assumptions that have a significant risk causing a material adjustment to the carrying amounts of certain assets and liabilities within the next annual reporting period are:

### *Valuation of share based payment transactions*

The valuation of share-based payment transactions is measured by reference to the fair value of the equity instruments at the date at which they are granted. The fair value is determined using the Black Scholes model taking into account the terms and conditions upon which the instruments were granted.

### *Options*

The fair value of options issued is determined using the Black-Scholes model, taking into account the terms and conditions upon which the options were granted.

### *Determination of fair values on exploration and evaluation assets acquired in business combinations*

On initial recognition, the assets and liabilities of the acquired business are included in the statement of financial position at their fair values. In measuring fair value of exploration projects, management considers generally accepted technical valuation methodologies and comparable transactions in determining the fair value. Due to the subjective nature of valuation with respect to exploration projects with limited exploration results, management have determined the price paid to be indicative of its fair value.

### *Recoverability of capitalised exploration and evaluation expenditure*

The future recoverability of capitalised exploration and evaluation expenditure is dependent on a number of factors, including whether the company decides to exploit the related lease itself, or, if not, whether it successfully recovers the related exploration and evaluation asset through sale.

Factors that could impact the future recoverability include the level of reserves and resources, future technological changes, costs of drilling and production, production rates, future legal changes (including changes to environmental restoration obligations) and changes to commodity prices.

### *Taxation*

The Company is subject to income taxes in Australia. Significant judgement is required when determining the Company's provision for income taxes. The Company estimates its tax liabilities based on the Company's understanding of the tax law.

Note 2. Cash and cash equivalents	Audited as at 30-Jun-23 \$	Pro-forma after Offer \$
Cash and cash equivalents	1,885,105	11,219,546
<i>Adjustments to arise at the pro-forma balance:</i>		
Audited balance of D3 Energy Limited 30-Jun-23		1,885,105
		1,885,105
<i>Subsequent events:</i>		
Receipt of cash in transit		489,391
		489,391
<i>Pro-forma adjustments:</i>		
Proceeds from shares issued under this Prospectus		10,000,000
Costs of the offer		(1,154,950)
		8,845,050
Pro-forma Balance		11,219,546

Note 3. Trade and other receivables	Audited as at 30-Jun-23 \$	Pro-forma after Offer \$
Other receivables	659,885	170,494
<i>Adjustments to arise at the pro-forma balance:</i>		
Audited balance of D3 Energy Limited 30-Jun-23		659,885
		659,885
<i>Subsequent events:</i>		
Payment of cash in transit		(489,391)
		(489,391)
Pro-forma balance		170,494

Note 4. Consideration payable	Audited as at 30-Jun-23 \$	Pro-forma after Offer \$
Consideration payable	1,714,576	-
<i>Adjustments to arise at the pro-forma balance:</i>		
Audited balance of D3 Energy Limited 30-Jun-23		1,714,576
		1,714,576
<i>Pro-forma adjustments:</i>		
Issue of Vendor A, B and C Rights for MEPL*		(1,200,000)
Issue of Vendor Shares for MEPL*		(514,576)
		(1,714,576)
Pro-forma balance		-

\*Vendor A, B and C Rights valued at \$0.16 per right. Vendor Shares issued at \$0.16 per share.

Note 5. Issued Capital	Audited as at 30-Jun-23 \$	Pro-forma after Offer \$
Issued capital	7,708,710	18,196,533
<i>Adjustments to arise at the pro-forma balance:</i>		
	No of Shares	
Audited balance of D3 Energy Limited 30-Jun-23	62,578,906	7,708,710
	62,578,906	7,708,710
<i>Pro-forma adjustments:</i>		
Shares issued under the prospectus	50,000,000	10,000,000
Conversion of Vendor A and B Rights	5,000,000	800,000
Issue of Vendor Shares to MEPL	3,216,100	514,576
Capital raising costs attributable to equity	-	(826,753)
	58,216,100	10,487,823
Pro-forma Balance	120,795,006	18,196,533

Under the Public Offer in the Prospectus, D3 will issue 50,000,000 fully paid ordinary shares at a price of \$0.20 per share. Capital raising costs that are directly attributable to the IPO have been capitalised in accordance with the applicable accounting standard.

Note 6. Reserves	Audited as at 30-Jun-23 \$	Pro-forma after Offer \$
Reserves	(347,622)	2,556,378
<i>Adjustments to arise at the pro-forma balance:</i>		
Audited balance of D3 Energy Limited 30-Jun-23		(347,622)
		(347,622)
<i>Pro-forma adjustments:</i>		
Issue of Vendor A, B and C Rights for MEPL		1,200,000
Conversion of Vendor A and B Rights		(800,000)
Issue of Management and Consultant Options		647,400
Issue of Advisor Options		416,000
Issue of Management and Consultant Rights		1,440,600
		2,904,000
Pro-forma balance		2,556,378

Under the Prospectus, D3 Energy will issue the Management and Consultant Options and Advisor Options with the following terms:

- Management and Consultant Options: 6,225,000 options with an expiry of four years from the date of issue, exercisable at a price of \$0.30 per option.
- Advisor Options: 4,000,000 options with an expiry of four years from the ASX listing date, exercisable at \$0.30 per option.

In addition, D3 Energy will issue 8,820,000 Management and Consultant Rights, with nil exercise price and expiring five years from the date of issue, split into three equal classes with the following vesting conditions:

- Class A: The rights vest upon the Company achieving a 20 Day VWAP exceeding \$0.40.
- Class B: The rights vest upon the Company achieving a 20 Day VWAP exceeding \$0.50.
- Class C: The rights vest upon the Company achieving a 20 Day VWAP exceeding \$0.60.



The Management and Consultant Options and Advisor Options have non-market vesting conditions, therefore their fair value has been calculated using the Black Scholes option pricing model as at a current valuation date with the key inputs and fair value detailed below:

	Management and Consultant Options	Advisor Options
Number of Options	6,225,000	4,000,000
Underlying share price	\$0.20	\$0.20
Exercise price	\$0.30	\$0.30
Expected volatility	80%	80%
Life of the Options (years)	4.00	4.00
Expected dividends	Nil	Nil
Risk free rate	3.837%	3.837%
Value per Option	\$0.104	\$0.104
Total Fair Value	\$647,400	\$416,000

The Management and Consultant Rights have market based vesting conditions, therefore their fair value has been calculated using hybrid up-and-in trinomial option pricing model with a Parisian barrier adjustment. The model takes into consideration that the Right may vest at any time up until expiry, given that the 20-day VWAP of the Company's shares exceed the respective VWAP barrier for each class of Rights. The key inputs for the model and their fair value detailed below:

Management and Consultant Rights	Class A	Class B	Class C
Number of Rights	2,940,000	2,940,000	2,940,000
Underlying share price	\$0.20	\$0.20	\$0.20
Exercise price	Nil	Nil	Nil
Expected volatility	80%	80%	80%
Life of the Rights (years)	5.00	5.00	5.00
Expected dividends	Nil	Nil	Nil
Risk free rate	3.837%	3.837%	3.837%
Value per Right	\$0.172	\$0.163	\$0.155
Total Fair Value	\$505,680	\$479,220	\$455,700

Note 7. Accumulated losses	Audited as at 30-Jun-23 \$	Pro-forma after Offer \$
Accumulated losses	(2,020,588)	(4,852,785)
<i>Adjustments to arise at the pro-forma balance:</i>		
Audited balance of D3 Energy Limited 30-Jun-23		(2,020,588)
		(2,020,588)
<i>Pro-forma adjustments:</i>		
Costs of the offer not directly attributable to the capital raising		(328,197)
Issue of Management and Consultant Options, Rights and Advisor Options.		(2,504,000)
		(2,832,197)
Pro-forma balance		(4,852,785)

NOTE 9: RELATED PARTY DISCLOSURES

Transactions with Related Parties and Directors Interests are disclosed in the Prospectus.

NOTE 10: COMMITMENTS AND CONTINGENCIES

At the date of the Report no material commitments or contingent liabilities exist that we are aware of, other than those disclosed in the Prospectus.

## APPENDIX 6

### FINANCIAL SERVICES GUIDE

1 March 2024

BDO Corporate Finance (WA) Pty Ltd ABN 27 124 031 045 ('we' or 'us' or 'ours' as appropriate) has been engaged by D3 Energy Limited ('the Company') to provide an Independent Limited Assurance Report ('ILAR' or 'our Report') for inclusion in this Prospectus.

#### Financial Services Guide

In the above circumstances we are required to issue to you, as a retail client, a Financial Services Guide ('FSG'). This FSG is designed to help retail clients make a decision as to their use of the general financial product advice and to ensure that we comply with our obligations as financial services licensee.

This FSG includes information about:

- who we are and how we can be contacted;
- the services we are authorised to provide under our Australian Financial Services Licence, Licence No. 316158;
- remuneration that we and/or our staff and any associates receive in connection with the general financial product advice;
- any relevant associations or relationships we have; and
- our internal and external complaints handling procedures and how you may access them.

#### Information about us

BDO Corporate Finance (WA) Pty Ltd is a member firm of the BDO network in Australia, a national association of separate entities (each of which has appointed BDO (Australia) Limited ACN 050 110 275 to represent it in BDO International). The financial product advice in our Report is provided by BDO Corporate Finance (WA) Pty Ltd and not by BDO or its related entities. BDO and its related entities provide services primarily in the areas of audit, tax, consulting and financial advisory services.

We do not have any formal associations or relationships with any entities that are issuers of financial products. However, you should note that we and BDO (and its related entities) might from time to time provide professional services to financial product issuers in the ordinary course of business.

#### Financial services we are licensed to provide

We hold an Australian Financial Services Licence that authorises us to provide general financial product advice for securities to retail and wholesale clients.

When we provide the authorised financial services we are engaged to provide an ILAR in connection with the financial product of another entity. Our Report indicates who has engaged us and the nature of the report we have been engaged to provide. When we provide the authorised services we are not acting for you.

#### General Financial Product Advice

We only provide general financial product advice, not personal financial product advice. Our Report does not take into account your personal objectives, financial situation or needs. You should consider the appropriateness of this general advice having regard to your own objectives, financial situation and needs before you act on the advice.

#### Fees, commissions and other benefits that we may receive

We charge fees for providing reports, including this Report. These fees are negotiated and agreed with the client who engages us to provide the report. Fees are agreed on an hourly basis or as a fixed amount depending on the terms of the agreement. The fee payable to BDO Corporate Finance (WA) Pty Ltd for this engagement is approximately \$25,000 (exclusive of GST).

As noted in Section 8 of our Report, BDO Audit (WA) Pty Ltd are the auditors of D3 Energy and received professional fees relating to the audit work performed.

Except for the fees referred to above, neither BDO, nor any of its directors, employees or related entities, receive any pecuniary benefit or other benefit, directly or indirectly, for or in connection with the provision of the Report.

Remuneration or other benefits received by our employees

All our employees receive a salary. Our employees are eligible for bonuses based on overall productivity but not directly in connection with any engagement for the provision of a report. We have received a fee from D3 Energy Limited for our professional services in providing this Report. That fee is not linked in any way with our opinion as expressed in this Report.

Referrals

We do not pay commissions or provide any other benefits to any person for referring customers to us in connection with the reports that we are licensed to provide.

Complaints resolution

*Internal complaints resolution process*

As the holder of an Australian Financial Services Licence, we are required to have a system for handling complaints from persons to whom we provide financial product advice. We are also committed to meeting your needs and maintaining a high level of client satisfaction. If you are unsatisfied with a service we have provided you, we have avenues available to you for the investigation and resolution of any complaint you may have.


To make a formal complaint, please use the Complaints Form. For more on this, including the Complaints Form and contact details, see the [BDO Complaints Policy](#) available on our website.

When we receive a complaint we will record the complaint, acknowledge receipt of the complaint in writing within one business day or, if the timeline cannot be met, then as soon as practicable and investigate the issues raised. As soon as practical, and not more than 30 days after receiving the complaint, we will advise the complainant in writing of our determination.

Referral to External Dispute Resolution Scheme

We are a member of the Australian Financial Complaints Authority (AFCA) which is an External Dispute Resolution Scheme. Our AFCA Membership Number is 12561. Where you are unsatisfied with the resolution reached through our Internal Dispute Resolution process, you may escalate this complaint to AFCA using the below contact details:

Mail:	GPO Box 3, Melbourne, VIC 3001
Free call:	1800 931 678
Website:	<a href="http://www.afca.org.au">www.afca.org.au</a>
Email:	<a href="mailto:info@afca.org.au">info@afca.org.au</a>
Interpreter Service:	131 450



1300 138 991

[www.bdo.com.au](http://www.bdo.com.au)

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## 12. SOLICITORS' REPORT ON PERMITS

Our Reference: W Mandlana/R Mc Lean/D3      Your Reference: Solicitor's Report  
Solicitor's Report/ 6212699  
Direct Line: 011 669 9562 / 011 669 9664      Date: 29 February 2024  
Email Address: [Wandisile.mandlana@bowmanslaw.com](mailto:Wandisile.mandlana@bowmanslaw.com)  
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**To:** **D3 Energy Limited**  
945 Wellington Street  
West Perth  
WA 6005  
Australia

**Attention:** **Matt Worner**  
Per email: [matt@d3energy.com.au](mailto:matt@d3energy.com.au)

Dear Matt

**SOLICITOR'S REPORT ON MINERAL AND PETROLEUM TENEMENTS DIRECTLY AND/OR INDIRECTLY HELD BY D3 ENERGY LIMITED IN IN AND THROUGH MOTUOANE ENERGY PROPRIETARY LIMITED IN THE REPUBLIC OF SOUTH AFRICA IN RESPECT OF AND FOR THE PROSPECTUS OF D3 ENERGY LIMITED**

## 1. Introduction

- 1.1. We, Bowman Gilfillan Incorporated (**Bowmans**) have been asked to prepare this solicitor's report (**Report**) to be included in a prospectus (**Prospectus**) to be issued by D3 Energy Limited<sup>1</sup> (**D3**) in connection with certain South African petroleum aspects of the proposed listing of the shares of D3 on the Official List of the Australian Securities Exchange (**ASX**).
- 1.2. In compiling this Report, we have reviewed and considered various documents to determine whether, in our independent legal view, Motuoane Energy Proprietary Limited<sup>2</sup> (**MEPL**), being a

<sup>1</sup> ACN registration number: 649 276 808.

<sup>2</sup> Registration number 2012/044973/07.

**Bowman Gilfillan Inc.** Reg. No. 1998/021409/21 **Attorneys Notaries Conveyancers**

**Directors** MEC Davids (Chairman & Senior Partner) | AJ Keep (Managing Partner) | AG Anderson | DP Anderson | LJ Anderson | JS Andropoulos | M Angumuthoo | J Augustyn | L Avivi | J Barnes | AM Barnes-Webb | TL Beira | JM Bellew | KJ Beretta | K Chisaka | CN Cunningham | L Dahms-Jansen | RA Davey | JM de Hutton | D de Klerk | TC Dini | CR Douglas | SB Dube | HD Duffey | S Ellary | KA Fulton | BJ Garven | TM Gcabashe | DJ Gera | TJ Gordon-Grant | AR Graham | S Grimwood-Norley | A Hale | AS Harris | N Hassan | VJ Herholdt | PA Hirsch | NA Hlophe | HPM Irvine | V Jacklin-Levin | CS Jackson | P Jani | JR Janks | T Jordaan | JR Kaapu | M Keep | CP Kennedy | KM Kern | ID Kirkman | RDW Kitcat | JG Kruger | JP Kruger | N Kwinana | R la Grange | R Labuschagne | T Laubscher | AB Leuta | LA Lewin | DA Lotter | L Ludick | J Lurie | KS Makapane | M Makola | HW Mandlana | HL Manson | NR Mather | TP McDougall | JM McKinnell | AKV Mfuphi | MC Mkiva | L Mongie | ZNR Motloba | K Naicker | UEBU Naumann | KT Nkaiseng | X Nyali | NT Nzima | MAJ Oppenheim | KA Peter | DM Phillips | AJ Pike | B Pillay | JD Prain | DM Pretorius | JL Power | LV Raphulu | CL Reidy | CP Robinson | CDS Rodrigues | S Saffy | JW Sahli | MA Saib | MY Sass | CG Schafer | RZ Shein | BT Sibiya | EC Steyn | LR Stockton | ML Swartland | L Thahane | BF Tibane | CFN Todd | FJ Trichardt | CE Tucker | CL van Heerden | MR van Velden | MG Vermaak | DS Webb | REE Webster | DCJ Wessels | RS Wessels | JWL Westgate | K Weyers | HJ Wilsenach | KS Wright | DD Yull |

**Senior Consultants** CM Bouwer | IL Brink | RM Carr | PM Carter | RA Cohen | GH Damant | P Hart-Davies | MR Kyle | PM Maduna | A McAllister | MS Rusa | GI Rushton | JH Schlosberg | RJ van Voore | PE Whelan |

**Group COO** RJ Smith | **Group CFO** HI Harding | **Company Secretary** NL van Vuuren

KENYA MAURITIUS **SOUTH AFRICA** TANZANIA ZAMBIA

ALLIANCE FIRMS: ETHIOPIA | NIGERIA



majority-owned subsidiary of D3, has secure, good, valid and enforceable legal title in respect of the following South African petroleum rights and applications:

- 1.2.1. Exploration right with Petroleum Agency of South Africa (**PASA**) reference number ER12/3/315 (and renewed PASA reference number ER 12/3/315/1A) (**MEPL ER315**);
- 1.2.2. Application for an exploration right with PASA reference number ER 12/3/341 (**MEPL ER341 Application**); and
- 1.2.3. Two technical co-operation permits (**TCP**) with PASA reference numbers 12/2/235<sup>3</sup> and 12/2/240<sup>4</sup> which TCPs were granted by PASA on 23 October 2023 (**MEPL TCP Applications**),  
  
(**Tenements**).
- 1.3. The Tenements are more fully set out in the Schedule of Tenements (**Schedule**) to this Report, which, together with the general legislative information section and the explanatory notes to the Tenements Schedule (**Explanatory Notes**), form part of this Report.
- 1.4. In addition to reviewing the Tenement documents, we also conducted various title searches (which as at the date of this Report remain pending). The said searches include correspondence with:
  - 1.4.1. The South African Mineral and Petroleum Titles Registration Office (**MPTRO**) to establish whether the MEPL ER315 is registered in the name of MEPL;
  - 1.4.2. The Land Claims Commissioner: Free State Province, South Africa to determine whether any of the properties in respect of the Tenements are subject to any claims for restitution; and
  - 1.4.3. The South African Department of Forestry, Fisheries and the Environment to determine whether any of the properties in respect of the Tenements are part of any "*protected area*".
- 1.5. While the responses to these searches are still outstanding which is common, D3 has advised that there is no impediment to the Tenements which may come from these searches. This view is consistent with the Tenement documents that we have reviewed.
- 1.6. This Report is provided by us on the basis of the assumptions and subject to the qualifications set out in paragraph 3.
- 1.7. In respect of MEPL ER315, this Report particularly confirms that:
  - 1.7.1. MEPL has 100% interest in the MEPL ER315. D3 in turn holds 86.76% of the issued share capital in MEPL, with the remaining 13.24% held by Willow Energy Corporation. We understand that upon the listing of D3 on the ASX, D3 will acquire this 13.24% of the issued share capital in MEPL from

<sup>3</sup> In respect of various farms situated in the Magisterial Districts of Theunissen, Winburg, Ventersburg, Virginia, Hennenman, Senekal, Kroonstad, and Welkom, in the FreeState province.

<sup>4</sup> In respect of various farms situated in the Magisterial District of Hennenman, in the Free State province.

Willow Energy Corporation, resulting in D3 being the holder of 100% of the issued share capital in MEPL;

- 1.7.2. The MEPL ER315 was renewed on 15 March 2022 and subsists until 14 March 2024 (unless renewed further). Therefore, the MEPL ER315 is valid and in force. There is no indication that the MEPL ER315 has been withdrawn or suspended, or is subject to any pending appeals or the like, and D3 has advised that it is not aware of any pending or threatened suspension or cancellation of the MEPL ER315, or any reason why any suspension or cancellation proceedings may be threatened or initiated;
- 1.7.3. At present and as evident from there being no ongoing land use access or dispute, MEPL appears to have unhindered access to the properties subject to the MEPL ER315. MEPL's land use and access rights come from the land access and use agreements which summarise further below, and its statutory rights of access to and use of the land provided for in section 5<sup>5</sup> of the Mineral and Petroleum Resources Development Act, 2002 (**MPRDA**); and
- 1.7.4. MEPL in our view is not in any material contravention of, or non-compliant with, any of the terms, conditions, and/or obligations imposed by the South African Department of Mineral Resources and Energy (**DMRE**) or PASA in relation to the MEPL ER315.
- 1.8. In respect of the MEPL ER341 Application, this Report confirms that:
  - 1.8.1. The MEPL ER341 Application is still in "*application phase*", and thus, has not been granted or rejected by PASA, and so MEPL does not at this point have or hold any rights in respect of this application (other than the right to have this application granted on the basis that the relevant statutory requirements set out in the MPRDA are complied with); and
  - 1.8.2. There is no reason that the application may be refused because an exploration right must be granted if the applicant meets the requirements set out in sections 79 and 80 of the MPRDA (set out in paragraph 2 of the section entitled "*GENERAL LEGISLATIVE OVERVIEW FOR PURPOSES OF THIS REPORT*" below). Further, MEPL is a current holder of an exploration right and its competency is not in doubt. D3 has also confirmed that no regulatory authority has to date raised any concern regarding the grant of the MEPL ER341 Application.
- 1.9. In respect of the MEPL TCP Applications, this Report particularly confirms that:
  - 1.9.1. The MEPL TCP Applications have been "*granted*" by PASA on 23 October 2023, but the permits themselves have not yet been notarially executed. On the basis that these applications were

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<sup>5</sup> Section 5 of the MPRDA states "Subject to [the MPRDA], any holder of a ... exploration right ... may - (a) enter the land to which such right relates together with his or her employees, and bring onto that land any plant, machinery or equipment and build, construct or lay down any surface, underground or under sea infrastructure which may be required for the purpose of ... exploration, ...; (b) ... explore ... , ... , for his or her own account on or under that land for the ... petroleum for which such right has been granted; (c) remove and dispose of any such mineral found during the course of ... exploration ... , ...; ... (d) subject to the National Water Act, 1998 (Act No. 36 of 1998), use water from any natural spring, lake, river or stream, situated on, or flowing through, such land or from any excavation previously made and used for ... exploration ... purposes, or sink a well or borehole required for use relating to ... exploration ... on such land; and (e) carry out any other activity incidental to ... exploration ... operations, which activity does not contravene the provisions of [the MPRDA]".

only granted on 23 October 2023, there has not in our view been any delay by MEPL in the notarial execution process; and

- 1.9.2. Provided that MEPL complies with those requirements set out in the grant letters (as set out in paragraph 3 of the Explanatory Notes), the permits should be notarially executed and thereafter recorded in the MPTR0.
- 1.10. We have also been advised by D3 that the exploration activities that MEPL intends to undertake over the two years following D3's listing on ASX will be on the areas of the MEPL ER315 in respect of which MEPL has signed land access and use agreements, being the following farms (i) Blomskraal 216; (ii) Deelfontein 373; (iii) Geluksburg; (iv) Palmietfontein 229; (v) Détente 744; and Nootgedacht, in respect of which MEPL has unhindered access to undertake on-ground exploration activities permitted by the MEPL ER315.

## **2. Information related to the Tenements**

- 2.1. In our opinion, the Schedule contains a statement as at 31 October 2023 of:
  - 2.1.1. The type of title, registered holder, and status of each of the Tenements; and
  - 2.1.2. In the case of the ungranted Tenements, the status of the application for that title.

## **3. Assumptions and qualifications**

- 3.1. For the purposes of this Report it should be noted that:
  - 3.1.1. A search of the register at the MPTR0 will not reveal any enforcement, suspension or cancellation proceedings underway, nor will it reveal whether the issue of the right or permit has been appealed or taken on review;
  - 3.1.2. Any third party who believes that he/she/it has a competing right or permit, or who simply contends that the proper procedures were not followed in the grant of the right or permit (such as an affected landowner or third party environmental non-governmental organisation), may seek to have the issue or grant of the right or permit set aside through an internal appeal or judicial review proceedings. D3 has however advised that it is not aware of any such actual or potential proceedings and the Tenement documents that we have reviewed do not show any such proceedings being threatened or having been initiated;
  - 3.1.3. We have assumed but not independently verified:
    - 3.1.3.1. That the information provided to us by D3 and/or MEPL (including all persons who have provided the information for and on behalf of D3 and/or MEPL), is correct and up to date as at the date it was received by us;

- 3.1.3.2. The authenticity of all signatures, seals, and dates, and of any stamp duty endorsement or marking upon copies of any documents provided to us, and any other documents reviewed;
- 3.1.3.3. The completeness, and conformity to originals, of all copies of documents submitted to or otherwise received by us;
- 3.1.3.4. That each of the parties to the respective documents has the requisite capacity, power and authority and is lawfully able to enter into, to exercise its rights and to perform its obligations under each of the documents to which it is a party;
- 3.1.3.5. That MEPL and any other South African entities referred to in this Report have been duly incorporated and registered in the Republic of South Africa in terms of the Companies Act, 1973 and/or the Companies Act, 2008, and are in good standing;
- 3.1.3.6. That the documents provided to us are comprehensive and complete, and constitute all of the documentation which is available and necessary for us to consider to provide this Report;
- 3.1.3.7. That none of the parties to the documents are or have been subject to or responsible for any duress or undue influence, misrepresentation, mistake, corruption, collusion or any other circumstances that in law (whether in the Republic of South Africa or elsewhere) would or may render any of the documents void and/or unenforceable;
- 3.1.3.8. As regards the legality, validity, binding effect and enforceability in the Republic of South Africa of obligations, agreements, documents, matters or things referred to hereunder, that same are not illegal, invalid, non-binding or unenforceable under or by virtue of any applicable laws of any jurisdiction other than the Republic of South Africa;
- 3.1.3.9. The accuracy of any and all representations expressed in or implied by any of the Tenement documents and made available by D3 and/or MEPL to Bowmans for purposes of rendering this Report;
- 3.1.3.10. That no review applications or proceedings have been instituted for the review or setting aside of any of the documents reviewed;
- 3.1.3.11. That no proceedings have been instituted and no other steps have been taken for the winding-up, provisional or final liquidation of or for the appointment of an administrator, judicial manager or liquidator in respect of or in relation to D3 and/or MEPL, and any other South African entities referred to herein; and
- 3.1.3.12. That no order has been made or issued by a Court of any other similar competent authority in relation to the winding-up, liquidation, administration or judicial management of D3 and/or MEPL, and any other South African entities referred to herein.

- 3.2. This Report is also subject to the following qualifications:
- 3.2.1. The holding of the Tenements by MEPL is subject to compliance with the MPRDA
  - 3.2.2. There may be agreements with affected communities or other third parties of which we are not aware;
  - 3.2.3. We have premised our views on the face of the information and documents that we have reviewed and interviews that we have had with D3 representatives;
  - 3.2.4. The information in the Schedule is accurate as at 31 October 2023. We do not comment on whether any changes have occurred in respect of the Tenements between this date and the date of this Report;
  - 3.2.5. This Report is based only upon the information and materials which are described in Report. There may be additional information and materials (of which we are unaware) which contradict or qualify that which we have described in this Report;
  - 3.2.6. This Report relates only to the laws of the Republic of South Africa in force as at the date of this Report, and we do not express or imply any opinion as to the laws at any other time or of any other jurisdiction;
  - 3.2.7. In the performance of our enquiries for this Report, we have acted on D3 and MEPL's written and oral instructions as to the manner and extent of the enquiries to be conducted; and
  - 3.2.8. This Report is strictly limited to the matters it deals with, and does not extend by implication or otherwise to any other matter.

#### **4. Consents**

- 4.1. This Report has been prepared only for the purposes of the Prospectus and is not to be relied on or used for any other purpose.
- 4.2. Bowmans consents to being named in the Prospectus as being responsible for the preparation of this Report. Bowmans has provided its consent to the issue of the Prospectus with the inclusion of this Report, and shall not withdraw such consent prior to the date of lodgement.
- 4.3. Except for this Report, or as otherwise provided, Bowmans:
  - 4.3.1. Has not in any way authorised or caused the issue of the Prospectus;
  - 4.3.2. Is not responsible for any matter included in, or omitted from, the Prospectus;
  - 4.3.3. Makes no representation or warranty, either expressed or implied, with respect to completeness or accuracy of the information contained in the Prospectus; and

4.3.4. Disclaims liability to any person in respect of any statement included in or omitted from the Prospectus.

**5. Disclosure of interest**

Bowmans will be paid normal and usual professional fees for the preparation of this Report and related matters. Other than in respect of its professional fees, Bowmans and its partners have no interest in the promotion of D3 and/or MEPL.

**6. Benefit**

- 6.1. This Report has been provided solely for the benefit of D3 and its directors in connection with the disclosure obligations associated with listing of D3 on the ASX. This Report may not (in whole or in part) be used, referred to in, or relied upon for any other purpose, without the express prior written consent of Bowmans, provided except that reference may be made to this Report in any documentation reasonably required for the purpose of the listing (including the Prospectus) of D3 on the ASX.
- 6.2. This Report is strictly limited to the matters stated in it, and does not apply by implication or otherwise, any other matters.

Yours faithfully



**Bowman Gilfillan Incorporated**

per: Wandisile Mandlana / Ross Mc Lean

**SCHEDULE OF TENEMENTS – MOTUOANE ENERGY PROPRIETARY LIMITED**

HOLDER/ APPLICANT	PASA AND MPTR REGISTRATION NUMBER, AND RELEVANT DATES	MINERAL	EXPIRY DATE	TENEMENT DETAILS	SURFACE OWNER/ACCESS ARRANGEMENTS	NOTES
<b>MEPL ER315<sup>1</sup></b>						
MEPL	<b><u>First Renewal Period<sup>2</sup></u></b>					
	<u>PASA reference number:</u> ER12/3/315/1A  <u>Grant date:</u> 15 March 2022  <u>Notarial execution date:</u> 10 July 2023  <u>MPTRO registration date:</u> N/A <sup>3</sup>  <u>MPTRO registration number:</u> N/A	Gas  Petroleum  Helium	14 March 2024	Approximately 119311ha comprising of the farm Zeeland No. 8 and other farms, situated in the Magisterial Districts of Kroonstad, Odendaalsrus, Theunissen, Ventersburg, and Winburg, in the Free State province	Section 5 of the MPRDA provides "statutory" rights of access to a holder. These include the right to: <ul style="list-style-type: none"> <li>Enter the land to which the right relates together with his or her employees, and bring onto that land any plant, machinery or</li> </ul>	The MEPL ER315 is currently being exercised in terms of the "First Renewal Period", which expires on 14 March 2024.  We understand from MEPL that it will timeously make a renewal application in terms of section 81 of the MPRDA to exercise the MEPL ER315 in terms of the "Second Renewal Period".

<sup>1</sup> We only set out the "First Renewal Period" in respect of the MEPL ER315 as this is the period of the MEPL ER315 currently being exercised. MEPL has already exercised the MEPL ER315 in terms of the "initial Period", and was granted the renewal of the MEPL ER315 and thus, it is now being exercised in terms of the "First Renewal Period".

<sup>2</sup> Defined in the exploration right as "the first renewal of this exploration right granted in terms of section 81 of the [MPRDA] read together with Regulation 33".

<sup>3</sup> The notarial deed of renewal has been recently notarially executed and it is not uncommon for deeds of renewal to take time to be registered in the MPTR.



HOLDER/ APPLICANT	PASA AND MPTRO REGISTRATION NUMBER, AND RELEVANT DATES	MINERAL	EXPIRY DATE	TENEMENT DETAILS	SURFACE OWNER/ACCESS ARRANGEMENTS	NOTES
					<p>equipment and build, construct or lay down any surface, underground or under sea infrastructure which may be required for the purpose of exploration or production, as the case may be;</p> <ul style="list-style-type: none"> <li>Explore or produce, as the case may be, for his or her own account on or under that land for the petroleum for which such right has been granted;</li> </ul>	<p>MEPL has made an application for Ministerial consent in terms of section 102<sup>4</sup> of the MPRDA to amend the exploration work programme. This amendment relates to the number of wells to be drilled in the First Renewal Period and from the documents provided to us we understand that <i>"MEPL is to imminently commence the drilling of an initial 2 wells"</i>. There is no indication of when this application will be granted or refused and this process is also not <i>"regulated"</i>. This amendment will only be of</p>

<sup>4</sup> Section 102 of the MPRDA states "A ... exploration right... exploration work programme ... may not be amended or varied (including by extension of the area covered by it or by the additional of minerals or a shares or seams, mineralised bodies or strata, which are not at the time the subject thereof) without the written consent of the Minister".

HOLDER/ APPLICANT	PASA AND MPTRO REGISTRATION NUMBER, AND RELEVANT DATES	MINERAL	EXPIRY DATE	TENEMENT DETAILS	SURFACE OWNER/ACCESS ARRANGEMENTS	NOTES
					<ul style="list-style-type: none"> <li>remove and dispose of any such mineral found during the course of exploration or production, as the case may be; and</li> <li>carry out any other activity incidental to exploration or production operations, which activity does not contravene the provisions of the MPRDA.</li> </ul> <p>In addition, we have had sight of executed land use and access agreements in respect of the farms:</p> <ul style="list-style-type: none"> <li>Blomskraal 216;</li> </ul>	force and effect when the relevant notarial deed of amendment/variation is notari ally executed following receipt of the Ministerial consent in terms of section 102 of the MPRDA.

HOLDER/ APPLICANT	PASA AND MPTRO REGISTRATION NUMBER, AND RELEVANT DATES	MINERAL	EXPIRY DATE	TENEMENT DETAILS	SURFACE OWNER/ACCESS ARRANGEMENTS	NOTES
					<ul style="list-style-type: none"> <li>• Deelfontein 373;</li> <li>• Geluksburg;</li> <li>• Palmietfontein 229;</li> <li>• Détente 744 and</li> <li>• Nootgedacht.</li> </ul> <p>We briefly discuss the land access and use rights in the Explanatory Notes below from paragraph 1.9.</p> <p>Land use and access arrangements in respect of the other farms are unknown.</p>	
<b>MEPL ER341 Application</b>						
MEPL	<u>PASA reference number:</u> 12/3/341 ER	Petroleum Natural Gas	N/A	The farm Zeeland No. 8 and others, situated in the Magisterial Districts of	N/A	We understand that the MEPL 341 Application is still being processed by PASA

HOLDER/ APPLICANT	PASA AND MPTRO REGISTRATION NUMBER, AND RELEVANT DATES	MINERAL	EXPIRY DATE	TENEMENT DETAILS	SURFACE OWNER/ACCESS ARRANGEMENTS	NOTES
	<u>Acceptance date:</u> 28 February 2018  <u>Grant date:</u> N/A  <u>Notarial execution date:</u> N/A  <u>MPTRO registration date:</u> N/A  <u>MPTRO registration number:</u> N/A	Gas  Gas Condensate		Hennenman, Kroonstad, Ventersburg, and Odendaalsrus, in the Free State province.		and has only been accepted.
<b>MEPL TCP Applications</b>						
12/2/235						
MEPL	<u>PASA reference number:</u> 12/2/235  <u>Acceptance date:</u> Unknown  <u>Grant date:</u> 23 October 2023	Petroleum	N/A	In respect of various farms situated in the Magisterial Districts of Theunissen, Winburg, Ventersburg, Virginia, Hennenman, Senekal, Kroonstad, and	N/A	We understand that the MEPL TCP Applications have been recently granted by PASA but the permits themselves have not yet been notarially executed.

HOLDER/ APPLICANT	PASA AND MPTRO REGISTRATION NUMBER, AND RELEVANT DATES	MINERAL	EXPIRY DATE	TENEMENT DETAILS	SURFACE OWNER/ACCESS ARRANGEMENTS	NOTES
	<u>Notarial execution date:</u> N/A <sup>5</sup>  <u>MPTRO recording date:</u> N/A <sup>6</sup>  <u>MPTRO recording number:</u> N/A <sup>7</sup>			Welkom, in the FreeState province.		We also understand that the notarial execution process has commenced and this is likely to happen soon.
12/2/240						
MEPL	<u>PASA reference number:</u> 12/2/240  <u>Acceptance date:</u> 23 June 2023  <u>Grant date:</u> 23 October 2023	Petroleum	N/A	In respect of various farms situated in the Magisterial District of Hennenman, in the Free State province.	N/A	We understand that the MEPL TCP Applications have been recently granted by PASA but the permits themselves have not yet been notarially executed.  We also understand that the notarial execution process

<sup>5</sup> The MEPL TCP Applications were recently granted on 23 October 2023 and so as at the date of this Report there has been no unreasonable or undue delay in the notarial execution of these TCPs. We understand that these TCPs will be notarially executed within the statutorily prescribed timeframes.

<sup>6</sup> Section 78(2)(c) of the MPRDA requires that the holder of a TCP "submit a [TCP] for recording in the [MPTRO]". No prescribed timeframe is provided but the accepted practice in South Africa is to do so within 60 days of the date of notarial execution of the right or permit.

<sup>7</sup> This obligation in law has not yet arisen as the MEPL TCP Applications are still in the "notarial execution" phase.

HOLDER/ APPLICANT	PASA AND MPTRO REGISTRATION NUMBER, AND RELEVANT DATES	MINERAL	EXPIRY DATE	TENEMENT DETAILS	SURFACE OWNER/ACCESS ARRANGEMENTS	NOTES
	<u>Notarial execution</u> <u>date:</u> N/A <sup>8</sup>  <u>MPTRO recording date:</u> N/A <sup>9</sup>  <u>MPTRO recording</u> <u>number:</u> N/A <sup>10</sup>					has commenced and this is likely to happen soon.

<sup>8</sup> The MEPL TCP Applications were recently granted on 23 October 2023 and so as at the date of this Report there has been no unreasonable or undue delay in the notarial execution of these TCPs. We understand that these TCPs will be notarially executed within the statutorily prescribed timeframes.

<sup>9</sup> Section 78(2)(c) of the MPRDA requires that the holder of a TCP "submit a [TCP] for recording in the [MPTRO]". No prescribed timeframe is provided but the accepted practice in South Africa is to do so within 60 days of the date of notarial execution of the right or permit.

<sup>10</sup> This obligation in law has not yet arisen as the MEPL TCP Applications are still in the "notarial execution" phase.

## GENERAL LEGISLATIVE OVERVIEW FOR PURPOSES OF THIS REPORT

### 1. General overview of the MPRDA

- 1.1. The MPRDA is currently the primary legislation which regulates the grant, renewal and exercise of, amongst other things, TCPs, exploration rights, and production rights.
- 1.2. This may change soon because on 26 October 2023 the National Assembly of the Parliament of South Africa passed the Upstream Petroleum Resources Development Bill (**Bill**) which is now before the South African National Council of Provinces (being the “second house” of Parliament) for concurrence. The Bill is not yet law since it still requires the concurrence of the National Council of Provinces and the President to sign it into law, whereafter it will become the primary relevant statute. Whilst there is no indication of when or if the Bill will be brought into law, even if it is soon, it has detailed transitional provisions including provisions that state:
  - 1.2.1. Any pending application for a TCP, exploration, production right or renewal for an exploration right or production right, lodged in terms of the MPRDA but not finalised immediately before this Act took effect, must be finalised in terms of the MPRDA;<sup>11</sup>
  - 1.2.2. A TCP in respect of which an application for an exploration right has been lodged, or an exploration right in respect of which a production right has been lodged in terms of the MPRDA when this Act takes effect, remains in force until such a right has been granted or refused, notwithstanding its expiry date;<sup>12</sup>
  - 1.2.3. A TCP in force immediately before this Act takes effect, or after this Act takes effect, continues to be in force until it expires, subject to the terms and conditions under which it was issued;<sup>13</sup>
  - 1.2.4. An exploration right in force immediately before this Act takes effect, or after this Act takes effect, continues to be in force until the expiry of the term (initial, first, second or third renewal term) that was in force when this Act came into effect, subject to the terms and conditions under which it was granted;<sup>14</sup> and
  - 1.2.5. A holder of an exploration right referred to in subitem (1) – (a) has the exclusive right to convert such exploration right in respect of the area to which it relates to a petroleum right for exploration phase or production phase; and (b) must apply for conversion to a petroleum right before the expiry of the term referred to in subitem (1), failing which the exploration right in question will cease to exist;<sup>15</sup>
- 1.3. In the circumstance, the relevant law is the MPRDA whose objects are, amongst others, to:
  - (i) recognise the internationally accepted right of the State to exercise sovereignty over all the mineral and petroleum resources within South Africa; (ii) give effect to the principle of the State's custodianship of South Africa's mineral and petroleum resources; (iii) promote equitable access to South Africa's mineral and petroleum resources to all the people of South Africa; (iv) provide for security of tenure in respect of, amongst others, exploration and production operations; and (v) give effect to section 24<sup>16</sup> of the Constitution of the Republic of South Africa, 1996, by ensuring that South Africa's mineral and petroleum resources are developed in an orderly and

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<sup>11</sup> See item 3(1) of Schedule 1 to the Bill.

<sup>12</sup> See item 3(2) of Schedule 1 to the Bill.

<sup>13</sup> See item 7(1) of Schedule 1 to the Bill.

<sup>14</sup> See item 8(1) of Schedule 1 to the Bill.

<sup>15</sup> See item 8(2) of Schedule 1 to the Bill.

<sup>16</sup> Section 24 of the Constitution of the Republic of South Africa, 1996, states “Everyone has the right – (a) to an environment that is not harmful to their health or wellbeing; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.



ecologically sustainable manner while promoting justifiable social and economic development.<sup>17</sup>

- 1.4. In terms of section 3(1) of the MPRDA, mineral and petroleum resources are the common heritage of all the people of South Africa and the State is the custodian thereof for the benefit of all South Africans. As the custodian, the State is empowered to, amongst other things, grant, issue, refuse, control, administer and manage, amongst other things, any TCP, exploration right, and production right.<sup>18</sup>
- 1.5. The MPRDA embodies a "*first come first serve*" principle insofar as applications for rights, permits, and permissions are concerned. This essentially means that applications for rights, permits, and permissions will be dealt with and processed in order of receipt.<sup>19</sup>
- 1.6. An exploration right or production right granted in terms of the MPRDA and registered in the MPTRO in terms of the Mining Titles Registration Act, 1967 is a "*limited real right*" in respect of the mineral or petroleum and the land to which such right relates.<sup>20</sup> Stated differently, it is only upon this act of "*registration*" in the MPTRO that the holder obtains a "*limited real right*". Prior to this act of "*registration*" the holder of such a right is said to have only "*personal rights*". The act of "*registration*" is however an administrative step and does not have any effect on the validity of the relevant right.
- 1.7. The holder of an exploration right or production right is entitled to the rights referred to in section 5 of the MPRDA (which rights are set out directly below in paragraph 1.8) and such other rights as may be granted to, acquired by, or conferred upon such holder under the MPRDA or any other law.<sup>21</sup> It is also important to note in this regard that:
  - 1.7.1. Section 69(2)(a) of the MPRDA states "*For the purposes of this Chapter, sections 9, 10, 11, 12, 21, 26, 29, 30, 37, 38A, 38B, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 64 and Chapter 7 and Schedule II apply with the necessary changes*"; and
  - 1.7.2. Section 69(2)(b) of the MPRDA states "*Any reference in the provisions referred to in paragraph (a) to – (i) minerals, must be construed as a reference to petroleum<sup>22</sup>; (ii) mining, must be construed as a reference to production; (iii) mining area, must be construed as a reference to production area; (iv) mining rights, must be construed as a reference to production rights; (v) prospecting, must be construed as a reference to exploration; (vi) prospecting area, must be construed as a reference to exploration area; (vii) prospecting rights, must be construed as a reference to exploration rights; and (viii) reconnaissance permission, must be construed as a reference to reconnaissance permit*".
- 1.8. To this end, in terms of section 5 of the MPRDA, a holder of a right or permit may, amongst other things:
  - 1.8.1. Enter the land to which such right relates together with his or her employees, and bring onto that land any plant, machinery or equipment and build, construct or lay down any surface, underground or under sea infrastructure which may be required for the purpose of exploration or production, as the case may be;<sup>23</sup>
  - 1.8.2. Explore or produce, as the case may be, for his or her own account on or under that land for the petroleum for which such right has been granted;<sup>24</sup>

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<sup>17</sup> See section 2 of the MPRDA.

<sup>18</sup> See section 3(2)(a) of the MPRDA.

<sup>19</sup> See section 9 of the MPRDA.

<sup>20</sup> See section 5(1) of the MPRDA.

<sup>21</sup> See section 5(2) of the MPRDA.

<sup>22</sup> "Petroleum" is defined in the MPRDA as "*any liquid, solid hydrocarbon or combustible gas existing in a natural condition in the earth's crust and includes any such liquid or solid hydrocarbon or combustible gas, which gas has in any manner been returned to such natural condition, but does not include coal, bituminous shale or other stratified deposits from which oil can be obtained by destructive distillation or gas arising from a marsh or other surface deposit*".

<sup>23</sup> See section 5(3)(a) of the MPRDA.

<sup>24</sup> See section 5(3)(b) of the MPRDA.

- 1.8.3. Remove and dispose of any such mineral found during the course of exploration or production, as the case may be;<sup>25</sup>
- 1.8.4. Subject to the National Water Act, 1998 (**NWA**), use water from any natural spring, lake, river or stream, situated on, or flowing through, such land or from any excavation previously made and used for exploration or production purposes, or sink a well or borehole required for use relating to exploration or production on such land;<sup>26</sup> and
- 1.8.5. Carry out any other activity incidental to exploration or production operations, which activity does not contravene the provisions of the MPRDA.<sup>27</sup>
- 1.9. In the context of title, the MPRDA prohibits a person from prospecting for or removing, conducting technical co-operation operations, reconnaissance operations, exploring for and producing any mineral or petroleum, or commencing with any work incidental thereto on any area without: (i) an environmental authorisation (**EA**); (ii) a reconnaissance permission, permission to remove, TCP, reconnaissance permit, exploration right or production right, as the case may be; and (iii) giving the landowner or lawful occupier of the land in question at least 21 days written notice.<sup>28</sup>
- 1.10. Section 47 of the MPRDA empowers the Minister of Mineral Resources and Energy (**Minister**) to suspend or cancel rights, permits, or permissions, if the holder thereof:
  - 1.10.1. Is conducting any exploration or production operation in contravention of the MPRDA;
  - 1.10.2. Breaches any material term or condition of such right, permit or permission;
  - 1.10.3. Is contravening any condition in the EA; and/or
  - 1.10.4. Has submitted inaccurate, false, fraudulent, incorrect or misleading information for the purposes of the application or in connection with any matter required to be submitted under the MPRDA.<sup>29</sup>
- 1.11. Before suspending or cancelling a right, permit, or permission, the Minister is required to follow trite and well-enshrined South African administrative law principles which includes, in the main: (i) giving written notice to the holder indicating the intention to suspend or cancel the right or permit; (ii) setting out the reasons why the Minister is considering suspending or cancelling the right or permit; (iii) affording the holder a reasonable opportunity to show why the right or permit should not be suspended or cancelled; and (iv) notifying the mortgagee, if any, of the right or permit concerned of the Minister's intention to suspend or cancel such right or permit.<sup>30</sup> As such, a holder will always have an opportunity to consider and respond to any intention by the Minister to suspend or cancel a right or permit. This also conforms with the trite *audi alteram partem* principle in the context of "natural justice".
- 1.12. Similarly to section 47 of the MPRDA, section 93 of the MPRDA empowers the Minister to make the following orders and/or provide instructions, if it is found that a contravention or suspected contravention of, or failure to comply with: (i) any provision of the MPRDA; or (ii) any term or condition of any right or permit or any other law, or an EA issued, has occurred or is occurring on the relevant exploration or production area, or place where exploration or production operations, or processing operations are being conducted:
  - 1.12.1. An order to the effect that the holder of the relevant right or permit, or the person in charge of such area, any person carrying out or in charge of the carrying out of such activities or

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<sup>25</sup> See section 5(3)(c) of the MPRDA.

<sup>26</sup> See section 5(3)(d) of the MPRDA.

<sup>27</sup> See section 5(3)(e) of the MPRDA.

<sup>28</sup> See section 5A of the MPRDA.

<sup>29</sup> See section 47(1) of the MPRDA.

<sup>30</sup> See section 47(2) of the MPRDA.

operations or the manager, official, employee or agent of such holder or person to, take immediate rectifying steps; or

- 1.12.2. An order to the effect that the exploration, production, or processing operations or part thereof be suspended or terminated, and give such other instructions in connection therewith as may be necessary.
- 1.13. The MPRDA also embodies a "*compensation mechanism*" in section 54. This is applied where a holder of a right, permit, or permission is prevented from commencing or conducting any reconnaissance, exploration, or production operations because the owner or the lawful occupier of the land in question: (i) refuses to allow such holder to enter the land; (ii) places unreasonable demands in return for access to the land; or (iii) cannot be found in order to apply for access. This mechanism is often utilised in the case of these scenarios arising in an effort by a holder of such a right, permit, or permission to obtain secure access to land for purposes of conducting its operations.
- 1.14. Lastly, a right, permit, and permission lapses and thus expires *ex lege* in terms of the MPRDA whenever:<sup>31</sup>
  - 1.14.1. It expires;
  - 1.14.2. The holder thereof is deceased and there are no successors in title;
  - 1.14.3. A company or close corporation is deregistered in terms of the relevant South African statutes and no application has been made or was made to the Minister for the consent in terms of section 11 of the MPRDA<sup>32</sup>, or such permission in terms of section 11 of the MPRDA has been refused;
  - 1.14.4. Save for cases referred to in section 11(3)<sup>33</sup> of the MPRDA, the holder is liquidated or sequestrated;
  - 1.14.5. It is cancelled in terms of section 47<sup>34</sup> of the MPRDA; or
  - 1.14.6. It is abandoned.

## **2. Overview of the applicable health & safety regime**

- 2.1. The grant of amongst other things, exploration and production rights are subject to the applicant having the ability to comply with the relevant provisions of the Mine Health and Safety Act, 1996 (**MHSA**).<sup>35</sup>
- 2.2. The Mine Health and Safety Inspectorate of the DMRE which is established in terms of the MHSA is responsible for the overall regulation and safeguarding of the health and safety of mine employees, as well as the residents of areas affected by mining operations.
- 2.3. The Chief Inspector of Mines has extensive authority and may impose directives to prohibit work in certain areas.<sup>36</sup> Stoppages may be extended to entire mines if the inspectorate has valid reason.

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<sup>31</sup> See section 56 of the MPRDA.

<sup>32</sup> Section 11 of the MPRDA deals with the transferability and encumbrances of rights.

<sup>33</sup> Section 11(3) of the MPRDA states "*The consent contemplated in subsection (1) is not required in respect of the encumbrance by mortgage contemplated in subsection (1) of right or interest as security to obtain a loan or guarantee for the purpose of funding or financing a prospecting or mining project by – (a) any bank, as defined in the Banks Act, 1990; or (b) any other financial institution approved for that purpose by the Registrar of Banks referred to in the Banks Act, 1990, on request by the Minister, if the bank or financial institution in question undertakes in writing that any sale in execution or any other disposal pursuant to the foreclosure of the mortgage will be subject to the consent in terms of subsection (1)*".

<sup>34</sup> See paragraph 1.10 above for a discussion on section 47 of the MPRDA.

<sup>35</sup> See for example, sections 80(1)(d) and 84(1)(d) of the MPRDA.

<sup>36</sup> See for example section 55(1) of the MHSA which states "*If an inspector has reason to believe that an employer has failed to comply with any provision of [the MHSA], the inspector may instruct that employer in writing to take any steps that the inspector – (a) considers necessary to comply with the provision; and (b) specifies in the instruction*".

- 2.4. According to the requirements of the MHSA, companies and mines must have agreements in place that regulate health and safety in the workplace, providing planning, decision-making, training, and auditing oversight.
- 2.5. We have also been advised that MEPL has had no health and safety issues or concerns over the past three years, in that there have been no fatalities and serious disabling injuries.
- 2.6. MEPL also provided us with copies of its health and safety policies, and advised us that *"with [MEPL's] current drilling, [MEPL's] contractors and service providers were provided all these documents and made aware of the need to comply with their contents prior to start up"*.
- 2.7. As such there are no health and safety concerns in respect of MEPL's operations under the MEPL ER315 as at the date of this Report.

### **3. Exploration rights**

- 3.1. An exploration right is granted in terms of section 80 of MPRDA and allows the holder to carry out the entire value chain of petroleum exploration such as, acquisition and processing of new geological or geophysical data, reprocessing of existing geological or geophysical data, and any other related activity to define a trap to be tested by drilling, logging and testing, including well appraisal activities.
- 3.2. A granted exploration right:
  - 3.2.1. Is subject to the prescribed terms and conditions;<sup>37</sup>
  - 3.2.2. Is valid for the period specified in the right, which period may not exceed three years;<sup>38</sup>
  - 3.2.3. May be renewed for a maximum of three periods not exceeding two years each;<sup>39</sup> and
  - 3.2.4. In respect of which an application for renewal has been lodged shall, notwithstanding its expiry date, remain in force until such time as such renewal application has been granted or refused.<sup>40</sup>
- 3.3. An application for an exploration right must be lodged: (i) at the office of the designated agency; (ii) in the prescribed manner; and (iii) together with the prescribed non-refundable application fee.<sup>41</sup>
- 3.4. Such an application must be accepted if: (i) the requirements contemplated in section 79(1) of the MPRDA are met; (ii) no other person holds a TCP, exploration right or production right for petroleum over any part of the area; and (iii) no prior application for a TCP, exploration right or production right over the same mineral, land and area applied for has been accepted.<sup>42</sup>
- 3.5. If such an application is accepted, the applicant is then required to: (i) consult in the prescribed manner with the landowner, lawful occupier and any interested and affected party and include the results of the consultation in the relevant environmental report as required in terms of Chapter 5<sup>43</sup> of the National Environmental Management Act, 1998 (**NEMA**); and (ii) submit these reports within a period of 120 days from the date of the notice to consult.<sup>44</sup>
- 3.6. Thereafter, an exploration right must be granted if: <sup>45</sup>

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<sup>37</sup> See section 80(5) of the MPRDA.

<sup>38</sup> See section 80(5) of the MPRDA.

<sup>39</sup> See section 81(4) of the MPRDA.

<sup>40</sup> See section 81(5) of the MPRDA.

<sup>41</sup> See section 79(1) of the MPRDA.

<sup>42</sup> See section 79(2) of the MPRDA.

<sup>43</sup> Chapter 5 of NEMA deals with "integrated environmental management" from an environmental point of view.

<sup>44</sup> See section 79(4) of the MPRDA.

<sup>45</sup> See section 80(1) of the MPRDA.

- 3.6.1. The applicant has access to financial resources and has the technical ability to conduct the proposed exploration operation optimally in accordance with the exploration work programme (**EWP**);
- 3.6.2. The estimated expenditure is compatible with the intended exploration operation and duration of the EWP;
- 3.6.3. The Minister has issued an EA;
- 3.6.4. The applicant has the ability to comply with the relevant provisions of the MHSA;
- 3.6.5. The applicant is not in contravention of any relevant provision of the MPRDA;
- 3.6.6. The applicant has complied with the terms and conditions of the TCP, if applicable; and
- 3.6.7. The granting of such right will further the objects referred to in section 2(d)<sup>46</sup> and (f)<sup>47</sup> of the MPRDA.
- 3.7. These requirements are peremptory, and the Minister must refuse to grant an exploration right if the application does not meet all of these requirements.<sup>48</sup> Conversely, if an applicant does meet all of these requirements, then the Minister must grant the exploration right.
- 3.8. An exploration right holder has the following rights and obligations in terms of section 82 of the MPRDA:
  - 3.8.1. Those rights set out in section 5 of the MPRDA (the MPRDA section 5 rights are set out in paragraph 1.8 above);
  - 3.8.2. The exclusive right to apply for and be granted a production right in respect of the petroleum and the exploration area in question;
  - 3.8.3. Subject to section 81<sup>49</sup> of the MPRDA, the exclusive right to apply for and be granted a renewal of an exploration right in respect of petroleum and the exploration area in question;
  - 3.8.4. The exclusive right to remove and dispose of any petroleum samples found during the course of exploration, subject to section 20<sup>50</sup> of the MPRDA;<sup>51</sup>
  - 3.8.5. May only transfer and encumber the exploration right, subject to section 11<sup>52</sup> of the MPRDA;
  - 3.8.6. Lodge such right within 60 days for registration at the MPTRD;
  - 3.8.7. Continuously and actively conduct exploration operations in accordance with the approved EWP;
  - 3.8.8. Comply with the terms and conditions of the exploration right, the relevant provisions of the MPRDA, and any other law;

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<sup>46</sup> Section 2(d) of the MPRDA states "The objects of [the MPRDA] are to substantially and meaningfully expand opportunities for historically disadvantaged persons, including women and communities, to enter into and actively participate in the mineral and petroleum industries and to benefit from the exploitation of the nation's mineral and petroleum resources".

<sup>47</sup> Section 2(f) of the MPRDA states "The objects of [the MPRDA] are to promote employment and advance the social and economic welfare of all South Africans".

<sup>48</sup> See section 80(3) of the MPRDA.

<sup>49</sup> Section 81 of the MPRDA deals with an application for the renewal of an exploration right.

<sup>50</sup> Section 20 of the MPRDA deals with permission to remove and dispose of minerals or petroleum.

<sup>51</sup> Section 20 of the MPRDA states "(1) Subject to subsection (2), the holder of a prospecting right may only remove and dispose for his or her own account any [petroleum] found by such holder in the course of [exploration] operations conducted pursuant to such [exploration] right in such quantities as may be required to conduct tests on it or to identify or analyse it. (2) The holder of [an exploration] right must obtain the Minister's written permission to remove and dispose for such holder's own account of diamonds and bulk samples of any other minerals found by such holder in the course of [exploration] operations".

<sup>52</sup> Section 11 of the MPRDA deal with the transfer and encumbrance of rights in terms of the MPRDA.

- 3.8.9. Comply with the requirements of the approved environmental management plan;
  - 3.8.10. Pay the prescribed exploration fees to the designated agency; and
  - 3.8.11. Commence with exploration activities within 90 days from the effective date of the exploration right or such extended period as the Minister may authorise.
- 3.9. Insofar as the exclusive right to renew an exploration right is concerned, such a renewal application:
- 3.9.1. Must be lodged (i) at the office of the designated agency; (ii) in the prescribed manner; and (iii) together with the prescribed non-refundable application fee;<sup>53</sup>
  - 3.9.2. Must state: (i) the reasons and period for which the renewal is required; (ii) be accompanied by a detailed report reflecting the exploration results, the interpretation thereof and the exploration expenditure incurred; (iii) be accompanied by a report reflecting the extent of compliance with the conditions of the EA; and (iv) include a detailed EWP for the renewal period<sup>54</sup> and
  - 3.9.3. Must be granted by the Minister if it complies with sections 81(1)<sup>55</sup> and (2)<sup>56</sup> of the MPRDA, and the holder of the exploration right has complied with the: (i) terms and conditions of the exploration right and is not in contravention of any relevant provision of the MPRDA or any other law; (ii) EWP; and (iii) conditions of the EA.<sup>57</sup>

#### **4. Production rights**

- 4.1. We briefly discuss production rights in this section of the Report as we understand that it is MEPL's intention to apply for a production right on the back of and in terms of the exclusive right afforded to the holder of an exploration right to apply for and be granted a production right.<sup>58</sup> As at the date of this Report we understand that there is no pending application for a production right submitted by MEPL.
- 4.2. A production right is granted in terms of section 84 of the MPRDA, and allows the holder to conduct any operation, activity or matter that relates to the exploration, appraisal, development, and production of petroleum.
- 4.3. A granted production right:
  - 4.3.1. Is subject to the prescribed terms and conditions;<sup>59</sup>
  - 4.3.2. Is valid for the period specified in the right, which periods, each of which may not exceed 30 years;<sup>60</sup>
  - 4.3.3. May be renewed for further periods each of which shall not exceed 30 years at a time;<sup>61</sup> and

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<sup>53</sup> See section 81(1) of the MPRDA.

<sup>54</sup> See section 81(2) of the MPRDA.

<sup>55</sup> Section 81(1) of the MPRDA requires that an application for a renewal of an exploration right be lodged: (i) at the office of the designated agency; (ii) in the prescribed manner; and (iii) together with the prescribed non-refundable application fee.

<sup>56</sup> Section 81(2) of the MPRDA requires that an application for a renewal of an exploration right: (i) state the reasons and period for which the renewal is required; (ii) be accompanied by a detailed report reflecting the exploration results, the interpretation thereof and the exploration expenditure incurred; (iii) be accompanied by a report reflecting the extent of compliance with the conditions of the environmental authorisation; and (iv) include a detailed exploration work programme for the renewal period.

<sup>57</sup> See section 81(3) of the MPRDA.

<sup>58</sup> See section 82(1)(a) of the MPRDA.

<sup>59</sup> See section 84(4) of the MPRDA.

<sup>60</sup> See section 84(4) of the MPRDA.

<sup>61</sup> See section 85(4) of the MPRDA.



- 4.3.4. In respect of which an application for renewal has been lodged shall, notwithstanding its expiry date, remain in force until such time as such renewal application has been granted or refused.<sup>62</sup>
- 4.4. An application for a production right must be lodged: (i) at the office of the designated agency; (ii) in the prescribed manner; and (iii) together with the prescribed non-refundable application fee.<sup>63</sup>
- 4.5. Such an application must be accepted if: (i) the requirements contemplated in section 83(1) of the MPRDA are met; (ii) no other person holds a TCP, exploration right or production right for petroleum over any part of the area; and (iii) no prior application for a TCP, exploration right or production right over the same mineral, land and area applied for has been accepted.<sup>64</sup>
- 4.6. If such an application is accepted, the applicant is then required to: (i) consult in the prescribed manner with the landowner, lawful occupier and any interested and affected party and include the results of the consultation in the relevant environmental report as required in terms of Chapter 5 of NEMA; and (ii) submit these reports within a period of 120 days from the date of the notice to consult.<sup>65</sup>
- 4.7. Thereafter, a production right must be granted if:<sup>66</sup>
- 4.7.1. The applicant has access to financial resources and has the technical ability to conduct the proposed production operation optimally;
  - 4.7.2. The estimated expenditure is compatible with the intended production operation and duration of the production work programme (**PWP**);
  - 4.7.3. The production will not result in unacceptable pollution, ecological degradation or damage to the environment;
  - 4.7.4. The applicant has the ability to comply with the relevant provisions of the MHSA;
  - 4.7.5. The applicant is not in contravention of any relevant provision of the MPRDA;
  - 4.7.6. The applicant has complied with the terms and conditions of the exploration right, if applicable;
  - 4.7.7. The applicant has provided financially and otherwise for a prescribed social and labour plan;
  - 4.7.8. The petroleum can be produced optimally in accordance with the PWP;
  - 4.7.9. The granting of such right will further the object referred to in section 2(d) and (f) of the MPRDA and in accordance with the Charter contemplated in section 100<sup>67</sup> of the MPRDA and the prescribed social and labour plan.
- 4.8. A production right holder has the following rights and obligations in terms of section 86 of the MPRDA:

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<sup>62</sup> See section 85(5) of the MPRDA.

<sup>63</sup> See section 83(1) of the MPRDA.

<sup>64</sup> See section 83(2) of the MPRDA.

<sup>65</sup> See section 83(4) of the MPRDA.

<sup>66</sup> See section 84(1) of the MPRDA.

<sup>67</sup> The Charter referred to in this section is provided for in section 100(2) of the MPRDA, which states "To ensure the attainment of the Government's objectives of redressing historical, social and economic inequalities as stated in the Constitution, the Minister must within six months from the date on which this Act takes effect develop a broad-based socio-economic empowerment Charter that will set the framework for targets and time table for effecting the entry into and active participation of historically disadvantaged South Africans into the mining industry, and allow such South Africans to benefit from the exploitation of the mining and mineral resources and the beneficiation of such mineral resources". There is currently a third "iteration" of this Charter that is applicable in this regard. However, on 21 September 2021, the Pretoria High Court of South Africa in the case of *Minerals Council of South Africa v Minister of Mineral Resources and Energy and Others* (20341/19) [2021] ZAGPPHC 623; [2021] 4 All SA 836 (GP); 2022 (1) SA 535 (GP) (21 September 2021) declared this third "iteration" of this charter a "policy document", and reviewed and set aside a number of its provisions.



- 4.8.1. Those rights set out in section 5 of the MPRDA (these rights in terms of section 5 of the MPRDA have been set out in paragraph 1.8 above);
- 4.8.2. Subject to section 86(2)<sup>68</sup> of the MPRDA, the exclusive right to apply for and be granted renewal of the production right in respect of the petroleum area in question;
- 4.8.3. The exclusive right to remove and dispose of any petroleum found during the course of production;
- 4.8.4. May only transfer and encumber the production right, subject to section 11 of the MPRDA;
- 4.8.5. Lodge such right for registration at the MPTR0 within 60 days after the right has become effective;
- 4.8.6. Continuously and actively conduct production operations in accordance with the approved PWP;
- 4.8.7. Comply with the terms and conditions of the production right, the relevant provisions of the MPRDA and any other law;
- 4.8.8. Comply with the conditions of the EA and the prescribed social and labour plan;
- 4.8.9. In terms of any relevant law, pay the State royalties; and
- 4.8.10. Commence with production operations within one year from the date on which a production right becomes effective in terms of section 84(5)<sup>69</sup> or such extended period as the Minister may authorise.

## 5. TCPs

- 5.1. A TCP is issued in terms of section 77(1) of the MPRDA, and allows the holder to carry out desktop studies, acquire existing seismic and other data from other sources, but does not include any exploration activities.
- 5.2. An issued TCP is:<sup>70</sup>
  - 5.2.1. Subject to the prescribed terms and conditions;
  - 5.2.2. Valid for a period not exceeding one year;
  - 5.2.3. Not transferable; and
  - 5.2.4. Not renewable.
- 5.3. An application for a TCP must: (i) be lodged at the office of the designated agency; (ii) in the prescribed manner; and (iii) together with the prescribed non-refundable application fee.<sup>71</sup>
- 5.4. Such an application must be accepted if: (i) the requirements contemplated in section 76(1) of the MPRDA are met; (ii) no other person holds a TCP, exploration right or production right for

<sup>68</sup> Section 86(2) of the MPRDA states "The holder of a production right must – (a) lodge such right for registration at the [MPTR0] within 60 days after the right has become effective; (b) continuously and actively conduct production operations in accordance with the approved production work programme; (c) comply with the terms and conditions of the production right, the relevant provisions of this Act and any other law; (d) comply with the conditions of the [EA] and the prescribed social and labour plan; (e) in terms of any relevant law, pay the State royalties; and (f) commence with production operations within one year from the date on which a production right becomes effective in terms of section 84(5) or such extended period as the Minister may authorise".

<sup>69</sup> Section 84(5) of the MPRDA states "A production right granted in terms of subsection (1) becomes effective on the effective date". "Effective date" is in turn defined in the MPRDA as "the date on which the relevant permit is issued or the relevant right is executed".

<sup>70</sup> See section 77(4) of the MPRDA.

<sup>71</sup> See section 76(1) of the MPRDA.

petroleum over any part of the area; and (iii) no prior application for an exploration right, production right, or TCP has been accepted for the same mineral, land and area.<sup>72</sup>

5.5. Thereafter, a TCP must be issued by the Minister if:

5.5.1. The applicant has access to financial resources and has the technical ability to conduct the proposed technical co-operation study;

5.5.2. The estimated expenditure is compatible with the intended technical co-operation study and duration of the technical co-operation programme; and

5.5.3. The applicant is not in contravention of any relevant provision of the MPRDA.<sup>73</sup>

5.6. These requirements are peremptory, and the Minister must refuse to issue a TCP if the application does not meet all of these requirements.<sup>74</sup> Conversely, if an applicant does meet all of these requirements, then the Minister must grant the TCP.

5.7. A TCP holder has the following rights and obligations in terms of section 78 of the MPRDA:

5.7.1. The exclusive right to apply for and be granted an exploration right in respect of the area to which the TCP relates;

5.7.2. Actively carry out the technical co-operation study in accordance with the technical co-operation work programme;

5.7.3. Comply with the terms and conditions of the TCP, the relevant provisions of the MPRDA, and any other law; and

5.7.4. Submit a TCP for recording (i.e. registration) in the MPTRD.

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<sup>72</sup> See section 76(2) of the MPRDA.

<sup>73</sup> See section 77(1) of the MPRDA.

<sup>74</sup> See section 77(2) of the MPRDA.

## EXPLANATORY NOTES TO THE SCHEDULE OF TENEMENTS

### 1. MEPL ER315

- 1.1. Firstly, we note that MEPL has exercised the MEPL ER315 in terms of the “*Initial Period*” and is now currently exercising the MEPL ER315 in terms of the “*First Renewal Period*”. For purposes of this Report then, we can assume that MEPL complied with the relevant terms and conditions of the MEPL ER315 as well as the provisions of the MPRDA for the “*Initial Period*”, and also, those renewal requirements to be granted the renewal application resulting in MEPL currently exercising the MEPL ER315 in terms of the “*First Renewal Period*”. MEPL still has two more opportunities to further renew the MEPL ER315 if it so wishes.
- 1.2. In addition to the statutory obligations and rights set out in the MPRDA and above at paragraphs 1 and 2 of the section entitled “*GENERAL LEGISLATIVE OVERVIEW FOR PURPOSES OF THIS REPORT*”, the MEPL ER315 has been granted subject to the following relevant specific conditions:
  - 1.2.1. Without derogating from MEPL's other obligations in terms of the MEPL ER315, MEPL shall:
    - (i) diligently conduct exploration operations in accordance with the EWP; (ii) comply with the environmental management programme (**EMPr**); and (iii) pay all amounts due and payable to the South African Agency for Promotion of Petroleum Exploration and Exploitation (SOC) Limited (**Grantor**) in terms of the MPRDA, the regulations published under the MPRDA, the MEPL ER315, and the applicable laws:<sup>75</sup>
  - 1.2.1.1. From the documents and information provided to us, we understand that, as at 31 October 2023, MEPL has complied with the EWP, and the EMPr, and has made all required and due payments to the Grantor.
  - 1.2.2. In line with section 82(2) of the MPRDA, MEPL shall within 90 days from the signature date of the MEPL ER315 or such extended period as the Minister may authorise, commence exploration operations in accordance with the EWP:<sup>76</sup>
    - 1.2.2.1. We have no reason to believe that the EWP for the “*Initial Period*” was not complied with. This is premised particularly on the basis that the renewal of the MEPL ER315 for the “*First Renewal Period*” was granted by PASA.
    - 1.2.2.2. We have had sight of the EWP for the “*First Renewal Period*”. In respect of the “*First Renewal Period*”, the MEPL ER315, was granted on 15 March 2022 and notarially executed on 10 July 2023. We understand that MEPL has complied, and continues to comply, with these commitments in the EWP for both year 1 and year 2 of the “*First Renewal Period*”. From the documents and information provided to us, we have no reason to believe otherwise.
  - 1.2.3. In terms of section 81 of the MPRDA read with regulation 33,<sup>77</sup> MEPL has the right to, prior to the end of the “*Initial Period*” or any “*Renewal Period*”, apply to the Minister for the renewal of the MEPL ER315:<sup>78</sup>
    - 1.2.3.1. From the documents and information provided to us, the renewal application in respect of the “*First Renewal Period*” was timeously submitted and granted by PASA. The MEPL ER315 is currently being exercised by MEPL in terms of the “*First Renewal Period*”.
    - 1.2.3.2. In terms of section 81 (4) of the MPRDA (and the terms and conditions of the MEPL ER315 itself), MEPL is entitled to two more renewals (i.e. the “*First Renewal Period*” and the “*Second Renewal Period*”) if it wishes to exercise this right and meets the renewal requirements as discussed above.

<sup>75</sup> Condition 5.2 of the MEPL ER315.

<sup>76</sup> Condition 6.2 of the MEPL ER 315.

<sup>77</sup> Section 81 of the MPRDA and regulation 33 of the regulations published thereunder deal with a renewal of an exploration right.

<sup>78</sup> Condition 6.3 of the MEPL ER315.

- 1.2.3.3. If MEPL wishes to exercise its exclusive right to apply for the “second renewal”, it will be required to timeously submit a renewal application prior to the expiry of the “First Renewal Period” to exercise the MEPL ER315 in terms of the “Second Renewal Period”. We understand from MEPL that this is being considered, and that the renewal application will be timeously submitted prior to the expiry of the “First Renewal Period” on 14 March 2024.
- 1.2.4. As provided for in section 81(4) of the MPRDA (as well as the terms and conditions of the MEPL ER315 itself), the MEPL ER315 also gives MEPL exclusive right to be apply for and be granted a production right in respect of the area covered by the MEPL ER315, if MEPL satisfies the requirements for granting production rights (which we discuss in paragraph 4 of the section entitled “GENERAL LEGISLATIVE OVERVIEW FOR PURPOSES OF THIS REPORT” above).
- 1.2.4.1. We understand that MEPL has not as at the date of this Report exercised this exclusive right, suffice to note that it does have this exclusive right in the instance that it elects to apply for a production right on the back of this exclusive right.
- 1.2.5. In terms of section 82(2) of the MPRDA read with regulation 76,<sup>79</sup> MEPL is required to pay the prescribed exploration fees to PASA from the signature date of the MEPL ER315:<sup>80</sup>
- 1.2.5.1. We have had sight of two tax invoices issued by PASA in the amounts of ZAR686 038.25 and ZAR823 245.90 for “exploration fees for the first year of the ‘First Renewal Period’”, and “exploration fees for the second year of the ‘First Renewal Period’”, respectively.
- 1.2.5.2. We have also been provided with and had sight of two proof of payments by MEPL to PASA dated 1 September 2023 and 12 September 2023, in the amounts of ZAR1 000 000, and ZAR509 284.15, respectively.
- 1.2.5.3. These payments made by MEPL to PASA in the cumulative amount of ZAR1 509 284.15 equal the two tax invoice amounts issued by PASA for the exploration fees in respect of the first and second year of the “First Renewal Period”.
- 1.2.5.4. MEPL has thus in our view complied with this condition of the MEPL ER315. In any event, there is no indication that PASA is taking an issue with MEPL’s compliance status.
- 1.2.6. MEPL shall relinquish portions of the exploration area as set out and in accordance with Annexure C to the MEPL ER315:<sup>81</sup>
- 1.2.6.1. From the documents and information provided to us, MEPL relinquished not less than 20% of the original extent of the exploration area at the end of the “Initial Period” (and upon the exercise of the “First Renewal Period”) in accordance with Annexure C to the MEPL ER315. This is also clear from the relevant approval documents and the adjunct notorially executed notarial deed of renewal in respect of the “First Renewal Period”.
- 1.2.6.2. We understand that MEPL is aware that at the end of the “First Renewal Period”, and in exercising the “Second Renewal Period”, it will be required to relinquish not less than 15% of the original extent of the exploration area in accordance with Annexure C to the MEPL ER315. For this reason, we understand that MEPL is considering applying for a production right before the expiry of the “First Renewal Period”.
- 1.2.6.3. As set out above, MEPL is entitled to apply for a production right and has exclusive right to do so. In other words, if MEPL is ready to apply for a production right, it may do so. Such an application is not dependent on applying for the renewal of the MEPL ER315 in terms of the “Second Renewal Period”.

<sup>79</sup> Section 82(2) of the MPRDA and regulation 76 of the regulations published thereunder deal with the payment of the prescribed exploration fees.

<sup>80</sup> Condition 7.1 of the MEPL ER 315.

<sup>81</sup> Condition 10.1 of the MEPL ER315.

- 1.2.7. In respect of MEPL's reporting obligations in terms of section 88 of the MPRDA<sup>82</sup>, within 30 days from the end of each quarter and within 60 days from the end of each year, MEPL shall submit to the Grantor a written report reflecting, for the relevant quarter or year, respectively, the progress of the exploration operations, including a summary of: (i) the number of local persons (classified by race and gender) and expatriate persons employed; (ii) the work done and expenditure on the exploration operations; (iii) the site and depth of every well drilled or being drilled and the formations penetrated and particulars regarding any occurrence of petroleum and/or mineral of potential value encountered; and (iv) a statement of compliance with the EMP<sup>83</sup>.
- 1.2.7.1. We have had sight of reports which appear to be in compliance with this condition of the MEPL ER315.
- 1.2.7.2. We also understand from D3 and MEPL that PASA has not raised any concerns in this regard.
- 1.2.8. Not later than 60 days from the signature date of the MEPL ER315, MEPL shall submit and present to the Grantor for approval an annual EWP for the current year. Thereafter, at least 90 days prior to the commencement of each succeeding year, MEPL shall submit and present to the Grantor for review and approval its proposed annual EWP for the next year or part thereof, as the case may be, in accordance with this condition, and such approval shall not be unreasonably withheld or delayed:<sup>84</sup>
- 1.2.8.1. From the documents and information provided to us, we have no reason to believe that MEPL has not complied with this condition of the MEPL ER315. There is no indication of a positive violation of the condition.
- 1.2.8.2. In particular, we note that the relevant EWPs have been submitted to the Grantor and that MEPL is conducting exploration operations in accordance with the relevant EWP in terms of the "First Renewal Period".
- 1.2.9. MEPL shall conduct all exploration operations in accordance with the approved EMP<sup>85</sup>, record of decisions, and addenda thereto, and in a manner that facilitates the protection and conservation of the natural resources of the Republic of South Africa and the environment in general:<sup>85</sup>
- 1.2.9.1. From the documents and information provided to us, we have no reason to believe that MEPL is in non-compliance with this condition of the MEPL ER315 and in particular, the EMP<sup>85</sup> which forms the basis of and part of the EA.
- 1.2.9.2. This is particularly as although we have not had sight of any audit reports or the like, we have also not had sight of any non-compliance notices or similar and we understand from D3 and MEPL that there are none in existence. This suggests that there have been no breaches or violations of this condition. Stated differently, in the instance of any breaches or non-compliances, we would expect to have seen non-compliance notices or similar issued to MEPL.
- 1.2.9.3. In particular, the EA has been issued and there have not been any non-compliance notices or the like issued to MEPL as a result of any alleged non-compliances with the EA and/or the EMP<sup>85</sup>.
- 1.2.9.4. We do however understand that there was a prior challenge to the EA by a third-party but that this challenge has been settled and formally withdrawn by such challenging third-party. We have had sight of the notice of withdrawal of the challenge in this regard

<sup>82</sup> Section 88 of the MPRDA deals with the requirement or obligation for a holder of, amongst other things, an exploration right, to submit prescribed information, data, reports and interpretations to PASA.

<sup>83</sup> Condition 14.2 of the MEPL ER315.

<sup>84</sup> Condition 15.1 of the MEPL ER315.

<sup>85</sup> Condition 19.1 of the MEPL ER315.

and so for purposes of this Report, this previous challenge has no bearing on the validity of the EA and as a matter of title has no bearing on the MEPL ER315 nor the associated EA.

- 1.2.10. Without derogating from MEPL's responsibilities in terms of the applicable laws including sections 2(d) and (f) of the MPRDA, MEPL undertakes to:
  - 1.2.10.1. Within two years from the signature date of the MEPL ER315, or such longer period of time as permitted by the Grantor, to find a suitable holder who is a Historically Disadvantaged South African (**HDSA**), and that is technically, legally, and financially qualified to hold a participating interest. Such holder shall be entitled to hold a participating interest up to but not greater than 10% as a HDSA, obtained at fair market value price. The HDSA, upon taking up such participating interest, shall become a party to the relevant joint operating agreement and shall be responsible for its participating interest share of MEPL's financial and other obligations under the MEPL ER315 and/or any production right arising from the MEPL ER315;<sup>86</sup>
  - 1.2.10.2. Employ HDSAs having appropriate qualifications and experience, and/or alternatively implement a programme for the future recruitment of such, taking into account MEPL's operational requirements under the MEPL ER315;<sup>87</sup>
  - 1.2.10.3. Implement programmes for the training and skills development of HDSAs;<sup>88</sup>
  - 1.2.10.4. Give preference, in procuring for purposes of use in the exploration operations, the equipment, machinery, materials, instruments, supplies, and accessories (referred to collectively as "Goods") manufactured or produced by HDSAs: Provided that such Goods are competitive with like goods manufactured or produced or available outside the Republic of South Africa in respect of cost, quantity, and quality, and that such Goods can be made available at the time when and the place where required by MEPL;<sup>89</sup>
  - 1.2.10.5. Use contractors and/or sub-contractors who are HDSAs and whose services and standards are competitive with those available outside the Republic of South Africa in terms price, quality, expertise, and: Provided further that such services can be performed at the place and within the time required by MEPL;<sup>90</sup> and
  - 1.2.10.6. Pay the amounts set out and specified in Annexure D to the MEPL ER315 to the Upstream Training Trust, to be used by the Trust for the training, education, and obtaining of practical experience for HDSAs and other South Africans in the manner determined by the trustees:<sup>91</sup>
    - 1.2.10.6.1. We have seen a tax invoice issued by the Upstream Training Trust dated 17 February 2021 for the "*Initial Period*" and in the amount of ZAR149 408.00. We have also had sight of the concomitant payment made by MEPL on 28 May 2021 in the amount of ZAR 149 408.00 and as such are satisfied that this condition has been met.
    - 1.2.10.6.2. We also have not been provided with any other documents or information which shows MEPL's compliance with the black ownership requirement and its preferential procurement/contracting practices.
    - 1.2.10.6.3. In practice, the empowerment and preferential procurement/contracting requirements are generally strictly enforced during the production right application phase and the operational phase since the expectation is at that stage that there must be cashflow.

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<sup>86</sup> Condition 20.1.1 of the MEPL ER315.

<sup>87</sup> Condition 20.1.2. of the MEPL ER315.

<sup>88</sup> Condition 20.1.3. of the MEPL ER315.

<sup>89</sup> Condition 20.1.4. of the MEPL ER315.

<sup>90</sup> Condition 20.1.5. of the MEPL ER315.

<sup>91</sup> Condition 20.1.6. of the MEPL ER315.

- 1.2.10.6.4. In any event, if MEPL was not in compliance or was deemed to be in material breach, then MEPL would have been issued with a suspension or cancellation notice. We have not seen any information in which PASA is querying anything in respect of this condition. Even if it did, the suspension or cancellation would not be automatic and MEPL would be afforded an opportunity to remedy or rectify any alleged non-compliance.
- 1.2.11. In terms of section 82 of the MPRDA, MEPL is required to lodge the MEPL ER315 for registration at the MPTR0 within 60 days from the signature date of the MEPL ER315 and, in the event of each renewal of the MEPL ER315, within 60 days of such renewal:<sup>92</sup>
- 1.2.11.1. From the notorially executed notarial deed of renewal in respect of the "*First Renewal Period*", we understand that the MEPL ER315 was registered in the MPTR0. We are however unable to determine the date of the registration nor the MPTR0 registration number.
- 1.2.11.2. We have not been provided with any information to suggest that the notorially executed notarial deed of renewal in respect of the "*First Renewal Period*" has been registered at the MPTR0 but we have been advised that the relevant documents are being prepared for lodgement in the MPTR0 for registration. We understand from D3 and MEPL that this will take place soon and that there is no reason the deed of renewal may not be registered once it has been lodged.
- 1.2.11.3. We understand that MEPL has full and unrestricted access to the exploration area under the MEPL ER315, and this is further evidence of the fact that the non-registration of the notarial deed of renewal for the "*First Renewal Period*" is a house-keeping matter and has no material impact on the validity of or title to the MEPL ER315.
- 1.3. The holder of an exploration right must comply with, amongst other things, the terms and conditions of the exploration right (i.e. MEPL must comply with the terms and conditions of the MEPL ER315). A failure to do so may result in suspension and/or cancellation proceedings being launched against MEPL as the holder of the MEPL ER315 in terms of section 47 and/or 93 of the MPRDA. A discussion on these sections of the MPRDA have been set out at paragraphs 1.10 to 1.12 of the "*GENERAL LEGISLATIVE OVERVIEW FOR PURPOSES OF THIS REPORT*" section above.
- 1.4. This compliance obligation is also affirmed at clause 9 of the MEPL ER315 where it is stated that the Minister is empowered to cancel or suspend the MEPL ER315 in the circumstances set out in and in accordance with the provisions of section 47 of the MPRDA.
- 1.5. Condition 5 of the notarial deed of renewal in respect of the "*First Renewal Period*" states "*The remainder of the terms and conditions of the [MEPL ER 315] remains intact*". As such, the above conditions continue to apply through the "*First Renewal Period*".
- 1.6. In our opinion, MEPL has in all material respects complied with these terms and conditions of the MEPL ER315, and there are no outstanding or pending non-compliance enforcement action seeking to cancel or suspend the MEPL ER315.
- 1.7. In particular, and to the best of our knowledge, MEPL has not received any compliance notices or the like in terms of:

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<sup>92</sup> Condition 42 of the MEPL ER315.



- 1.7.1. Sections 47 or 93 of the MPRDA, for any breaches or non-compliances with the MPRDA and/or any terms and conditions of the MEPL ER341;
- 1.7.2. Sections 28<sup>93</sup> or 31L<sup>94</sup> of NEMA, for any breaches or non-compliances with NEMA or any specific environmental management Acts, or any terms and conditions of the EMPr and the relevant EA; and
- 1.7.3. The NWA, for any breaches or non-compliances with the NWA and any water-specific terms and conditions of the MEPL ER315.
- 1.8. We also understand that there are no pending appeals or similar challenging the MEPL ER315. These circumstances indicate that the title to the MEPL ER315 is valid and in good force.
- 1.9. Below we set out a short summary of the key terms of the various land access and use agreements and then we briefly discuss these insofar as security of tenure is concerned:

Agreement	Key terms
Land use agreement entered into between MEPL and Forum SA Trading 124 Proprietary Limited on 24 October 2023 as amended by the addendum executed by the parties on 22 February 2024, in respect of the farms: (i) Palmietfontein 229; (ii) Détente 744; and (iii) Blomskraal 216. <sup>95</sup>	<ul style="list-style-type: none"> <li>• <b>Parties:</b> Forum SA Trading 124 Proprietary Limited (as landowner) and MEPL (as lessee).</li> <li>• <b>Properties:</b> The farms Palmietfontein 229, Détente 744, and (iii) Blomskraal 216.</li> <li>• <b>Duration:</b> Commenced on 17 April 2023 and endures for as long as MEPL holds the MEPL ER 315 or any subsequent production right, including any further time required for the rehabilitation of the properties.</li> <li>• <b>Suspensive conditions:</b> None.</li> <li>• <b>Consideration:</b> (i) an initial once off payment of ZAR 450 000 within seven days of concluding the agreement; and (ii) the grant of the Royalty, being a 1.15% gross overriding royalty payable out of gas produced by the production operations on the properties under the terms of the Royalty Agreement, which is to be concluded between the parties by 30 April 2024 and based on standard oil and gas industry terms.</li> </ul>

<sup>93</sup> Section 28 of NEMA deals with the "duty of care and remediation of environmental damage". Section 28(4) of NEMA empowers the authorities to direct any person alleged to be in breach of section 28 of NEMA to "(i) cease any activity, operation or undertaking; (ii) investigate, evaluate and assess the impact of specific activities and report thereon; (iii) commence taking specific measures before a given date; (iv) diligently continue with those measures; and (v) complete those measures before a specified reasonable date".

<sup>94</sup> Section 31L of NEMA deals with the power of the authorities to issue compliance notices, and section 31L(1) states "An environmental management inspector or environmental mineral and petroleum inspector, within his or her mandate in terms of section 31D, may issue a compliance notice which must correspond substantially with the prescribed form and following a prescribed procedure if there are reasonable grounds for believing that a person has not complied – (a) with a provision of the law for which that inspector has been designated in terms of section 31D; or (b) with a term or condition of a permit, authorisation or other instrument issued in terms of such law".

<sup>95</sup> This agreement superseded and replaced a previous land access and use agreement entered into between the parties on 21 April 2023 in respect of the farm Blomskraal 216. Clause 18.1 of this agreement states "This Agreement supersedes and replaces any and all existing agreements between the Parties and undertakings given to or on behalf of the Parties in relation to the subject matter hereof".

Agreement	Key terms
<p>Land use agreement entered into between MEPL and Gesina Eleonore Van Tondere on 23 October 2023 as amended by the addendum executed by the parties on 22 February 2024, in respect of the farm Deelfontein 373.</p>	<ul style="list-style-type: none"> <li>• <b>Parties:</b> Gesina Eleonore Van Tondee (as landowner and on behalf of “<i>Ortistra 174</i>”<sup>96</sup>) and MEPL (as lessee).</li> <li>• <b>Properties:</b> The farm Deelfontein 373.</li> <li>• <b>Duration:</b> Commenced on 9 October 2023 and endures for as long as MEPL holds the MEPL ER315 or any subsequent production right, including any further time period required for the rehabilitation of the property.</li> <li>• <b>Suspensive conditions:</b> None.</li> <li>• <b>Consideration:</b> (i) payment by MEPL to the landowner of ZAR20 000 for each exploration well drilled on the property by MEPL; (ii) payment by MEPL to the landowner of ZAR20 000 for each successful exploration well drilled on the property by MEPL and which wells are completed for future production; and (iii) additional payments as agreed to by the parties negotiating in good faith and determined in accordance with and based on commercially viable gas extracted on the property (which amount shall be payable with effect from the date upon which MEPL commences production of gas at a commercial level).</li> </ul>
<p>Land use agreement entered into between MEPL and Rooikraal Familie Trust on 23 October 2023 as amended by the addendum executed by the parties on 22 February 2024, in respect of the farm Geluksburg.</p>	<ul style="list-style-type: none"> <li>• <b>Parties:</b> Rooikraal Familie Trust (as landowner) and MEPL (as lessee).</li> <li>• <b>Properties:</b> The farm Geluksburg.</li> <li>• <b>Duration:</b> Commenced on 10 October 2023 and endures for as long as MEPL holds the MEPL ER315 or any subsequent production right, including any further time period required for the rehabilitation of the property.</li> <li>• <b>Suspensive conditions:</b> None.</li> <li>• <b>Consideration:</b> (i) payment by MEPL to the landowner of ZAR20 000 for each exploration well drilled on the property by MEPL; (ii) payment by MEPL to the landowner of ZAR20 000 for each successful exploration well drilled on the property by MEPL and which wells are completed for future production; and (iii) additional payments as agreed to by the parties negotiating in good faith and determined in accordance with and based on commercially viable gas extracted on the property (which amount shall be payable with effect from the date upon which MEPL commences production of gas at a commercial level).</li> </ul>

<sup>96</sup> With registration number 2010/067656/23.

Agreement	Key terms
<p>Land use agreement entered into between MEPL and Maryna Jacomina Steyn on 21 April 2023 as amended by the addendum executed by the parties on 22 February 2024, in respect of the farm Nooitgedacht.</p>	<ul style="list-style-type: none"> <li>• <b>Parties:</b> Maryna Jacomina Steyn (as landowner) and MEPL (as lessee).</li> <li>• <b>Properties:</b> The farm Nooitgedacht.</li> <li>• <b>Duration:</b> Commenced on 2 January 2023 and endures for as long as MEPL holds the MEPL ER315 or any subsequent production right, including any further time period required for the rehabilitation of the property.</li> <li>• <b>Suspensive conditions:</b> None.</li> <li>• <b>Consideration:</b> (i) payment by MEPL to the landowner of ZAR20 000 for each exploration well drilled on the property by MEPL; (ii) payment by MEPL to the landowner of ZAR20 000 for each successful exploration well drilled on the property by MEPL and which wells are completed for future production; and (iii) additional payments as agreed to by the parties negotiating in good faith and determined in accordance with and based on commercially viable gas extracted on the property (which amount shall be payable with effect from the date upon which MEPL commences production of gas at a commercial level).</li> </ul>

- 1.9.1. As set out in paragraph 1.8 above, section 5 of the MPRDA provides an exploration right holder with a statutory right of access to and use of the land subject to the relevant exploration right for exploration operations.
- 1.9.2. It is important to note that this statutory right is not absolute in that a landowner or lawful occupier may still "refuse" access to the land, or place unreasonable demands on the right holder in exchange for such access and use. The conclusion of land use agreements thus provides the "additional layer" which is typically intended to reinforce this statutory right and to regulate the commercial and practical terms pertaining to such access and use.
- 1.9.3. Any dispute of access<sup>97</sup> generally results in the dispute resolution mechanism under section 54 of the MPRDA<sup>98</sup> being triggered by the right holder to "enforce" these statutory rights by agreeing to compensation payable to the landowner or lawful occupier for access and use. This mechanism is lengthy and in our experience rarely concludes.
- 1.9.4. This means that in practice, "agreement" is generally required with the landowner or lawful occupier. Such "agreement" not only provides the required security of tenure but also avoids the need to participate in a lengthy dispute resolution process.
- 1.9.5. As set out above, MEPL has land access and use agreements in place for the following farms forming part of the MEPL ER315 exploration area: (i) Blomskraal 216; (ii) Deelfontein 373; (iii) Geluksburg; (iv) Palmietfontein 229; (v) Détente 744 and (vi) Nootgedacht.
- 1.9.6. As matters stand and from a regulatory point of view, we are comfortable that as a result of the conclusion of these agreements (and in addition to its statutory rights), MEPL has unhindered access to these farms for exploration purposes.

## 2. MEPL ER341 Application

- 2.1. We have had sight of the acceptance letter issued by PASA on 28 February 2018. This acceptance letter states that the MEPL ER341 Application to explore for petroleum, natural gas, and condensate, has been accepted, and MEPL is required to comply with section 79(4) of the MPRDA by:
  - 2.1.1. Submitting an application for an EA in terms of regulation 16<sup>99</sup> of the Environmental Impact Assessment Regulations, 2014 (**EIA Regulations**), on or before 2 May 2018;
  - 2.1.2. Submitting a scoping report contemplated in regulation 21(1)<sup>100</sup> of the EIA Regulations within 44 days from the date on which MEPL lodges the EA application, which scoping report must be subjected to a public participation process of at least 30 days; and
  - 2.1.3. Consulting with any interested and affected parties and including the results of the consultation in the scoping and environmental impact reports.
- 2.2. We have also had sight of a letter from PASA dated 2 July 2018 in which PASA has "extended the submission deadline" for the EA application "by a further three months after promulgation of the amendments to the Petroleum Exploration and Production Regulations". In this letter, PASA then confirms that the "actual submission date will be confirmed once the amendments to the [Petroleum Exploration and Production] Regulations are promulgated" [our emphasis].

<sup>97</sup> By or where, for example, the landowner or lawful occupier: (i) refuses to allow such holder to enter the land; (ii) places unreasonable demands in return for access to the land; or (iii) cannot be found in order to apply for access.

<sup>98</sup> The purpose of this procedure is for the right holder and landowner or lawful occupier to reach agreement (with the assistance of the relevant Regional Manager) on the compensation payable for any losses or damages caused by the access to and use of the land. If the parties fail to reach an agreement, compensation must be determined by arbitration in accordance with the Arbitration Act, 1965, or by a competent Court.

<sup>99</sup> Regulation 16 of the EIA Regulations deals with general requirement for applications for EAs.

<sup>100</sup> Regulation 21(1) of the EIA Regulations states "If [the scoping and environmental impact reporting process] must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority".

- 2.3. We have not been provided with any further information on whether PASA has confirmed the "actual submission date" and understand from D3 that MEPL has not as at the date of this Report obtained the EA. However, based on the documents that we have been provided, it appears that the "actual submission date" has not yet been confirmed and so MEPL is not in non-compliance with the acceptance letter.
- 2.4. Generally, if the statutory requirements for granting exploration rights (which are discussed in paragraph 2 of the section entitled "*GENERAL LEGISLATIVE OVERVIEW FOR PURPOSES OF THIS REPORT*") are met, the MEPL ER341 Application should be granted.

### **3. MEPL TCP Applications**

- 3.1. We have had sight of the recent grant letters issued by PASA on 23 October 2023 for both the TCPs with PASA reference numbers 12/2/235 and 12/2/240. The grant letters require that the following be submitted to PASA within 30 days of these grant letters:
- 3.1.1. Six copies of the plans with a duly registered description of the properties, certified, approved, signed, and dated by the surveyor as required in terms of regulation 42 of the Mining Titles Registration Regulations, 2004;
  - 3.1.2. Six copies of the technical co-operation work programmes;
  - 3.1.3. Full names of the notary(ies) that will be present at the date of signing, and his or her place of practice and residence;
  - 3.1.4. Full names of the representatives of MEPL authorised to sign the permits on behalf of MEPL;
  - 3.1.5. Date and place where the resolution authorising MEPL's representative to sign the permits was passed; and
  - 3.1.6. Physical and postal address, telephone, and fax number of MEPL.
- 3.2. MEPL timeously submitted the requested information to PASA on 10 November 2023.
- 3.3. These grant letters also state that the period of duration of these TCPs will commence from the date of the grant letters (i.e. 23 October 2023) and not the date of notarial execution of the permits themselves, as held by the South African Supreme Court of Appeal in the case of *Minister of Mineral Resources v Mawetse (SA) Mining Coporation (Pty) Ltd.*<sup>101</sup>
- 3.4. On the basis that MEPL complies with these requests in the grant letters, the permits should be notarially executed and MEPL will from that point in time be the holder of two TCPs in terms of the MPRDA.
- 3.5. Flowing from the fact that the TCPs were recently granted, there has been in our view no delay in the notarial execution thereof. We also understand from D3 that the notarial execution process is underway, and that these TCPs will be notarially executed soon.

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<sup>101</sup> [2006/14] [2015] ZASCA 81 (28 May 2015).



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### 13. SOUTH AFRICAN NATURAL GAS MARKET REPORT

## South Africa Natural Gas Market Report

*Prepared for*



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12 February 2024

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## Executive summary

1. In this report, we use the term “gas” to refer to the family of methane containing gasses including natural gas, pipeline gas, methane-rich gas (a synthetic gas), and biogenic gas. LNG is Liquefied Natural Gas. Our use of the term “gas” excludes liquid petroleum gas (LPG) which comprises heavier petroleum gases such as propane and butane.
2. Unless otherwise stated, the analysis presented in this report represents the state of the gas economy for the calendar year 2022.
3. The South African gas economy currently comprises 155.3 PJ which is 5.1% of the total national energy economy. Of this gas, approximately ca. 64%, or 99.2 PJ, is used internally by Sasol Ltd, and the remaining ca. 34% or 56.1 PJ/a, used by other markets.
4. The South Africa gas economy remains constrained by the supply of gas, both in volume (limited pipeline capacity) and geographically (limited pipeline distribution network). The energy economy is gas supply constrained due to the limited capacity and declining production of the Pande Temane gas resource in Mozambique, from where 86% of South Africa’s gas is sourced. The remainder of gas is a synthetic gas, termed MRG, produced by Sasol. Other domestic gas resources a small or insignificant, likely less than 1 PJ/a.
5. South Africa is experiencing an energy crises resulting from (a) inability of the state-owned power utility Eskom to produce sufficient electrical energy; (b) steeply increasing electricity prices associated with multiple constraints in the electricity supply chain; (c) increased coal prices resulting in increased costs of thermal energy; (d) closure of four of its six oil refineries resulting in import of expensive final products; (e) severe currency depreciation exacerbating the costs of imported liquid fuels; and (f) the inevitable approach of the end of life of the Pande Temane natural gas field. These crises work together to create a demand for new sources of gas supply.
6. The current gas market is concentrated on the existing gas transmission and distribution pipeline system. Over the past 10 years an off-pipeline CNG market has also emerged. Together, these conventional and virtual pipelines provide sufficient gas logistics infrastructure for monetising domestic gas assets.
7. Gas prices are regulated by the National Energy Regulator of South Africa. The regulatory regime enables safety, environmental, operational and price certainty in the market and has a precedent for domestic gas production.
8. Current retail gas prices in South Africa varies between US\$7.30 – ca US\$16.00 GJ. The variations result from varying gas sources, varying transport costs and whether a CNG virtual pipeline application is involved. These prices compete well with the available alternatives.
9. A highly favourable regulatory environment further supports growth in the gas economy. Government is actively promoting a significantly increased gas economy in various ways.
10. In our assessment, the South African market presents a compelling opportunity for D3 Energy. The market is well regulated, is sufficiently large, holds many customer opportunities, and presents a favorable price environment.

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## ACRONYMS AND ABBREVIATIONS

BN	Billion (1,000,000,000)
BW	Bid Window (of the IPP Office)
CBM	Coal-bed Methane
CNG	Compressed Natural Gas
CPF	(Sasol's) central processing facility (in Moçambique)
DFFE	Department of Forestry, Fisheries and the Environment
DMRE	Department of Mineral Resources and Energy
EBITDA	Earnings Before Interest, Tax and Depreciation
FID	Final Investment Decision
GDP	Gross Domestic Product
GJ	Gigajoule
GTL	Gas-to-Liquid
GMP	Gas Master Plan (of South Africa)
GSA	Gas Supply Agreement
GTA	Gas Transportation Agreement
GTP	Gas to Power
IPP	Independent Power Producer
IRP	Integrated Resource Plan (for Electricity)
LNG	Liquefied Natural Gas
LPG	Liquid Petroleum Gas
M	Million (1,000,000)
Mtpa	Million tonnes per annum
MW	Megawatt
MWh	Megawatt hour
NERSA	National Energy Regulator of South Africa
NGV	Natural Gas Vehicle(s)
OCGT	Open Cycle Gas Turbine
PJ	Petajoule (1,000,000 GJ)
R	South African Rand
RFP	Request for Proposals
RMIPP	Risk Mitigation IPP Procurement Programme
ROMPCO	Moçambique Pipeline Investment Company (Pty) Ltd
SA	South Africa
SANS	South African National Standards
SSA	Sub-Saharan Africa
Tcf	Trillion cubic feet
US\$	United States Dollar

# 1 OVERVIEW OF THE SA ENERGY ECONOMY AND THE ROLE OF GAS IN CONTEXT

The South African energy economy in 2022 is estimated to comprise a total demand of 3,050 PJ equivalent.

This energy economy has historically been, and is still currently, driven by:

- Domestic coal in thermal applications (23%), and in coal-fired electricity supply (20%) and,
- Imported refinery products (32%).

In 2022, electrical power generation provided 716 PJ/a to final energy consumption, of which about 75% was generated from coal-fired power.

South Africa's IPP programme initiated commercial solar and wind projects since 2010. Between 2011 and 2015 four bid rounds (Bid Windows (BW)) were completed. Out of nearly 400 submissions, 112 were selected for procurement. By the end of October 2022, 19 out of 25 projects had been concluded under Bid Window 5, and is expected to add a total of 1,759MW of renewable energy to the national grid. Bid Window 6 was released in April 2022, with 5 projects being selected as preferred by the end of 2022. The IPP projects contribute approximately 7% to the national grid supply.

From mid-2022 onwards, in response to the national electricity supply crisis known as "load-shedding", the country has seen a significant increase in embedded solar generation and battery storage. This trend has predominantly been driven by households and small and medium sized businesses. It is expected that this generation source will feature more prominently in the future.

Gas has historically contributed only in a relatively small way to the South African economy. The current contribution of gas to the energy economy is 155.3 PJ (5.1% of the energy economy).

This market predominantly is supplied by natural gas, imported from Mozambique, and Methane Rich Gas (MRG) (a synthetic gas manufactured by Sasol). Other sources of gas, such as production landfill gas and biogas are estimated not to exceed 1PJ/a at present.

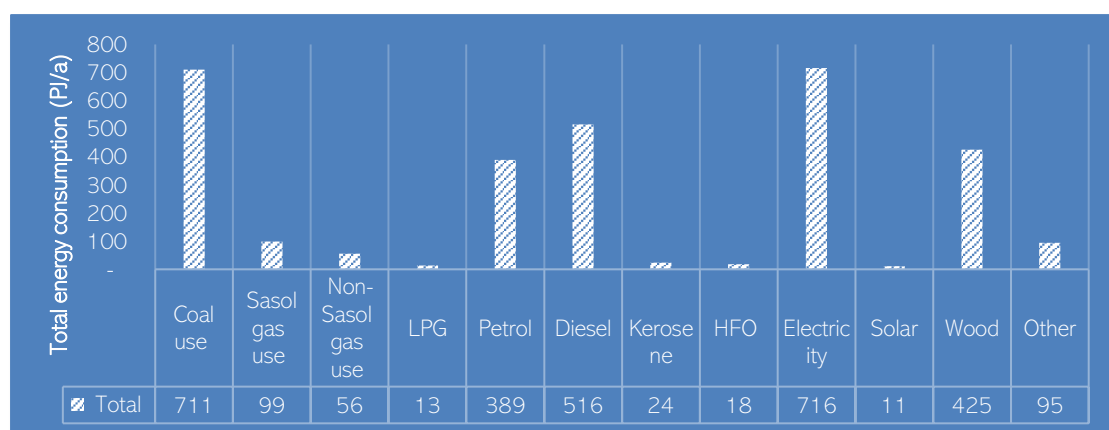


Figure 1-1. Overview of the total final consumption of energy in South Africa (Source: Prime Africa own analysis).

## 2 CHANGES TAKING PLACE IN THE SOUTH AFRICA ENERGY ECONOMY

The South Africa energy economy is undergoing major challenges and crises at present. This creates a unique market window of opportunity for new gas suppliers.

### **Electricity supply crisis**

The national power utility, Eskom, has for more than a decade been experiencing significant challenges to provide power security. This has resulted the economy in being hamstrung by continued load shedding events. This has severely disrupted economic production, resulted in severe loss of GDP, and in stagnation of investment<sup>1</sup>. This creates a market opportunity for gas to power projects, both large scale (> 50 MW) and for captive power (or embedded generation) (1 – 50 MW).

### **Dwindling refinery capacity**

SA has a dwindling liquid fuels refinery capacity. Since COVID, only two of SA's six refineries are still operational, strategic oil reserves have been discontinued and refinery final products are thus increasingly imported. This creates a market opportunity for Natural Gas Vehicle applications and increases the competitive advantage of gas against Liquefied Petroleum Gas (LPG).

### **Severe energy price escalations**

In parallel to the above, South Africa has been experiencing steeply increasing energy prices. Over the past 16 years, the average price increase has exceeded 14.50% per year. This being directly the result of Eskom increasing cost structure and debt burden resulting from new power plant build<sup>2</sup>. This has further been exacerbated by increasing coal prices. It is expected that this trend will continue in the medium term (5 years).

Thermal energy costs based on coal have similarly increased. Domestic coal prices are linked to export prices, which have increased since COVID-19.

South Africa's exchange rate has weakened by more than 25% against the US Dollar since 2019, and this combined with the closure of refineries, have significantly increased liquid fuel prices.

This creates a price competitive advantage for gas.

### **The natural gas “cliff”**

Most significantly SA's supply of natural gas from Mozambique is nearing end of project life. This phenomenon is popularly referred to as a “gas cliff”. It is expected that South Africa's current gas users comprising 56.1 PJ would have to find alternative gas sources from approximately 2026 onwards.

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<sup>1</sup> IMF (2023). IMF Country Focus: South Africa. Available at: [Link](#) (Accessed 5 November 2023).

<sup>2</sup> Eskom Ltd (2023). Eskom Integrated Annual Report 2022/23: Available at: [Link](#) (Accessed 5 November 2023).

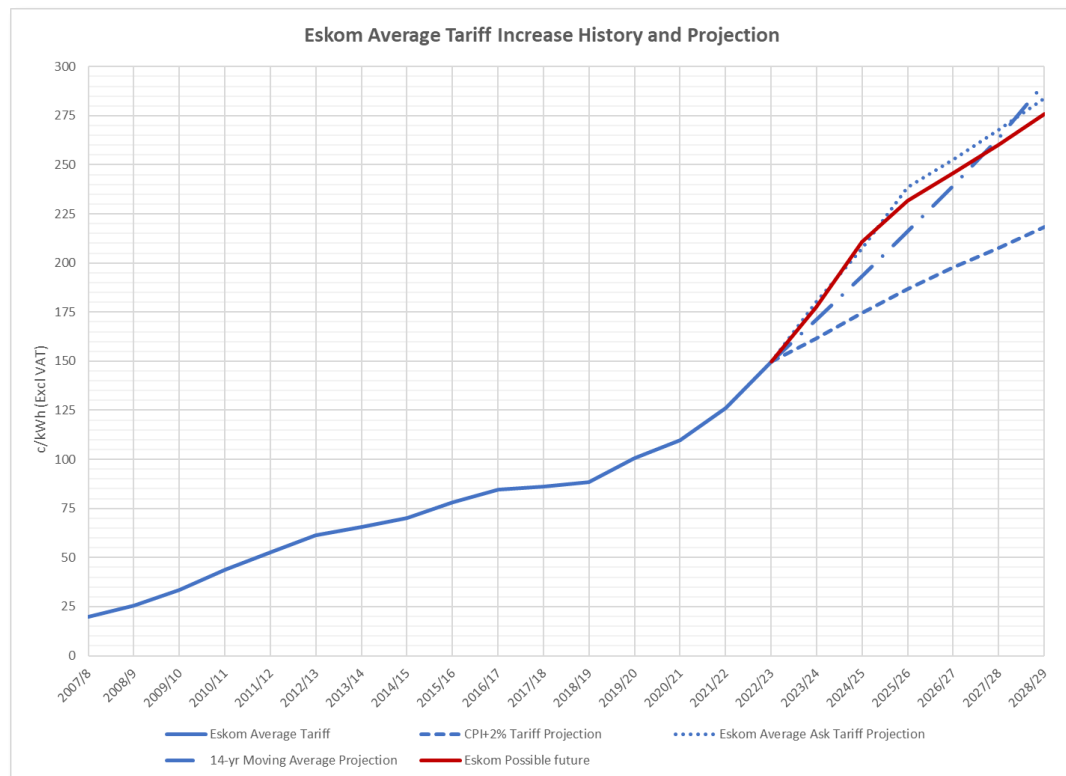


Figure 2-1. Eskom electricity price forecasts (Source: Prime Africa own analysis based on Eskom Tariff Book publications)

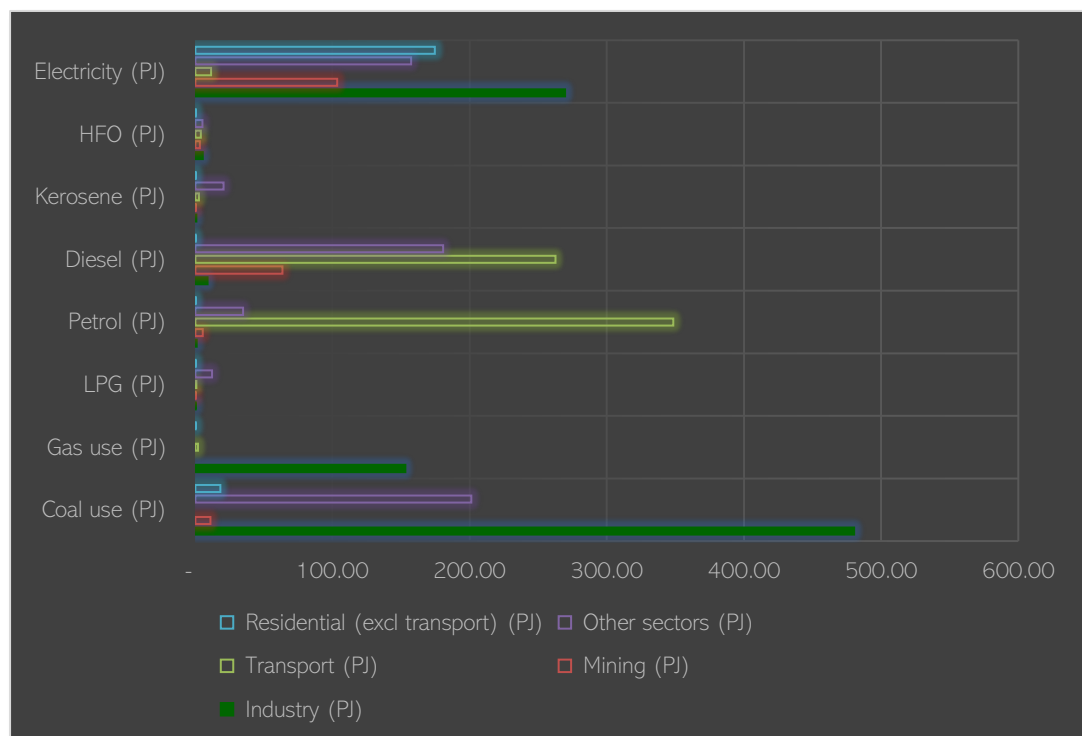


Figure 2-2. Energy use by sector in South Africa: the use of gas is limited by supply and significant switching and latent demand exists for gas across various sectors. (Sources: DMRE Energy balances and Prime Africa own analysis)

### 3 OVERVIEW OF THE SOUTH AFRICA GAS ECONOMY

#### 3.1 INTRODUCTION

The current gas supply into the South African market is 155.3 PJ/a and is centered on Sasol Limited operations.

Sasol is an integrated energy and chemical company headquartered in SA. The company was formed in 1950 in the town of Sasolburg, and expanded its operations to the town of Secunda. Sasol is listed on the Johannesburg Stock Exchange (JSE: SOL) and the New York Stock Exchange (NYSE: SSL).

Sasol imports natural gas from Mozambique via the ROMPCO pipeline. Sasol also produces a synthetic gas which it markets as MRG (Methane-rich gas). Refer to gas specifications below.

Of this gas, Sasol uses ca. 99.2 PJ/a in its own refinery and chemical manufacturing processes and for power generation.

The rest of the gas is supplied by Sasol to non-Sasol markets, predominantly industrial / manufacturing businesses.

Sasol segments its non-Sasol market into three geographical zones, which are named: Zone 1, 2 and 3. Zone 1 is supplied by natural gas, and Zones 2 and 3 are supplied by a synthetic gas called MRG.

Type of gas	Composition	Value (% vol W/W)
Natural Gas	Methane	87.00 - 88.00
	Ethane	3.00 - 4.00
	Propane	2.00 - 3.00
	Nitrogen gas	2.50 - 3.00
Methane Rich Gas	Methane	~ 82.1
	Nitrogen gas	~ 2.2
	Argon liquid	~ 11.5
	Carbon Monoxide	~ 3.4

In the recent past, state-owned PetroSA operated a gas-to-liquids refinery in Mossel Bay in the Western Cape. But these operations were decommissioned after reaching end of life. Production had historically taken place in the offshore Bredasdorp Basin. The facility had a capacity of 66 PJ/a.

Table 3-1. Technical specifications for the composition of natural gas and methane-rich gas in South Africa (Source: Safety Data Sheet Sasol Natural Gas 2018<sup>3</sup>; Safety Data Sheet Sasol Methane Rich Gas 2017<sup>4</sup>)

<sup>3</sup> Sasol Ltd. (2018). Sasol Natural Gas Safety Data Sheet Version 2.0 Revision Date 08.05.2018. Available at: [Link](#) (Accessed 5 November 2023).

<sup>4</sup> Sasol Ltd. (2008). Sasol Methane Rich Safety Data Sheet Version 1.0 Revision Date 06.05.2008. Available at: [Link](#) (Accessed 5 November 2023).



### 3.2 THE SOUTH AFRICA GAS ECONOMY IS CURRENTLY CENTRED ON SASOL OPERATIONS

Sasol is currently effectively the sole supplier of pipeline gas to other gas traders and large customers in SA.

Most of the gas imported is utilized in Sasol's own Gas-to-Liquid (GTL) operations and its gas-to-power plant, with the remainder sold, either directly or via gas trading entities, to other consumers in the South African economy.

Sasol distributes various gas types through their pipeline network, and refers to this pool of gas variously as "piped gas". Piped gas, as defined by Sasol, includes natural gas (ca 133.7 PJ/a) and the MRG syngas (ca 21.5 PJ/a).

Historically, the South Africa gas market dates to 1964 (see timeline below), but significantly expanded with the development of the ROMPCO pipeline taking natural gas from Mozambique to SA.

This natural gas is imported from Mozambique to South Africa. Mozambique's extensive gas reserves were first discovered in the 1960's<sup>5</sup>, but a lack of technical capacity and civil war in Mozambique had imposed a barrier to development. These reserves lay dormant until the signing of the Rome General Peace Accords between the Mozambique civil war parties in 1992.

Mozambican natural gas resources in the northern Rovuma basin will be from Mozambique exported as LNG.

During the late 1990s and early 2000s, the South African government then entered into bilateral investment agreements including the cross-border gas trade agreements with the government of Mozambique to extract the natural gas and to build a cross-border transmission pipelines between Pande-Temane in Mozambique and Secunda in South Africa. The decision to establish a private joint venture to oversee the construction of a gas pipeline from the Pande-Temane gas fields came out of bilateral economic discussions in 2001.

SASOL and the Mozambican government signed (in 2001) a contract to produce gas from the Pande-Temane gas fields. The Government of Mozambique has also granted SASOL additional licenses to continue exploration.

As a result, the 865 km cross border pipeline is owned by the Republic of Mozambique Pipeline Investment Company (Pty) Ltd (ROMPCO). The ROMPCO partnership owns and operates 865 km of pipeline constructed under this joint venture. Companhia Moçambicana de Gasoduto (CMG) owns the 240 km pipeline which is within the borders of Mozambique and Sasol owns the remaining 625 km of gas pipeline which falls within the South African borders.

ROMPCO was initially 50% owned by Sasol Gas Holdings, 25% owned by South African Gas Development Company (Pty) Ltd (iGas, a subsidiary of the Central Energy Fund of South Africa) with the remaining 25% owned Companhia Mocambiçana de Gasoduto (SARL) (Mozambique). In 2021 the Reatile-AIIM Consortium purchased a 30% interest in ROMPCO from Sasol. Sasol retained a 20% shareholding in ROMPCO and continues to operate and maintain the pipeline.

The ROMPCO pipeline has a capacity of an estimated 210 PJ/a.

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<sup>5</sup> Pretorius, L. (2002). A case study of the development impact of the cross-border natural gas pipeline between Mozambique and South Africa. Available at: [Link](#) (Accessed 5 November 2023).

The core of the “ROMPCO Project” was to develop the natural gas resources available in Mozambique’s Pande/Temane fields to supply Sasol’s petrochemical plants and non-Sasol industrial markets. The project consists of two distinct, but integrated components:

- The upstream component: gas field development and gas production
- The transmission component, comprising a gas pipeline from Mozambique to the Republic of South Africa.

Project financing was structured through two unincorporated joint ventures – Sasol Petroleum Temane (SPT) and Republic of Mozambique Pipeline Investment Company (ROMPCO) to manage the upstream facility and the pipeline respectively. In the upstream facility, Sasol Petroleum International owned 70% of SPT, while Companhia Moçambicana de Hidrocarbonetos (CMH), a subsidiary of the Mozambique national agency ENH, responsible for oil and gas exploration and development, owns 25%. The remaining 5% is owned by the International Finance Corporation (IFC).

The corresponding commercial agreements are (1) the Gas Sales Agreement (GSA) and (2) the Gas Transportation Agreement (GTA). Both these agreements continue to have a significant bearing on gas pricing in SA.

- The GSA regulates the commercial relationship between the Seller and Sasol Gas. The supply period is set at 25 years. The GSA secures a revenue stream for the Seller through a “take-or-pay” obligation of the Buyer.
- The GTA secures a revenue stream for ROMPCO through an appropriate “ship-or-pay” obligation of the Shipper (Sasol Gas). The GTA period is also set at 25 years. The transmission tariff is calculated as a base tariff, increased quarterly by an agreed South African inflation index and is paid in Rand.

Three GTAs exist:

- GTA 1 recovers the initial project finance capital expenditure for a transmission capacity of 120 PJ/a
- GTA 2 (2006) recovers additional capital expenditure associated with debottlenecking another 27 PJ/a
- GTA 3 (2014) recovers further capital expenditure associated with debottlenecking to current capacity (estimated at 210 PJ/a).

As expected within an energy constrained economy, the development of the South African gas market showed significant growth from 2004 onwards after the MZ-Southern Africa Regional Gas Project was commissioned.

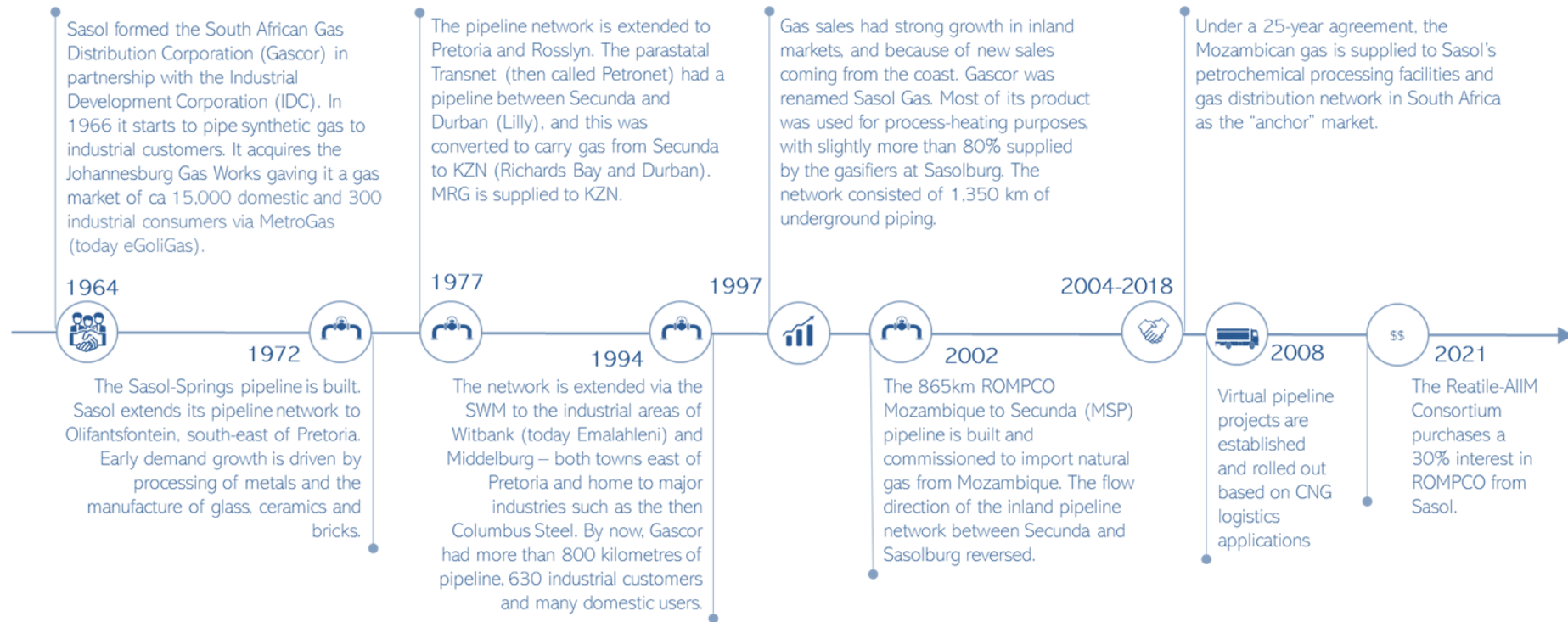


Figure 3-1, Timeline and history of the development of the South Africa gas economy (Source: Prime Africa own research)

### 3.3 DEVELOPMENT OF THE GAS MARKET IN SA

The development of the ROMPCO project, alongside the pre-existing transmission and distribution pipeline systems, entrenched the development of a gas user market outside of Sasol.

This market size is currently ca 56.1 PJ/a.

This market is geographically located along the Sasol gas pipeline network that extends from Secunda in the east into the province of Gauteng. Refer to Figure 3-1 below.

Sasol segments its non-Sasol market into three zones, which are named: Zone 1, 2 and 3. Zone 1 is supplied by natural gas, and Zones 2 and 3 are supplied by a synthetic gas called Methane-rich Gas or MRG.

The Sasol natural gas pipeline network connecting Secunda-Sasolburg and the northern non-Sasol markets supplies Zone 1. The SWM (Secunda-Witbank-Middelburg) pipeline supplies MRG from Secunda to Zone 2. The Transnet-owned Lilly pipeline supplies MRG from Secunda to Zone 3.

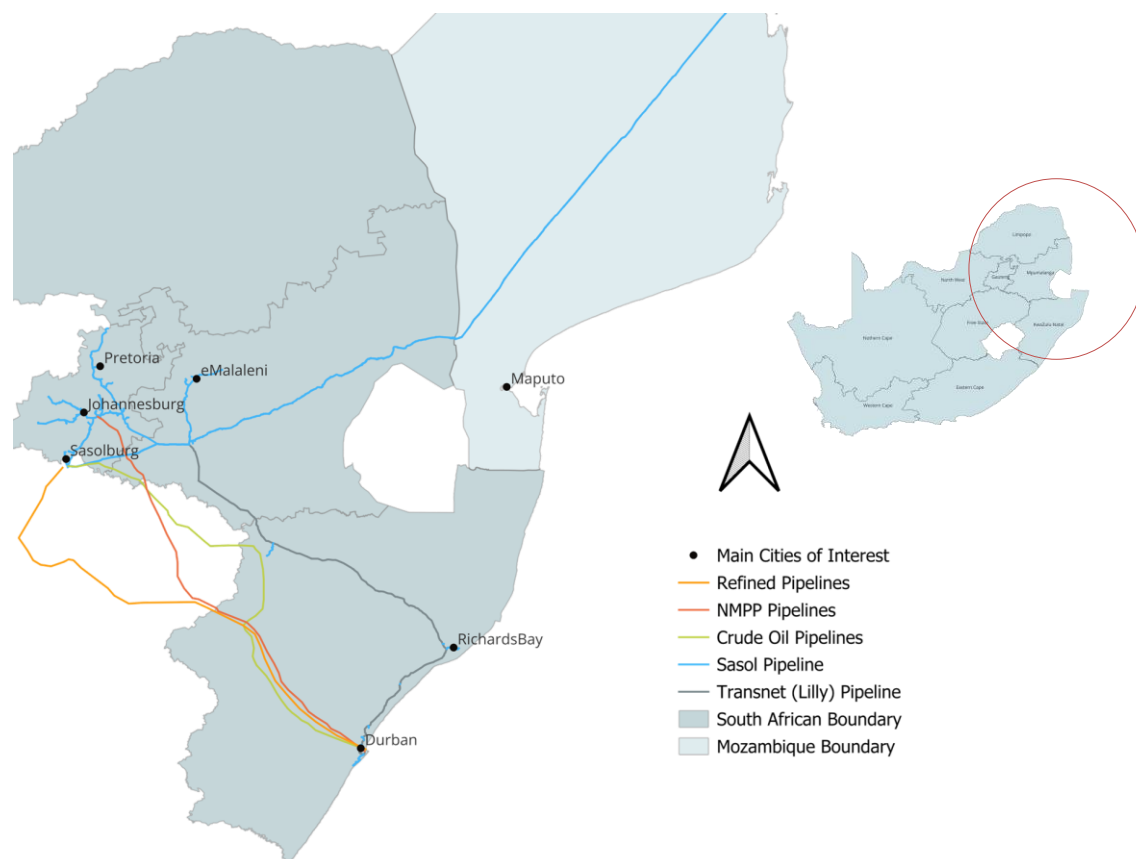


Figure 3-2. The ROMPCO, Sasol and Transnet (Lilly) transmission line system of South Africa (Source: Prime Africa own analyses)

### 3.4 SECURITY OF NATURAL GAS AND MRG SUPPLY RISK

The imminent end of life of the Pande-Temane is well-published. In popular press in South Africa, the term “gas supply cliff”, has been used to demonstrate the expected resultant reduction in natural gas supply.

No official data is available on this, but anecdotal evidence suggests that the period post 2026 would see a rapid reduction in this natural gas supply.

It is expected that Sasol would seek to extend the life of the Pande-Temane resource for as long as possible.

However, there is significant uncertainty of the security of supply to the 56.1 PJ/a non-Sasol market.

### 3.5 FUTURE LNG SUPPLIES TO SA

South Africa currently has no LNG imports.

The Beluluane Gas Company (BGC) is a joint venture between South Africa company Gigajoule, TotalEnergies and Mozambique’s natural gas distributor, the Matola Gas Company. BGC was awarded the concession by the Mozambican government for the importation of LNG into Maputo’s Matola harbour. This concession includes operating a permanently anchored FSRU, marine infrastructure and a new high-pressure gas pipeline. The pipeline (28-inch) infrastructure will connect the FSRU with the Beluluane Industrial Park.

In the Industrial Park the BGC pipeline is planned to connect with a new GTP plant (2,000 MW) which is being developed by Central Térmica de Beluluane (CTB). The BGC is also developing an onshore six bay Truck Loading Facility (TLF) in proximity of the FSRU berthing location with a loading capacity of 18 PJ. This TLF will fill trucks with LNG to be transported to those markets within Southern African which are not connected to the pipeline network. The project is located next to existing MGC infrastructure and 90km from the ROMPCO pipeline.

Project milestones that have been achieved post the awarding of the concession in 2019 include: FEED and EIA completed in 2021.

It is possible that the LNG sourced from here would be available to South Africa markets either

- Through transmission and swapping arrangements via the existing pipeline infrastructure, or
- Via virtual LNG pipeline logistics.

However, Final Investment Decision (FID) has not yet been achieved, and detailed gas supply plans from this project to South Africa remain unclear.

The South Africa government is in the process of awarding an emergency power supply contract set to Turkish company Karpowership. Final details of these projects remain unclear, but it is likely that these ships may be fuelled by imported LNG, which would likely be procured at spot market prices.

### **3.6 OTHER CURRENT GAS SOURCES**

Other current gas sources are of limited and/or isolated extent and include isolated landfill gas, biogas, wastewater treatment works gas or industrial by-product gas. These volumes are currently not significant, due to a variety of factors.

### **3.7 GAS RESOURCES OF AFRICA AND OFF-SHORE EXPLORATION IN SA**

Regionally (in Africa), gas resources are abundant. Fifteen Sub-Saharan African countries have proven natural gas reserves exceeding 0.5 Tcf (trillion cubic feet). Ironically, much of these gas resources are traded and exported to developed country markets, and downstream investment in African projects benefiting local energy economies remain relatively limited.

In Sub-Saharan Africa (SSA), Nigeria has the most proven gas reserves, of at least 199 Tcf. The gas found here is largely associated natural gas – produced alongside oil.

The second largest proven natural gas reserves in SSA belong to Mozambique, with reserves of around 100 Tcf of conventional natural gas. The country is host to widespread onshore and offshore reservoirs. Production has been ongoing in the southern onshore reservoirs of Temane and Pande since 2004 and 2009, respectively (Sasol). With the more recent startup of the offshore Rovuma Basin in the northern area of the country, Mozambique has secured its future as one of the continent's largest LNG producers and exporters.

Angola is the third largest holder of proven natural gas reserves in SSA, with 14 Tcf. The country's reserves are largely in the form of oil-associated natural gas.

In South Africa, offshore gas was historically extracted from the Bredasdorp Basin, a form of gas condensate used to feed the Mossgas plant. This basin is now depleted. The supply situation may change with exploration and development of gas fields such as the Luiperd-Brulpadda discovery off Mossel Bay, with an estimated 3.4 Tcf supply earmarked for PetroSA; and South Africa's Orange Basin, where an EIA for exploration drilling was initiated recently. The extent, timing and availability (to the Western Cape) of the Orange Basin resource still are to be determined.

## 4 SOUTH AFRICAN GAS MARKET SEGMENTS

### 4.1 SEGMENTING THE SOUTH AFRICA GAS MARKET

For the purpose of this analysis, the South Africa gas market can be segmented into four segments:

- Sasol and its natural gas customers
- Geographically based on Sasol zonation and off-pipeline located markets (reachable by virtual pipelines)
- By industry segmentation based on the type of business that uses gas
- By current market and new market (i.e. latent demand).

### 4.2 SASOL AND ITS NATURAL GAS CUSTOMERS

Natural gas is the key resource input into Sasol's refinery operations in SA. Predominantly, Sasol uses natural gas as a chemical raw material into its GTL and other chemical manufacturing processes. Sasol also has a 140 MW gas-to-power plant which it operates for own use of electricity.

Sasol's external natural gas customer markets comprise predominately:

- large industrial and manufacturing companies located on the Sasol transmission pipeline
- gas traders or resellers (licensed by NERSA).

Within this market, and because of the structure of the "ROMPCO Project", Sasol has a natural monopoly in the gas market. A key purpose of the Gas Act (2001) (see below) was to regulate this monopoly to ensure fair pricing and competitiveness. Many legal challenges have been brought by Sasol customers against Sasol over the years, mostly because of gas pricing disputes.

Sasol's customers are located along the current gas pipelines. Their gas supply agreements (GSAs) are with Sasol or other gas traders (resellers). We estimate that there are approximately 550 – 600 firms that constitute this market, and which, together, account of 56.1 PJ/a.

The average demand per customer can range from 20,000 GJ/a to >2.0 PJ/a.

Approximately 30 PJ/a gas is sold to small number large industrial and manufacturing companies.

In addition to Sasol, South Africa has ten licensed gas traders including NOVO Energy and others (refer to Table 4-1), Spring Lights Gas, Reatile, NGV Gas and Virtual Gas Network and Kwande Gas. Data on the quantum of this trade is confidential, but we estimate that the volume of this trade is in the order of 16 – 20 PJ/a.

The balance, approximately 6 - 10 PJ/a is supplied directly by Sasol to more than 500 smaller users. These users are predominately in the manufacturing sector and have industrial operations.



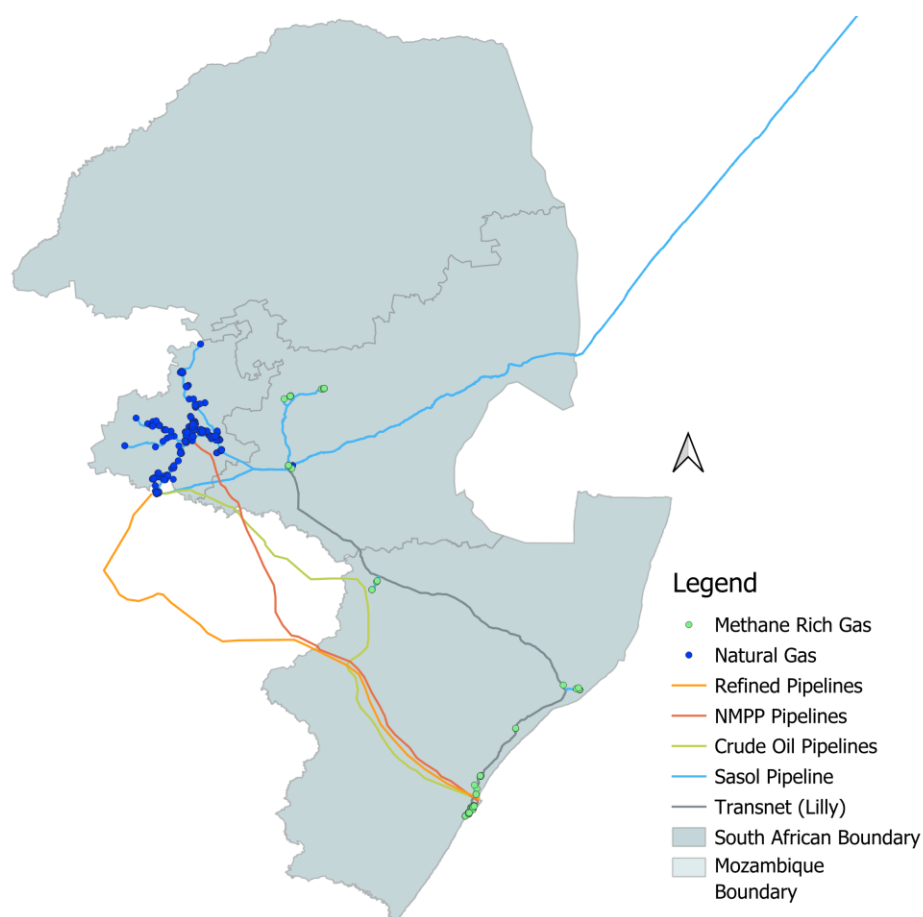


Figure 4-1. Distribution of non-Sasol natural gas and MRG markets (Source: Prime Africa own research)

Table 4-1. NERSA licences gas businesses

	Company	Year issued/modified	Type of license
1	Sasol Gas Limited	2008	Multiple
2	NOVO Energy	2009	Trading
3	Transnet Limited	2009	Operating
4	Virtual Gas Network (Pty) Ltd	2010	Trading
5	NGV Gas PTY Ltd	2010	Trading
6	Reatile Gastrade (Pty) Ltd	2013	Trading
7	Spring Lights	2016	Trading
8	Nampak	2016	Construction
9	Pula Energy	2020	Trading
10	DNG ENERGY (Pty) Ltd	2021	Trading
11	KWANDE GAS (PTY) LTD	2021	Trading
12	Egoli Gas	2021	Operating
13	LNG Hub (Pty) Ltd	2022	Trading
14	Vooma Gas (Pty) Ltd	2022	Trading
15	SL CNG (PTY) LTD	2023	Operating
16	SLG (PTY) LTD	2023	Operating
17	Renergen/Tetra4	n/a	Operating

## 4.3 GEOGRAPHICAL SEGMENTATION

### 4.3.1 PIPELINE CUSTOMERS

Figure 4-1 demonstrates the geographical concentration of the current natural gas market.

This features:

- a cluster of gas users in the Gauteng province (Sasol Zone 1)
- a cluster of users on the SWM spur to the north of Secunda (Sasol Zone 2)
- a cluster of users along the Lilly pipeline (Sasol Zone 3).

### 4.3.2 COMPRESSED NATURAL GAS

Some of the gas traders, and most notably NOVO Energy, operate Compressed Natural Gas (CNG) based virtual pipelines and serve a market located remote from the transmission and distribution pipelines.

CNG is a virtual pipeline technology for transporting gas compressed at pressures exceeding 200 bar in high pressure cylinders, either by road or rail.

The CNG technology is an important application for monetising stranded gas assets, but also for reaching frontier gas markets that are located off-pipeline.

CNG technology is also closely associated with NGV technology and generally faces similar constraints. As in the case of the NGV market, CNG in South Africa is in its infancy, but shows promising signs of development.

## 4.4 LATENT DEMAND

Constrained gas supply has always been a feature of the SA gas economy. Both the supply of natural gas from Mozambique, and the supply of MRG from Sasol operations, have traditionally been constrained by its limited availability.

The concept of latent demand is intended to define a new market for gas which would arise from the availability of new sources of gas supply combined with:

- switching from alternatives, such as diesel or LPG
- new investments reliant on natural gas feedstocks.

Estimating the quantum of latent demand is a complex exercise that falls outside the scope of this market study. Nevertheless, it is evident that several latent demand market segments exist:

- Gas-to-power demand exists, not only for large scale project financed projects, but also for smaller scale projects supplying captive power (embedded generation) capacity. Such smaller scale projects can typically vary from about 1 – 10 MW capacity.
- Industrial demand located adjacent to the existing Sasol pipeline is likely.
- Industrial demand located off pipeline (to be supplied by virtual pipeline) is likely.

## **4.5 INDUSTRY SEGMENTATION BASED ON THE TYPE OF CUSTOMER**

### **4.5.1 INDUSTRIAL / MANUFACTURING MARKETS**

Based on our research, the industrial gas market includes large energy users in the manufacturing sector, including:

- Abattoirs
- Cement, ceramics and bricks manufacturing
- Chemicals manufacturing
- Food and beverages manufacturing
- Glass manufacturing
- Manufacturers to the FMCG industry
- Mining services
- Paper manufacturing
- Plastic and rubber manufacturing
- Smelters, secondary smelters, steel and related industries.

Natural gas use in the industrial market sector is well established, and in addition, holds much new growth potential.

These customers predominantly use natural gas as a source of clean and high-quality thermal energy with flexible dispatchability.

Another key driver of new demand in this market is a need for electrical energy security. Most businesses on South Africa have installed embedded back-up power generation capacity (either solar/BESS or diesel generators or a combination). The availability of natural gas provides an alternative and price competitive dispatchable energy solution.

### **4.5.2 POWER GENERATION**

Gas-to-power (GTP) production has had a slow start in South Africa, because of the above-mentioned constrained gas supplies. One exception is Sasol, which commissioned a 140 MW gas-fuelled facility at its Sasolburg plant in 2014, but aside from this GTP projects are limited. Future planned GTP initiatives are dependent upon sourcing of sufficient gas supplies and may involve the opportunities set out below:

- At a large utility scale, the Integrated Resource Plan for Electricity (IRP) (2019) makes provision for 3,000 MW GTP capacity. No formal IPP Office Request for Proposals (RFP) has been issued for these projects to date. Furthermore, the DMRE's RMIPP programme is in the process of awarding the three Karpowership projects, with likely LNG fuelled projects. In addition, six Eskom peaker plants exist; these are all OCGT power stations powered by liquid fuel (diesel). They were initially intended to be used during peak periods and emergency situations to supply electricity into the Eskom National Grid. Eskom has from time-to-time expressed interest in initiating procurement processes regarding the conversion of the OCGT plants from diesel to gas. All these activities are dependent on Government project development initiatives and their scale and timing are uncertain at the time of writing.
- Within the industrial and manufacturing sector however, captive power (or embedded generation) provides an interesting market opportunity. Up until June 2021, embedded

generation projects exceeding 1 MW required was characterised by an inimical regulatory environment. At the time, the DMRE had indicated that embedded generation were seen as potential competition to Eskom. By 2022 Government announced the removal of all thresholds, paving the way for private sector development of power plants. We estimate that potential customers in the manufacturing sector requiring captive power comprise three tiers: 1 < 10 MW; 10-50 MW and 50+ MW, with a total demand exceeding 1,700 MW. This market typically seeks a high-quality dispatchable electricity source for which gas is highly suitable. This potential market size, depending on number of shifts and market penetration may vary between 10 – 70 PJ/a.

#### **4.5.3 NATURAL GAS VEHICLES**

The natural gas vehicle (NGV) market in South Africa is in its infancy but shows promising signs of development. Sasol pioneered NGV applications in Southern Africa in the 1990s by converting a small number of staff minibuses to bi-fuel applications. Commercial application of NGV technology in Southern Africa, although small in extent, is well established.

A compelling business case for an NGV market exists in South Africa. At the heart of the business case for NGV is a significant fuel cost saving to operators of vehicle fleets of at least 35%. NGV technology is more likely to be highly attractive to fleet operators with large fuel cost bills and vehicle fleets that return to a central depot on a regular basis, for refilling. NGV is thus ideally suited to inner city bus fleets, taxi fleets, commercial fleets and the like.

Estimating the potential market size is difficult, as there will be a large dependence on the construction of a supporting logistics system. However, an analysis of the petrol driven commercial vehicle fleet indicates that for every 1% of market penetration into this market, approximately 1 GJ of gas demand would be created<sup>6</sup>.

#### **4.5.4 RESIDENTIAL MARKETS**

The residential market in South Africa is small and limited. It comprises private household dwellings, multi-dwelling residences and residences with central water heating requirements.

The residential segment is a small market in terms of overall gas consumption and does not show significant growth potential. An exception in this market may be related to the development of large, new, high-income housing developments supplied by a CNG project.

### **4.6 CONCLUSION**

The current gas market is sufficiently large, and moreover supply constrained, to absorb the potential gas supply from the Henneman site.

If the latent market size were to be estimated and brought into this calculation, the potential market size increases even further.

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<sup>6</sup> Prime Africa own analysis based on eNatis Vehicle fleet data and fleet fuel use assumptions

## 5 GAS PRICES

### 5.1 A BRIEF HISTORY AND DESCRIPTION OF NATURAL GAS PRICE REGULATION IN SOUTH AFRICA

NERSA<sup>7</sup> regulates gas prices in South Africa.

The total charges for piped gas are made up of the price for gas energy, transmission and distribution tariffs and trading margins. NERSA's mandate on prices includes:

- To monitor and approve and if necessary, regulate tariffs for transmission and storage
- To approve maximum prices for all classes of customers where there is inadequate competition in terms of the Competition Act.

It is to be noted that NERSA does not set the prices but makes available to licensees various pricing methodologies (which may be amended from time to time), and then reviews and approves the individual price and tariff strategies of the licensees. NERSA may impose maximum prices for distributors and traders, and all classes of consumers must be approved where there is inadequate competition in terms of the Competition Act (Act No. 89 of 1998).

The NERSA tariff setting approach guarantees certainty of margins for gas traders. This results from (1) NERSA's regulation of Sasol's pipeline gas sales tariffs and (2) options provided to traders for estimating, on an annual basis, their selling prices.

Historically, gas prices were initially regulated in terms of the so-called Sasol Regulatory Agreement. This Agreement took precedence over the Gas Act for the duration of a 10-year dispensation period (26 March 2004 to 25 March 2014). Subsequently, tariffs, supply and access to infrastructure have been regulated in terms of the Gas Act (Teljeur et al. 2015; NERSA, 2017).

### 5.2 STRUCTURE OF MOST RECENT PRICING METHODOLOGY AND CURRENT GAS PRICES

The most recent pricing methodology for piped gas was approved by NERSA on 26 January 2023.

According to this, the maximum price of piped gas is determined based on a cost-plus methodology. A maximum price of piped gas proposed by an applicant uses the following formula:

Formula for the determination of the maximum price of gas	R/GJ
Cost of gas	xxx
+ Trading cost	xxx
+ Profit component	xxx
= Maximum price of piped gas	xxx

<sup>7</sup> The National Energy Regulator (NERSA), a Schedule 3A Public Finance Management Act, 1999 (Act No. 1 of 1999) Public Entity, was established on 1 October 2005 in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) to regulate, amongst others, gas industry (Gas Act, 2001 (Act No. 48 of 2001)).

- The Cost of gas component is determined by the gas supply agreement (in the case of pipeline supply) plus any relevant production costs (in the case of own production).
- The Trading cost uses a formula ensures that the licensee recovers its costs to trade the molecule:

$$AR = (\text{Trading Assets} + \text{Working Capital}) * WACC + OPEX + T + C$$

Where: AR = Allowable Revenue

WACC = Weighted Average Cost of Capital

OPEX = Operating expenditure

T = Tax

C = Clawback.

- The Profit component is defined as the 'plus' in the cost-plus formula. NERSA uses a benchmark approach to determine a profit component that will be added to the cost of gas and form part of the maximum price of gas. NERSA uses Earnings Before Interest, Tax and Depreciation (EBITDA) figures to estimate the profit to add. The benchmark that will be used for calculating a maximum price is made up of the average EBITDA figures of five benchmark companies involved in gas trading. The process followed in determining the EBITDA includes:
  - Select gas trading companies that meet the criteria
  - Obtain the EBITDA from the financial statements of the company for the most recent five-year period
  - Calculate the average EBITDA for these companies
  - This average EBITDA is the profit percentage contained in the maximum price.

Current South Africa gas price structure:

- Sasol, as the key gas supplier in South Africa has a current maximum price of R78.23/GJ, or US\$4.35/GJ (assuming a Rand/US\$ rate of 18.00).
- Trading margins are typically based on the pipeline route to customer and would vary based on ROMPCO tariff, other transmission tariffs and distribution tariffs.
- Profit margins are determined on a by-case basis and are unique to each trader.

Table 5-1 below set out a weighted average price structure for piped gas in 2023.

Table 5-1. Weighted average price structure for piped gas in 2023 (sources: NERSA 2023, Prime Africa own analyses)

Gas Price and Tariff Components	US\$/GJ	Notes on variation
Cost of Gas	4.35	Based on Sasol application but may vary between traders
Transmission Tariff	1.45	Significant variation possible based on pipeline route or whether CNG is used
Distribution Tariff	1.15	
Trading Margin	1.22	Variation based on company benchmarking
Regulatory Levy	0.03	Accruing to NERSA
Weighted Average Cost	8.18	May vary between ca 7.30 – 16,00 based on pipeline location and whether supplied as CNG

### 5.3 CONCLUSION: FUTURE GAS PRICES AND THOSE OF ALTERNATIVES

The 2023 weighted average gas prices summarised above is likely to adjust significantly upward from 2026 onwards, as it will likely increasingly be benchmarked against LNG as an alternative. Although no official announcement has been made by Sasol, Sasol's customers widely expect a discontinuation of gas supply in approximately 2026. Thus, alternative gas sources would likely need to be supplied from imported LNG, biogenic gas and, in the longer term, likely offshore resources. The NERSA pricing methodology makes provision for an imported LNG price regime, benchmarked at an energy charge of 12% x Brent Crude Price (or higher under certain conditions), which is aligned with international LNG pricing methodologies. Shipping costs, port duties, regassification and other related costs are still to be added on top of this energy charge.

**The retail prices of alternatives are significantly higher than the expected LNG price.**

These prices will experience upward pressure from a weakening Rand and from continued Eskom price increases.

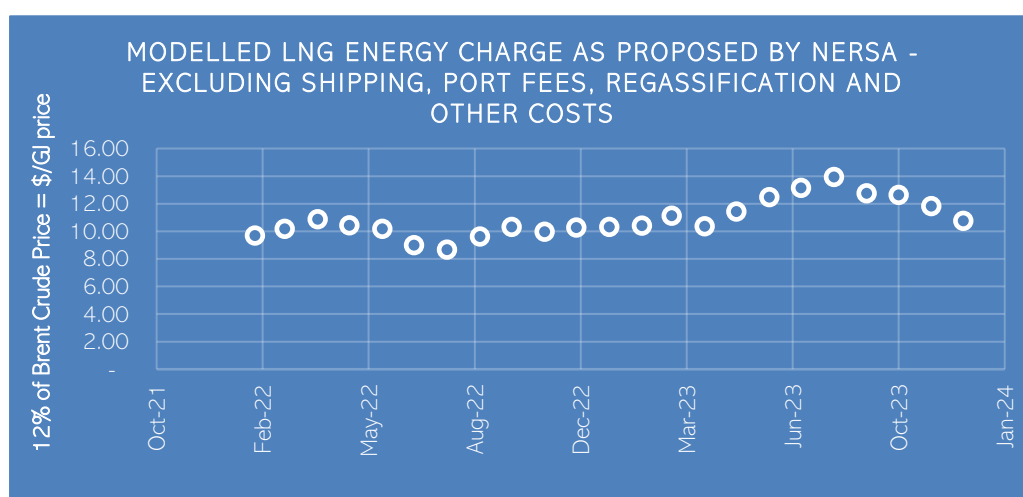


Figure 5-1. LNG energy charge benchmark as advise by NERSA, based on monthly averages of Brent Crude prices. Shipping costs, port fees, regassification and other costs are still to be added on top of this. The resultant LNG cost would likely form a benchmark future gas price for South Africa.

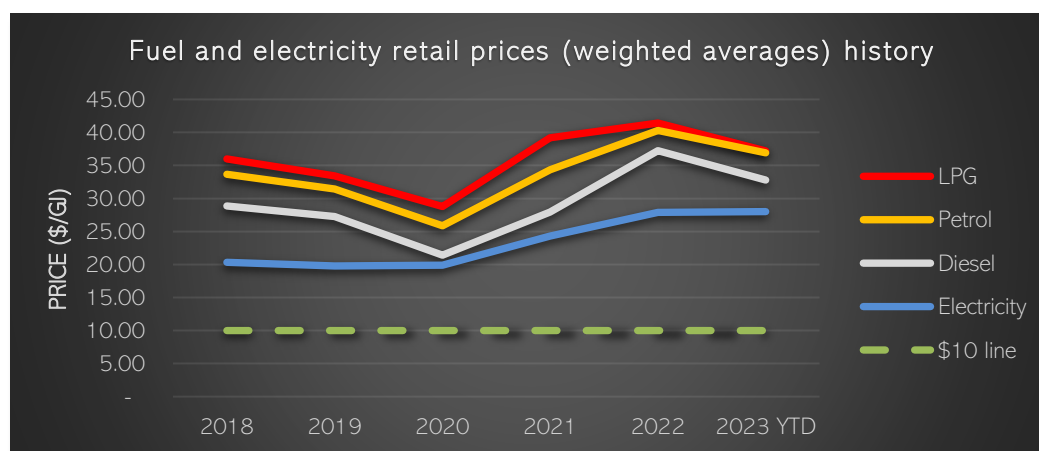


Figure 5-2. Retail prices of competitive prices, converted to US\$/GJ. The data shows significant margins between a "\$10" gas line and other energy sources.



## 6 REVIEW OF THE CURRENT AND FUTURE REGULATORY ENVIRONMENT

### 6.1 SUMMARY

In South Africa the following Acts, Regulations and Rules govern and guide the processes for gas trading:

- The National Energy Regulator Act No. 40 of 2004
- The Gas Act No. 48 of 2001
- Piped Gas Regulations of 2007
- NERSA Gas Act Rules 2009 in terms of the Gas Act 2001
- Gas Regulator Levies Act (No. 75 of 2002).

The Gas Act (2001) and the Piped Gas Regulations (2007) govern the approval of licenses for gas trading and the transmission, distribution, storage, liquefaction and re-gasification of gas, which includes the construction and operation of such facilities. NERSA is the regulatory body through which licence, including licence conditions, are approved, and monitoring and approval of gas transmission and storage tariffs, and approval of maximum gas prices takes place.

### 6.2 A SUPPORTIVE REGULATORY ENVIRONMENT

SA has a gas regulatory environment, which is favourable to investment in gas. The regulatory environment is overwhelmingly promotional and enabling, with restrictive legislation limited to necessary environmental health and safety considerations.

#### 6.2.1 THE GAS MASTER PLAN

Although a large range of promotional legislation and regulations exist, the key regulatory driver that is imminent is the long-awaited Gas Master Plan (GMP). Public consultation on this plan initiated during 2021<sup>8</sup> and it is expected that this Plan would envisage a significant increase in the supply of gas, initially as a basis for power generation, in support of the government's IPP programme. It is also expected to provide a long-term view on future sources of gas.

It is further expected to provide a framework for investment in gas infrastructure focussing on the role of gas in the electricity, transport, domestic, commercial and industrial sectors.

#### 6.2.2 INTEGRATED RESOURCES PLAN<sup>9</sup>

The Integrated Resource Plan is, in short, a national electricity development plan for South Africa that direct the expansion of South Africa's electricity supply. It falls into a subset of the Integrated Energy Plan. The IRP seeks to identify investments in the electricity sector that will allow the country to meet the forecasted demand, at a reasonable cost in the context of locally and internationally available technology and feedstock options.

The most recent version of the Integrated Resources Plan (IRP) was published for comment on 4 January 2024. This version of the IRP envisages four possible pathways for energy generation,

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<sup>8</sup> DMRE. (2021). South Africa Gas Master Plan. Base Case Report. Available at: [Link](#) (Accessed 7 November 2024).

<sup>9</sup> South Africa Government. (2024). Government Notice No. 49974 – Publication for Comment – Integrated Resources Plan 2023. Available at: [Link](#) (Accessed 8 January 2024).

three of which makes provision for significant build of gas-fired power stations (mostly exceeding 8,000 MW at some stage in future). The only exception is the fully renewable energy pathway, which makes no provision for dispatchable power plants.

### **6.2.3 THE GAS ACT 2001, ACT 48 OF 2001 AND AMENDMENT**

The Gas Act 2001, Act 48 of 2001<sup>10</sup> was promulgated to promote the orderly development and operation of the piped gas industry; establish a national regulatory framework and National Gas Regulator as custodian and enforcer of this regulatory framework; and all matters relating to this. It aims to:

- Promote the orderly development of the piped gas industry;
- Establish a national regulatory framework; and
- Establish a National Gas Regulator as the custodian and enforcer of the national regulatory framework.

The regulations imposed by the Act seeks to reduce monopolistic and oligopolistic behaviour, which was seen as a barrier to the effective development of diversified and larger scale customer base.

The National Gas Regulator definition as referred to in the Gas Act was amended in 2004 to mean the National Energy Regulator by section 3 of the National Energy Regulator Act of 2004. It thus empowers the NERSA through licensing:

- Regulation of the petroleum pipelines and gas industry through licensing - HDSA empowerment being a key aspect thereof;
- Approval tariffs and prices; and
- Decisions based on published Government Policy.

The Gas Amendment Bill<sup>11</sup> is an Amendment of the Gas Act that aims to:

- Incorporate changes in the gas industry landscape in redefining "gas" to include unconventional gas (like shale gas) & other modes of transporting gas in the form of liquefied natural gas (LNG) and compressed natural gas (CNG);
- Enhance the regulation and governance of the gas industry through appropriate empowering provisions for NERSA to effectively and efficiently execute its mandate.

### **6.2.4 GAS TRADING LICENSE REQUIREMENTS AND PROCESS**

Activities that require a license and for which the Energy Regulator must (according to the Gas Act 2001), as appropriate, issue licenses include the following:

- construction of gas transmission, storage, distribution, liquefaction and re- gasification facilities,
- conversion of infrastructure into transmission, storage, distribution, liquefaction and re- gasification facilities,

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<sup>10</sup> South Africa Government. (2002). Government Notice No. 23150 – Act No. 48 of 2001: Gas Act, 2001. Available at: [Link](#) (Accessed 8 November 2024).

<sup>11</sup> South Africa Government. (2021). Government Notice No. 44438 – Gas Amendment Bill, 2021. Available at: [Link](#) (Accessed 8 November 2024).

- operation of gas transmission, storage, distribution, liquefaction and re-gasification facilities, and
- trading in gas.

The activities relating to the production and importation of gas require that the owner of such an operation register its activities with NERSA.

The following registration information needs to be provided by registered entities to the Gas Regulator within three months of the end of each calendar year.:

- the actual and planned production quantities and specification details of gas including gas intended for own use;
- the sources, specifications and quantity of imported gas; and
- the gas reserves data measured in trillions of cubic feet.

NERSA may be approached prior to license applications, to discuss any contemplated construction of or conversion of facilities into gas facilities, the operation thereof or the envisaged trading in gas. NERSA must provide information as discussed to help facilitate filing of any necessary license applications (Gas Act, 2001). NERSA may impose license conditions which include the limitation that licensed activities (gas transmission, storage, distribution, trading, liquefaction and regasification activities) are managed separately and with no cross-subsidisation (Section 21 (1) Gas Act, 2001)

The Licensee must develop, implement and maintain the following management plans: (a) an operating and maintenance plan; (b) an emergency plan; and (c) a decommissioning plan, where applicable, within three calendar months of the date of issue of its license.

#### **6.2.5 PIPED GAS REGULATIONS OF 2007: THIRD PARTY ACCESS TO TRANSMISSION PIPELINES**

The Minister of Energy determined the piped gas regulations, made under section 34(1) of the Gas Act in 2007. These regulations specify the criteria for distribution and transmission gas pipelines; the eligible customers and the price regulation and procedures for gas traders; information pertaining to third party access to transmission pipelines and storage facilities; and determination of gas specifications.

Third-party access to storage facilities and to transmission pipelines – the latter owned and operated by Sasol, ROMPCO and Transnet – is regulated through the Gas Regulations of 2007 and the ROMPCO pipeline agreements.

Third party access to transmission pipelines is mandatory, subject to uncommitted capacity being available. The transmission tariffs are approved by NERSA and apply equally to all users.

The gas transmission pipeline operators in South Africa are Sasol Gas and Transnet. Sasol Gas owns pipelines in the Gauteng, Mpumalanga and Free State provinces and the pipelines cover approximately 903 kilometres (km) and operate at pressures of 15 bar gauge and higher. The Transnet owned pipeline (Lilly Pipeline) is between Secunda in Mpumalanga and Durban in Kwa-Zulu Natal and methane-rich gas (produced at Sasol's plant) is transported through this pipeline. Sasol is also the operator of the cross-border pipeline, owned by ROMPCO, which in turn is held by the Governments of South Africa and Mozambique (25% each) and Sasol Ltd (50%).

All gas distribution pipelines (defined by their operating pressure of below 15 bar gauge, but above 2 bar gauge) are owned by Sasol Gas and cover approximately 317 km. Sasol Gas trades natural gas from Mozambique and methane-rich gas manufactured locally to its customers. Gas transmission and distribution through these pipelines are regulated through the Gas Act, 2001, Piped Gas Regulations of 2007.

Third party access can only be given to uncommitted capacity in the transmission lines. The Piped Gas Regulations stipulate the requirement by the transmission licensee to provide NERSA with their guidelines for the use of the transmission system. These guidelines (The Network Code) are publicly available and enable potential customers to understand the procedure for obtaining access to the transmission pipeline and provides enough information for the customer to enter into and conclude negotiations with the transmission licensee for access.

#### **6.2.6 OBTAINING SITE-SPECIFIC LICENCES**

Site-specific licences comprise all legislation and regulations under the Occupational Health and Safety Act 85 of 1993; the National Road Traffic Act 93 of 1996 and the Standards Act 29 of 2008.

Key to adhering to this legislation is to adhere to major hazardous installation (MHI) regulations. At each potential site an MHI assessment is done to identify fatal flaws (in which case the development does not proceed) and to identify mitigation requirements (as set out in the Act and regulations).

#### **6.2.7 TAX CONSIDERATIONS**

Gas is not taxed under the DMRE fuel tax regime but is subject to sales tax (Value Added Tax or VAT).

The VAT rate in South Africa is currently 15%.

### **6.3 OTHER ENABLING REGULATIONS**

#### **6.3.1 THE NATIONAL DEVELOPMENT PLAN 2011**

The intention of the NDP was for it to be a forward-thinking script compiled by a team of individuals positioned to be removed from “silos of government”<sup>12</sup> that bias decision making. The NDP is thus, in its intent, somewhat optimistic, yet intentionally so, detailing a set of objectives for which South Africa should be striving.

The NDP outlines several objectives which promotes the use of gas as a fuel. These include:

- Economic growth and development through adequate investment in energy infrastructure and the provision of quality energy services that is competitively priced, reliable and efficient.
- Local production of energy technology is emphasized, to promote the generation of employment.
- Social equity through expanded access to energy services, with affordable tariffs and targeted and sustainable subsidies for needy households; and

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<sup>12</sup> National Development Plan. Vision for 2030. Government of South Africa. Available at: [Link](#) (Accessed 8 November 2024).

- Environmental sustainability through efforts to reduce pollution and mitigate the effects of climate change.

The NDP proposes diverse and alternative energy resources and energy supply options, both in terms of power generation and the supply of liquid fuels. Page 143 of the Plan discusses substituting gas for coal to cut South Africa's carbon intensity and greenhouse gas emissions (from coal-fired power). It makes mention of the possibilities to source gas from various domestic sources. The report further states that LNG imports could provide options for power generation, gas to liquids and industrial use.

The NDP envisages a South Africa which by 2030 would have adequate supplies of electricity and liquid fuels to avoid disruptions to economic activity, transport and welfare. It acknowledges that energy prices are likely to be higher in future, but will still be competitive when compared with South Africa's major trading partners. In addition, the NDP affirms that more than 90% of the population should enjoy access to electricity by 2030. The plan also speaks to the increased liability South Africa will face in the International community unless we reduce emissions.

### **6.3.2 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 28 OF 2002**

Upstream legislative framework on oil and gas is covered by the Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002). To make provision for equitable access to and sustainable development of the nation's mineral and petroleum resources; and to provide for matters connected therewith.

The aspects of the Act which may be construed as being promotional fall within mandate that support the existence of PASA. These include:

- The promotion of exploration for onshore and offshore oil & gas resources and their optimal development;
- The regulation of exploration and production activities (through the processing and recommendation of application rights and permits); and
- To act as the custodian of the national petroleum exploration and production database.

### **6.3.3 OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993 (DOL)**

The Occupational Health and Safety Act aims to provide for the health and safety of persons at work and for the health and safety of persons in connection with the activities of persons at work and to establish an advisory council for occupational health and safety.

Key regulations include:

- Pressure Equipment Regulations
- SAGA, Safe Equipment Scheme.

### **6.3.4 THE NATIONAL ROAD TRAFFIC ACT 93 OF 1996 (DOT)**

The National Road Traffic Act provides for road traffic matters which shall apply uniformly throughout the country. A key regulation that needs to be considered especially in the CNG market is the Transportation of Dangerous Goods and Substances by Road.

### **6.3.5 THE STANDARDS ACT 29 OF 2008**

The Standards Act empowers the South African Bureau of Standards (SABS) as the national institution for the promotion and maintenance of standardisation and quality in connection with

commodities and the rendering of services. As the national standardisation authority, the SABS is responsible for maintaining South Africa's database of more than 6,500 national standards, as well as developing new standards and revising, amending or withdrawing existing standards as required. The South African National Standards (SANS) applicable to the gas market are listed below:

- SANS 1156-2:2012 (Ed. 3.00): Hose for natural gas and liquefied petroleum gas (LPG) Part 2: Hose and tubing for use in natural gas and liquefied petroleum gas vapour phase
- SANS 10087-6:2006 (Ed. 4.01): The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations Part 6: The application of liquefied petroleum and compressed natural gases as engine fuels for internal combustion engines.
- SANS 13631:2003 (Ed. 1.00): Petroleum and natural gas industries - Packaged reciprocating gas compressors.
- SANS 14469-1:2010 (Ed. 1.00): Road vehicles - Compressed natural gas (CNG) refuelling connector Part 1: 20 MPa (200 bar) connector
- SANS 14469-2:2010 (Ed. 1.00): Road vehicles - Compressed natural gas (CNG) refuelling connector Part 2: 20 MPa (200 bar) connector, size 2
- SANS 14469-3:2010 (Ed. 1.00): Road vehicles - Compressed natural gas (CNG) refuelling connector Part 3: 25 MPa (250 bar) connector
- SANS 15112:2010 (Ed. 1.00): Natural gas - Energy determination
- SANS 1539:2012 (Ed. 5.00): Appliances operating on liquefied petroleum gas (LPG) or natural gas (NG) - Safety aspects
- SANS 15403-1:2010 (Ed. 1.00): Natural gas - Natural gas for use as a compressed fuel for vehicles Part 1: Designation of the quality
- SANS 15403-2:2011 (Ed. 1.00): Natural gas - Natural gas for use as a compressed fuel for vehicles Part 2: Specification of the quality
- SANS 15500-1:2010 (Ed. 1.00): Road vehicles - Compressed natural gas (CNG) fuel system components Part 1: General requirements and definitions
- SANS 15501-1:2010 (Ed. 1.00): Road vehicles - Compressed natural gas (CNG) fuel systems Part 1: Safety requirements
- SANS 15501-2:2010 (Ed. 1.00): Road vehicles - Compressed natural gas (CNG) fuel systems Part 2: Test methods
- SANS 15589-1:2009 (Ed. 1.00): Petroleum and natural gas industries - Cathodic protection of pipeline transportation systems Part 1: On-land pipelines
- SANS 15589-2:2009 (Ed. 1.00): Petroleum and natural gas industries - Cathodic protection of pipeline transportation systems Part 2: Off-shore pipelines
- SANS 15970:2010 (Ed. 1.00): Natural gas - Measurement of properties - Volumetric properties: density, pressure, temperature and compression factor
- SANS 20049:2009 (Ed. 2.00): Uniform provisions concerning the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles
- SANS 20110:2003 (Ed. 1.00): Uniform provisions concerning the approval of: I. Specific components of motor vehicles using compressed natural gas (CNG) in their

propulsion system, II. Vehicles with regard to the installation of specific components of an approved type for the use of compressed natural gas (CNG) in their propulsion system

- SANS 208:2012 (Ed. 1.01): The design and installation of compressed natural gas (CNG) vehicle filling stations
- SANS 252:2003 (Ed. 1.00): Metallic hose assemblies for liquid petroleum gases and liquefied natural gases
- SANS 29001:2012 (Ed. 3.00): Petroleum, petrochemical and natural gas industries - Sector-specific quality management systems - Requirements for product and service supply organizations
- SANS 60730-2-17:2008 (Ed. 1.02): Automatic electrical controls for household and similar use Part 2-17: Particular requirements for electrically operated gas valves, including mechanical requirements
- SANS 827:2011 (Ed. 1.00): The installation of pipes and appliances for use with natural gas.

#### **6.3.6 CLEAN AIR POLICIES**

The Department of Forestry, Fisheries and the Environment (DFFE) has executed a cost-benefit analysis for the reduction of air pollution and their associated human health costs. The conversion of part of the national vehicle parc to run on gas has been demonstrated to be a cost-effective pollution reduction measure in previous work done by the Department. Depending on the results of the newly commissioned study, which are likely to be favourable, the government is likely to use policy to encourage the use of NGVs.



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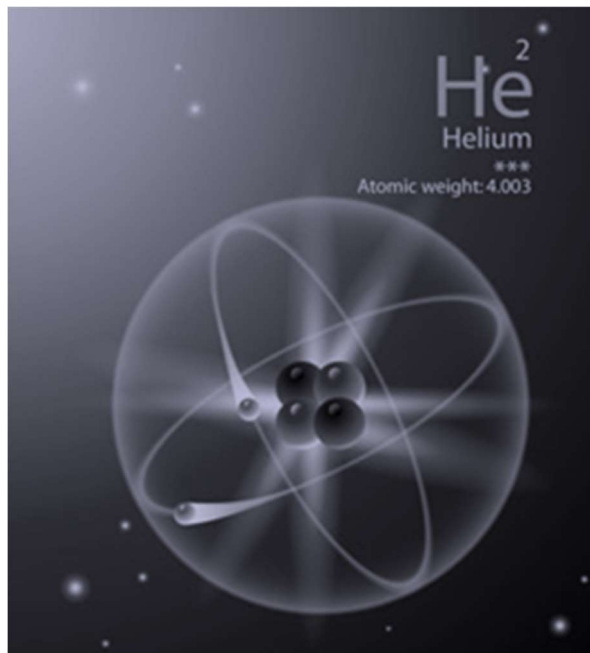
## 14. HELIUM MARKET REPORT

# Helium Market Report

November 2023

## **Helium: a critical, irreplaceable element, essential to many sectors**

Helium is a vital resource, essential in modern technologies with major critical uses throughout the science, medicine and manufacturing industries. It cannot be synthesised or substituted in many cases. The geological risks of finding helium are similar in many regards to finding natural gas; the majority of helium is produced as a by-product of natural gas production. The helium market size is ~6bcf/y. Based on our current estimate of global average traded helium prices of ~US\$500/mcf it is worth around US\$3bn p.a. to the producers but based on end user pricing it is likely a 3-4x bigger market.



## **Market likely to remain undersupplied for the next few years supporting helium prices**

Given there is negligible storage available in the helium market, helium supply has to equal helium demand. Historically there has been no growth in helium supply over the last decade, which has in turn led to no helium demand growth. If the supply was there, helium demand would have grown but as a result of the lack of supply prices had to rise to choke off demand. Helium pricing has risen at a CAGR of 18% over the last five years. We expect that helium demand should grow in a range of 5-6% p.a., however, in 2024-2026, demand will likely be determined by the supply availability given limited new supply. Therefore, it is likely that if supply grows at a meagre 2-3% over the next couple of years that prices will have to continue to rise to restrict demand growth.

Given the inability to substitute helium in many applications, we see demand as relatively price inelastic. As there is a finite amount of helium production, there has been a supply shortage of helium and there is not any significant commercial storage to draw on, it is hard to quantify the unmet or latent demand for helium. The market is very susceptible to supply disruption as global supply is very concentrated, which has led to price spikes in the past as there is little in the way of spare storage or the ability to ramp production. There are numerous players involved in the helium market but just a handful of companies control the majority of supply and distribution.

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## Helium: the key questions and answers

### Why is helium an important commodity?

Helium has several unique properties with numerous applications that make it an essential and irreplaceable element for many industries. This is because it cannot be synthesised, manufactured or substituted in many cases. Helium is listed on the critical materials lists for Canada, the EU, China and other major economies. Its key properties are that it is the second lightest element, it is the least reactive material known (inert), has the lowest boiling point and is one of the smallest elements. It is colourless, tasteless, odourless, non-toxic, non-flammable, has high sound, specific heat and thermal conductivity and extremely low solubility. Helium becomes a superfluid at temperatures close to absolute zero.

### What is helium used for?

Helium is a vital resource, essential in modern technologies with major critical uses throughout the science, medicine and manufacturing industries. It is an inert gas for cryogenic, heat transfer, shielding, leak detection, analytical and lifting applications. It is the most important element in studying super-cold conditions in low-temperature physics studies. It is a critical component in the manufacturing process, specifically ones which serve unique high-tech applications in MRIs, fibre optics and semiconductor chip manufacturing. More recent uses include hybrid air vehicles, helium filled hard drives and nuclear fusion technology.

#### Uses of gaseous versus liquid helium

##### MRI (Magnetic

##### Resonance Imaging)

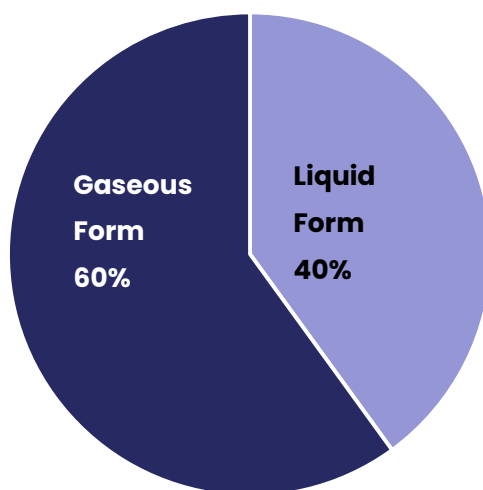
Magnet cooling

##### Rockets and Satellites

Systems cooling and fuel pressurising

##### Fibre Optics

Highly purified glass preform creation and fibre cooling



##### Electronics

Production cooling

##### Breathing Atmospheres

Faster, Easier and safe decompression

##### Chromatography & Laboratory Applications

Carrier gas and purge gas, zero gas or neutral atmosphere

Source: Akap Energy estimates

### Helium market size and opportunities?

The helium market is around 6bcf/y. Based on current average upstream pricing of US\$500/mcf it is worth around US\$3bn p.a. to the producers but based on end user pricing it is likely a 3-4x larger market. We see the key uses of helium coming from semiconductors at 20% of demand; ~15% each from the MRI/NMR machines, lifting gas, and other scientific applications; around 8-10% each from aerospace,

welding, and leak detection; and the balance in ~5% each from quantum computing, diving, and cryogenics.

***What units are used to refer to helium?***

Helium pricing is referred to in various units: either per thousand cubic feet (mcf), per litre (l) or per kilogram (kg). US\$500/mcf is the equivalent of US\$13/l or US\$107/kg.

***Who are the main players?***

There are numerous players involved in the helium market but just a handful of companies control the majority of supply and distribution. For example, on the supply side Qatargas, the US Government (through its strategic storage, which is being sold), Sonatrach in Algeria and Exxon produce the majority of supply and may be joined by Gazprom as it attempts to ramp up production in the next few years. There are a handful of mainly US focused midstream companies operating helium purification plants. There are now at least 30 independent E&P companies globally that either have helium production or are looking to develop helium. These are generally relatively new companies that have emerged over the last few years to capitalise on rising helium prices.

Finally, there are the industrial gas companies that buy the helium: Linde, Air Liquide and Air Products are the main players. As with other commodities, we believe there is a good chance that China will look to stockpile helium (build storage similar to the US Bureau of Land Management) and also look to acquire helium resources globally. There is room for smaller players – for example, the CEO of Weil Group, which is the only small player to export helium from North America to Asia, has said that his company is operating effectively outside the oligopoly, establishing relationships with unique customers who are “tired of the unpredictability and unreliability of supply”.

***How is helium formed and produced?***

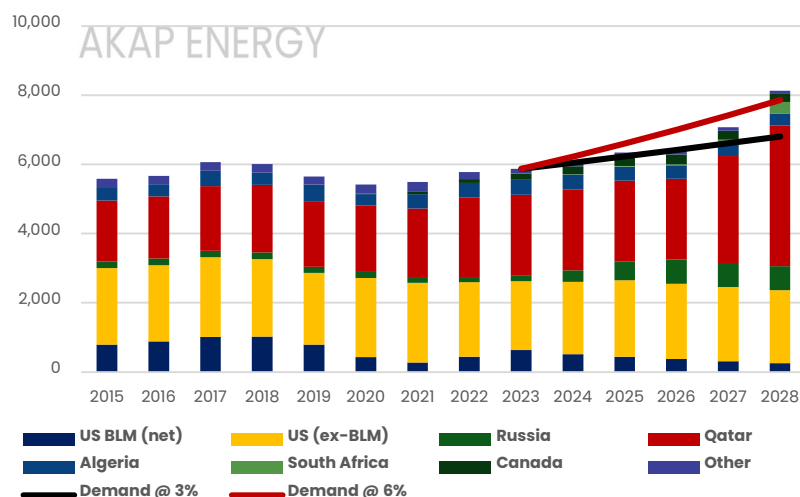
Although helium is the second most abundant element in the Universe, it is found in very low concentrations in the earth’s atmosphere. Most helium on earth is formed through the radioactive decay of uranium in the earth’s crust that makes its way into underground gas reservoirs. The geological risks of finding helium are similar in many regards to finding natural gas. The requirements for success are the same, namely having source, migration, reservoir, trap and seal; however, the mechanisms are somewhat different. The vast majority of helium is produced as a by-product of natural gas production, with generally a few percent or less helium content, but more recently companies have been looking at extracting helium from non-hydrocarbon sources if it is found in high concentrations >5%. South Africa is an extremely promising area for helium production with some of the highest global concentrations of helium in well data.

***How is helium extracted?***

The process to upgrade low concentration helium in a gas stream to high purity helium is as follows: the raw gas is first pre-treated, then either distillation of gas

takes place or membrane separation, to produce crude helium and finally purification using a method called pressure swing adsorption. This produces pure helium (99.99%) which can be compressed and sold as a gas or put through a bed of activated charcoal to remove trace impurities before being liquefied. Helium projects have rarely been delivered on time due to the complexity of the projects (often the wider gas projects that the helium projects form a small part of) or due to issues with gas supply and pipeline infrastructure.

Estimated supply demand balance for helium (mmcf/y)



Source: Akap Energy estimates

#### What does the supply and demand balance look like?

Given there is negligible storage available in the helium market, helium supply has to equal helium demand. Historically there has been no growth in helium supply over the last decade, which has in turn led to no helium demand growth. However, if the supply was there, helium demand would have grown but as a result of the lack of supply prices had to rise to choke off demand.

We expect that helium demand should grow in a range of 5-6% p.a., however, in 2024-2026, demand will likely be determined by the supply availability given limited new supply. Therefore it is likely that if supply grows at a meagre 2-3% over the next couple of years that prices will have to continue to rise to restrict demand growth.

If there is downward pressure on price from incremental supply, we see the potential for higher demand as companies look to secure supplies at lower prices and possibly also look to top up storage levels. Furthermore, there are many industries that would take more helium if it was available, especially at lower pricing.



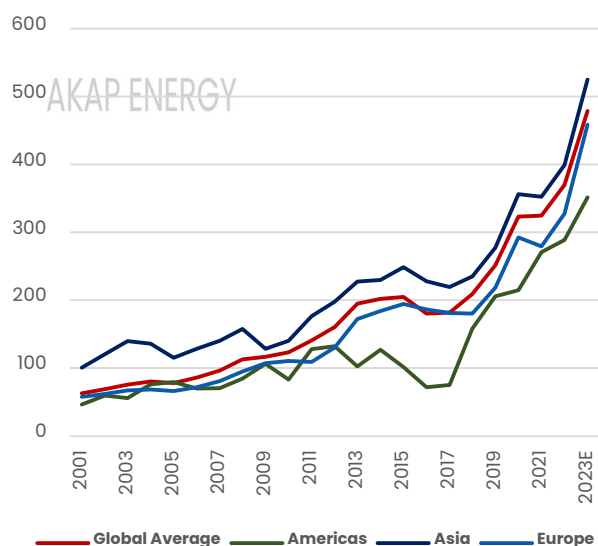
### How is helium priced?

Market pricing for helium is difficult to ascertain as it is not a traded commodity and pricing is normally based on long-term, confidential contracts, resulting in opaque pricing given there are only a few key suppliers and industrial gas buyers. Many helium users tend to be price insensitive as there are no substitutes for helium in many cases, making them price-takers. This is another reason for long-term contracts as security of supply is crucial to many users. Therefore, spot or current pricing is not overly relevant for producers and means production is more bankable given security of cash flows. The market is very susceptible to supply disruption, which has led to price spikes in the past. It has been estimated that around 10% of global helium demand was lost in 2011-13 due to shortages and pricing doubling. There is room for producers to go directly to end users or to smaller gas distributors enabling them to achieve higher pricing whilst the end users receive lower prices by cutting out the industrial gas companies in the middle which have historically taken the lion's share of the profits.

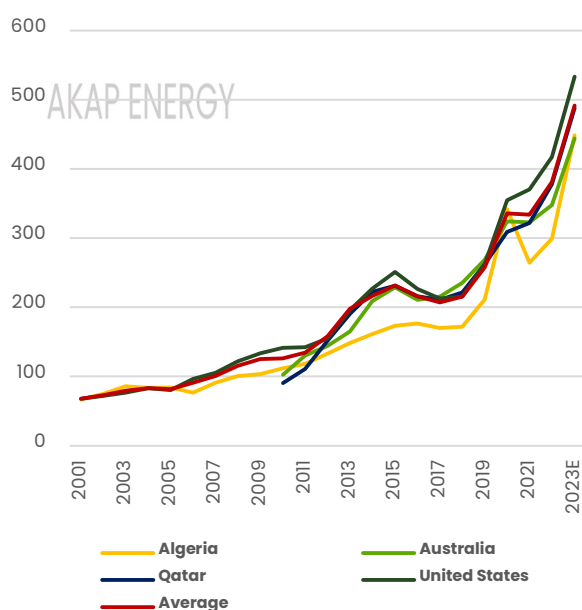
### What is current helium pricing?

We see recent term pricing at around US\$500/mcf for producers. Helium prices have increased at a CAGR of 20% over the last decade. For example, imports from the biggest exporter Qatar are priced on average at around US\$300-500/mcf, which implies that Qatar is exporting at around US\$250-450/mcf when transportation costs are removed. In the North America, we see legacy contracts at similar levels but we believe that newer contracts are attracting higher pricing towards US\$500/mcf. To put these prices in context, some large end users have been paying >\$2,000/mcf due to the current shortages.

Global helium import prices by region, US\$/mcf



Global helium export prices by region, US\$/mcf



Source: Akap Energy estimates

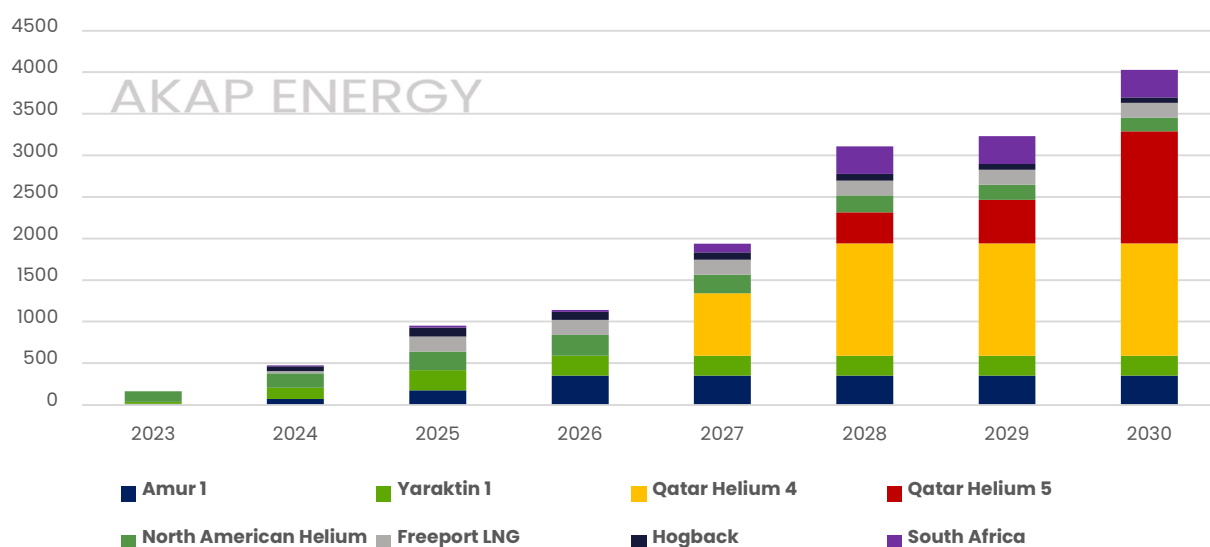
### Where has helium supply come from?

Global helium supply is currently very concentrated with the US and Qatar alone currently accounting for ~75% of world supply. There are two notable projects that supply >50% of world demand: the LaBarge field in the US and the North Field in Qatar, meaning very high concentration risk for the helium market. Both are supergiant fields where production can be maintained for decades to come (with further growth in the case of Qatar's North Field Expansion Project). As such, there is not as much of an issue with replacing underlying decline as there is with hydrocarbon production. In aggregate we see existing production declining at around 2~3% per annum or excluding these fields at around 7% per annum. We estimate that US BLM will still account for around 11% of supply in 2023 (~635mmcf) but the outlook is uncertain given challenges around the plant and geological risks. As there are no official published figures, we estimate that 2022 helium supply (including production out of US Federal Helium storage) was 5.8bcf/y.

### What is the supply outlook for helium?

We expect that helium supply will grow at a CAGR of around 3% over the next three years with then a big acceleration in growth from Qatar'. However, we see risk skewed to the downside given the history of delays/ramp-up issues for new projects and also the risk of operation/geopolitical disruptions from existing projects. There is uncertainty over supply from Russia (Amur adding up to 2.1bcf/y), which has been severely delayed given two separate fires as well as the ongoing geopolitical issues with the Russia-Ukraine war. As a result, we assume minimal volumes. The US Federal Helium Reserve was offline for a long time and restarted production in H2'22. Although the facility is currently producing at a rate of ~1.8mmcf/d, it is in decline and the helium stored will be exhausted by around 2030.

Major New helium projects supply additions to 2030 (mmcf/y)

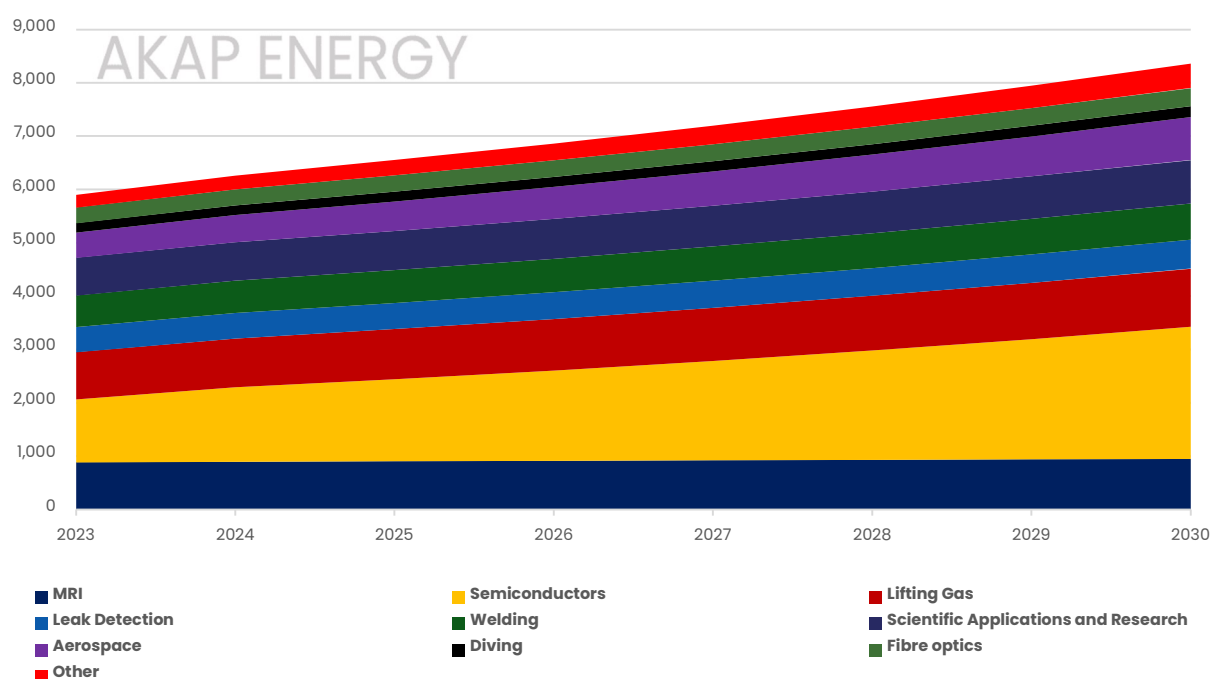


Source: Akap Energy estimates

### What is the outlook for helium demand?

Bottom-up estimates result in an overall CAGR of 6% over the forecast period, with demand growing from 5.9bcf/y in 2023 to 8.7bcf/y in 2030. The future growth of helium is expected to be driven by demand from electronics manufacturers in Asia. Semiconductor, flat panel display, and optical fibre manufacturing are all significant consumers of helium in Asian markets. We see major growth potential for helium in new areas such as commercial space or near-space travel, airships, quantum computing and nuclear fusion and small-scale fission. We also think there will be new uses for helium emerging that we have not considered yet or markets that grow quicker than expected such as quantum computing or fusion. Growth in hydrogen demand will also stimulate demand for helium for leak testing.

Helium demand by sector 2023 – 2030

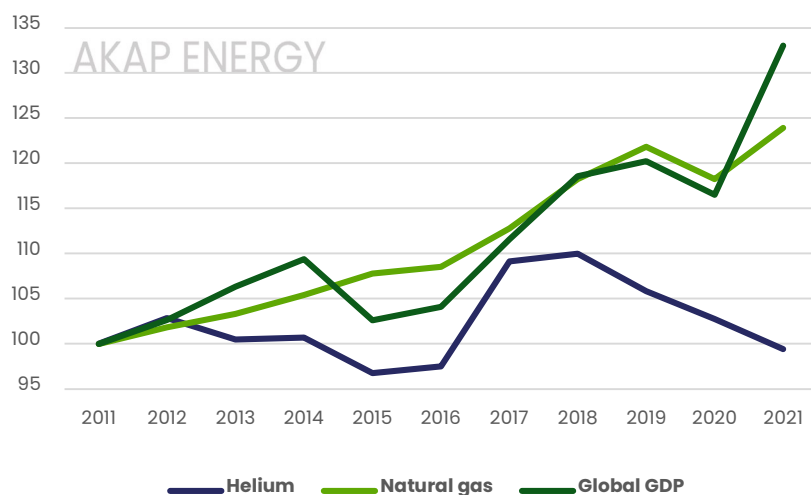


Source: Akap Energy estimates

### What are the regional trends in demand?

The general trend in the helium market has been a fall in demand from the US and Europe over the last decade, which has been offset by growth in China and Asia. This is because of the faster growth rate of MRI usage in Asia than the west, and due to technology growth industries for helium such as semiconductors and fibre optics being centred in China and the Far East. As with so many commodities, China is the most important growth market for helium, in our view. It has already doubled its helium consumption over the last decade and is almost completely dependent on imports given a tiny domestic helium industry.

## 10 Year Demand Trends vs GDP (indexed to 100)



Source: Akap Energy estimate

### **What is the sensitivity of demand to pricing?**

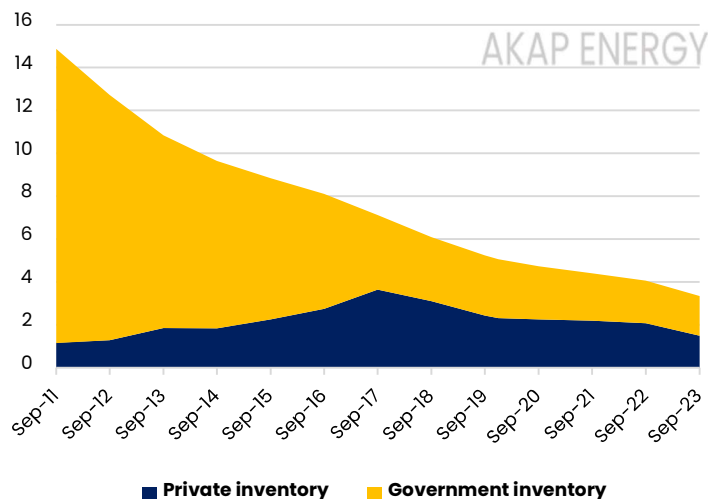
Given the inability to substitute helium in many applications, we see demand as relatively price inelastic. With prices already significantly higher than at the beginning of the decade, most of the price elastic demand has likely already been eliminated. In fact, if there are periods of lower pricing there is likely to be latent, more price-sensitive demand that could return to the market. Given that there is a finite amount of helium production, there has been a supply shortage and there is not any significant commercial storage to draw on, it is hard to quantify what the unmet or latent demand for helium is. If more helium supply was to come on to the market, we believe demand would likely come out of the woodwork. Buyers that cannot substitute helium would be willing to sign long-term contracts with a diversified set of suppliers, in order to ensure security of supply, even if this entails higher pricing, as the cost of not having helium could be multiple times higher.

### **What is financing availability like and deal structuring?**

There appears to be strong appetite for financing helium projects given that there are plenty of privately funded helium companies, e.g., North American Helium raised US\$100mm in November 2021 with further raises since including an expanding its credit facility to C\$100mm in October 2023. In 2022 and H1'23 there were numerous companies that raised capital. Our estimates put the capital raised at ~US\$225mm of equity raised by 16 different companies as well as ~US\$793mm in debt. Royal Helium, Grand Gulf Energy, and Avanti were the most active on the equity side. On the debt side, the most notable raise was by Renergen that raised US\$500mm through a loan from the US IDFC and US\$250mm debt facility from the Standard Bank of SA. There have been significant asset-based lending transactions (e.g., Nasco raised US\$83mm investment grade financing against its helium assets in the US). In 2019 Riviera Resources raised US\$82mm through a volumetric production payment transaction (VPP) monetising 23% of its helium reserves at a 5% discount rate.

There is export financing available given it is a strategic commodity as demonstrated by Renergen in South Africa. There are now ~20 helium focused listed companies globally showing the equity market appetite.

US BLM inventories 2011-2021, bcf



Source: BLM, Akap Energy estimates

#### **What does global storage look like for helium?**

The main site for storage of helium and the only real potential buffer for the helium market is the US BLM Government storage facilities, however this is producing at capacity so in reality it cannot provide additional supply in a shortage. We believe that the dramatic fall in production capacity and total reserves in the BLM storage should ensure a structurally higher price for helium in the future. There is minor storage elsewhere with a recent estimated 2bcf of helium capacity site brought on line in Texas by Air Products and Air Liquide has a site in Germany which is much smaller. However, we would not be surprised if some of the large producers (e.g., Russia) or large buyers (e.g. China) are building or already have their own storage in order to ensure security of supply. This could be positive for demand and offset the upstream capacity growth over the coming years to fill storage (e.g. similar to what had been seen in oil markets with the Chinese Strategic Petroleum Reserve).

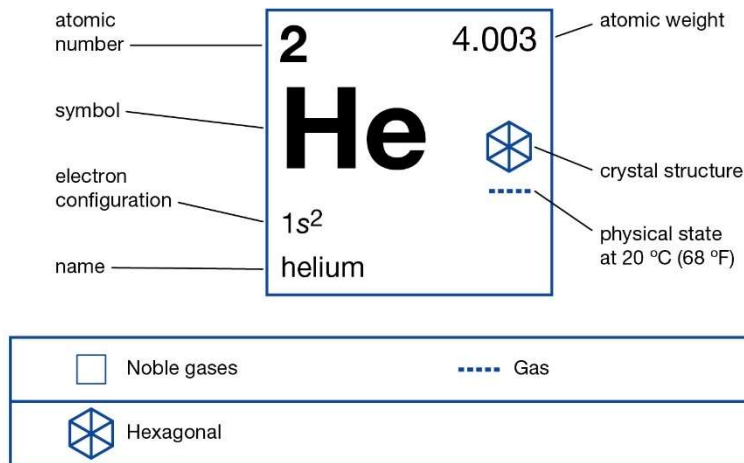
#### **What is the carbon footprint and environmental impact of helium?**

Helium does not suffer from environmental criticism, pipeline constraints, regulatory burdens and excess taxes. There is no direct carbon footprint associated with the use of helium, unlike burning fossil fuels, which is another attraction for increasingly ESG savvy investors. Producing helium as a standalone product rather than as a by-product of natural gas production is another benefit.

# Unique properties of helium

## Properties of helium

### Helium



Source: Encyclopaedia Britannica

Helium has several unique properties with numerous applications that make it an essential and irreplaceable element for many industries. This is because it cannot be synthesised, manufactured or substituted in many cases. The main characteristics are:

- The stable isotopes of helium are helium-3 and helium-4. The isotopic abundances of helium-3 is 0.00014% and helium-4 is 99.99986%. Helium-3 is composed of 2 protons and 1 neutron. Helium-4 is composed of 2 protons and 2 neutrons.
- Monatomic noble gas: atoms are not bound to each other. The only chemical elements that are stable single atom molecules at standard temperature and pressure are the noble gases.
- Colourless, tasteless, odourless, non-toxic.
- Second lightest element (importantly seven times lighter than air) with a molecular weight of four atomic mass units.
- Small size: Helium is one of the smallest molecular compounds of any gas or liquid fluid and can therefore 'fit' in places that other molecules cannot, including in the porous voids of some solid materials. It also means that it can penetrate most rocks, so from an exploration perspective, trapping mechanisms are critical to retain it in host rocks.
- Inert (will not react with other substances) makes for an effective purging agent. It is the least reactive material known. No helium-containing compounds have been synthesised.

- Lowest boiling point of 4.2 Kelvin (-268.9C) amongst all elements: The reason that helium is irreplaceable and highly sought after in certain industries is due to its extremely low temperature required to turn into a solid. When you liquefy helium, it is the coldest substance known to man.
- Helium becomes a superfluid at temperatures close to absolute zero. A superfluid is a fluid with a viscosity of zero, so the superfluid flows up and over the walls of containers. The state of superfluid is called Helium II. Other known elements do not become superfluid at temperatures close to absolute zero.
- Non-flammable (This contrasts with hydrogen, the lightest element, which is highly flammable).
- High specific heat and thermal conductivity makes for a uniquely powerful heat absorber. Helium can convectively remove heat faster than any other molecular compound.
- Ionisation potential: Helium requires the most amount of energy to ionise (remove) one of its electrons of any molecule. Ionised helium is therefore a highly reactive material.
- Helium has a sound velocity of 970 m/s, so helium conducts sound three times faster than air.
- Helium does not become radioactive under irradiation (radiologically inert).
- Very low solubility means it is suitable as a gas for diving.
- Liquid helium can be transported to port via ISO containers mounted onto trucks with no pipelines necessary.
- Used helium escapes into space and is lost.

## **A critical commodity, officially**

Helium is critical to innovation in science. It has supported work leading to >5,000 patents. Multiple Nobel Prizes have been awarded to discoveries that relied on liquid helium including, but not limited to, the Josephson effect (1973), superfluidity (1978, 1996), the quantum Hall effect (1985) and quantum computing (2012).

Without helium, much scientific research would come to a halt. Liquid helium has enabled breakthrough discoveries in medicine, national security, computer technology, and fundamental science. These breakthroughs have spawned billion-dollar industries. Examples include magnetic resonance imaging, semiconductor devices, fibre-optic telecommunications, and space propulsion.

### **Critical Mineral Lists**

Many countries maintain a list of critical minerals that are essential for the country's national security and functioning of essential supply chains. These usually include rare Earth elements because any supply shortages can have a significant impact on the economy. Helium is listed on the critical mineral list for several major economies of the world including the EU and China. It used to be on the US critical mineral list until 2022, when the US Geological Survey (USGS) and the US Department of Energy (DOE) officially removed helium.

The USGS justified this by citing that helium did not meet the quantitative threshold or single point of failure (SPOF) criteria. However, this decision was flawed in our view as it relied on inaccurate helium export data, substantially overstating US helium exports. While the US is a net exporter of helium, it depends on a significant federal reserve, which is depleting rapidly, making the US susceptible to becoming a net importer. Recent global helium shortages and geopolitical tensions with Russia highlight the risks. The USGS's exclusion of helium from the critical mineral list fails to recognise the impending supply challenges and growing reliance on foreign sources, undermining the helium industry's long-term stability in the US. Back in May 2018, the U.S. Department of the Interior had included helium on its list of 35 critical minerals.

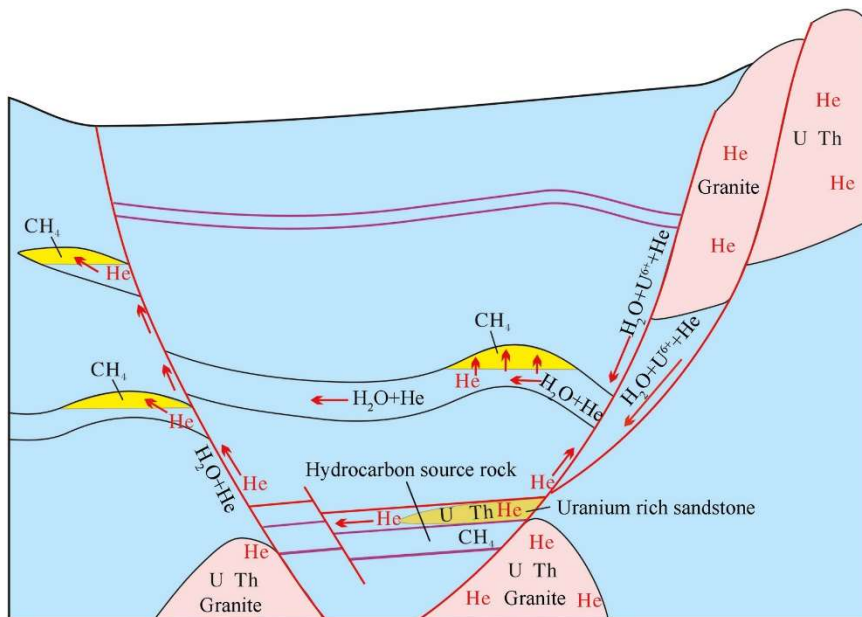
The UK and India made similar assessments, undermining the importance of helium in crucial supply chains and excluded it from their respective critical mineral lists as well.

On the other hand, regions with growing helium exploration such as Canada (Saskatchewan and Alberta) have not only included helium in its critical mineral list but also introduced special schemes (Saskatchewan's Helium Action Plan) to incentivise producers for helium development in the region. Helium was added to the EU's Critical Raw Minerals list in 2017, which means it is considered critical for the EU because it is at high risk of supply shortage and any shortages could have a significant impact on the economy.



# Helium Formation

## Helium accumulation model



Source: <https://www.sciencedirect.com/science/article/pii/S2468256X1830004X>

Helium is the second most abundant element in the Universe, where it makes up around a quarter of the total elemental mass but it is found in very low concentrations in the earth's atmosphere: less than 0.001% in air (around 5ppm). In seawater the concentration is miniscule at 4 parts per trillion. Cosmic helium was formed after the Big Bang during fusion reactions in the stars.

There are two sources of helium on earth: primordial, part of the original formation of the planet or from the radioactive decay of the heaviest natural elements, Uranium and Thorium over aeons, deep in the earth's crust and mantle. It is mainly found in underground gas reservoirs, which may contain a few percent helium alongside other gases. Most of the helium produced from this process makes its way up into the sediments where it seeps into the atmosphere and ultimately escapes into space (not even gravity can keep helium on Earth). In the Earth's heterosphere, the atmospheric zone more than 60 miles above the ground surface, where gases separate by molecular weight, helium and other lighter elements are the most abundant gases.

For helium to accumulate in commercial quantities, there are typically three main requirements:

- Granitoid (or similar) basement rocks rich in uranium and thorium; these basement rocks should be fractured and faulted to provide escape paths for the helium to migrate into the reservoirs above.
- Porous sedimentary rocks above the basement faults that are capped by impermeable anhydrite or halite.
- The seal is the most important element; it must be impermeable enough, and strong enough, to trap the helium. If a seal is robust enough for holding methane it should be competent at holding helium, although there could be some diffusive helium loss.

Helium is often associated with nitrogen within subsurface reservoirs, as we observe many helium–nitrogen fields globally. The origin of the nitrogen in each case is poorly understood. Nitrogen may be important for helium transport out of the source minerals, though this is a topic of ongoing scientific study.

## Geological exploration risk

The geological risks of finding helium are similar in many regards to finding natural gas. The same requirements for success namely having source, migration, reservoir, trap and seal, however the mechanisms are somewhat different.

Comparison of Helium and Petroleum Systems		
Stage	Petroleum System	Helium System
<b>Source</b>	Organic matter	$U^{238}$ , $U^{235}$ and $Th^{232}$ decay in the crust produce alpha particles
<b>Maturation</b>	Burial and consequential heating	Time to accumulate (stable crust) vs volume of stable crust
<b>Primary migration</b>	Pressure driven (phase change from solid kerogen to fluid petroleum results in volume increase)	Heating to above mineral closure temperatures, fracturing of rocks and minerals, mineral dissolution
<b>Secondary migration</b>	Buoyancy driven	Groundwater/buoyancy driven/stripping
<b>Accumulation in reservoir</b>	Beneath caprock, capillary entry pressure seal	Exsolution in presence of existing gas phase beneath caprock/degassing of oversaturated groundwater/ direct input into trap of a free gas phase
<b>Trap integrity &amp; longevity</b>	Microseepage, capillary failure, fracture failure, tectonic destruction of trap	Microseepage, capillary failure, fracture failure, tectonic destruction of trap

Source: Danabalan (2017)

## South African Helium Generation

In the Free State, gas comes up through faults and fissures originating from deep below. The gas is perceived as renewable as the methane is emanating from bacteria digesting carbonaceous rock, which then makes its way to the surface.

3.8bn years ago the planet was one continent called Pangaea. The earth then got pelted by a meteor shower called the Great Bombardment, which brought almost all of the gold, precious metals and minerals to earth. That struck in a diagonal from the Free State in South Africa and went all the way up into the Democratic Republic of Congo.

Around 2bn years ago the earth was struck by an enormous asteroid, which has left the Vredefort Crater, the largest known to mankind on the planet and at the same time that cyanobacteria and stromatolites appeared on earth. More importantly, the crater created a structure on the surface like a fruit bowl meaning all of the heavy metals that had been deposited there in the years preceding remained in place. The erosion moving away all of these heavy metals into the ocean caused them to erode into the middle of the crater to create the Witwatersrand ("Wits") Basin, which produced 90% of the entire planet's gold from 1905 to 2005.

This enormous crater eventually filled up with organic matter (mainly algae) that then fossilised and formed the carbonaceous rock that the bacteria are living off today. The result is that this area contains a particularly high concentration of heavy metals, higher than most other places in the world. This asteroid was responsible for an enormous change to the environment and mineralogy in the area.

The uranium and thorium that was on the surface ended up being trapped in a layer called the Dominion Group under the force of this impact. Whereas in most other places in the world there is uranium at 3 to 5 grams per ton, in the Dominion Group are inordinately high concentrations of uranium and thorium of up to in some places as much as 10,000g per ton. This is crucial because uranium and thorium undergo radioactive breakdown. Uranium follows a path from being uranium 238 all the way down to eventually becoming lead. Along the way it releases 8 helium molecules; this is important because this uranium has been in place for between two and three billion years in this area resulting in an incredibly high concentration of helium in the basin.

The Free State has been known for the presence of uranium and coal, and in particular has been extensively mined for gold. Gas was originally encountered in several boreholes drilled as part of the gold mining process at the Welkom Goldfield (discovered in 1932), with over a dozen of these historical wells still capable of producing today. The gas is predominantly methane, but also has a high helium content of approximately 2-4% on average.

The understanding of the geological structure in the Free State is based on 3,000 logs and a lithological database gathered during the drilling of wells, the majority of which were drilled by miners. The structure contains faults which facilitate gas flow and are the main drilling targets. Faults provide migration for the helium gases emanating from the Witwatersrand Supergroup. These faults are difficult to map on seismic but can be identified through boreholes.

Gas is generated at depths that exceed 5km and migrate to a depth of 300m from surface in these structures. Gas is trapped in these structures by a dolerite cap. Drilling into these structures creates a preferential pathway for the gas to migrate to surface. The region has faults and fissures running north-south, and sills and dykes running west-east.

The methane is largely biogenic in origin, meaning that it is potentially an ongoing renewable resource. Bacteria are today living deep underground eating the carbonaceous rock and excreting methane to the surface. It is methane, considered a traditional fossil fuel, but as the gas is being regenerated by bacteria. This has been proved by carbon dating the methane, which showed gas has a large proportion less than several decades old, compared to conventional gas deposit where the gas would normally be between 100 and 500 million years old. This in turn implies the gas is regenerating, and was classified as renewable by the Petroleum Agency of South Africa. For example, the first wells drilled in 1957 produce more gas now than back then, which gives confidence on low or even no decline rates on planned wells.

The metals are far too deep to make them commercially viable to mine. The methane comes up from much deeper down, permeates through the Dominion group, collecting helium along the way and then all of it congregates in a layer called the Wits. Within this area there are very high concentrations of both helium and methane. To put this in context in Qatar the concentration of helium recovered from the gas stream is less than 0.05% and in many projects in the US it is less than 1%. Many of the South African wells have between 2-12% helium meaning they have some of the highest helium concentrations globally.

## Helium Processing

Helium is normally produced in several steps, each increasing its concentration. Gas separation processes are divided into three categories: cryogenic processes, pressure swing adsorption (PSA) and membrane separation. There have been significant improvements in non-cryogenic purification techniques like pressure swing adsorption with membrane separation, allowing smaller and more cost-effective helium production. It has been widely concluded that extraction of helium from air as a primary product is prohibitively expensive and likely to remain so for the foreseeable future.

The process to get from low concentration helium in a gas stream to high purity helium is as follows. The raw gas is first pre-treated, then either distillation of gas takes place or membrane separation, to produce crude helium and finally purification using a method called pressure swing adsorption. This produces pure helium (99.99%) which can be compressed and sold as a gas or put through a bed of activated charcoal to remove trace impurities before being liquefied.

Advantages and limitations of helium recovery technologies		
Technology	Advantages	Disadvantages
<b>Cryogenic fractionation</b>	High helium recovery purity (>95% up to 99.999%) Advanced technology widely used for direct recovery of helium from natural gas Easy scale-up for increased capacities Small- to micro-scale facilities have been economically commercialised	High capital requirements Intensive energy requirements – high operational expenditure
<b>Adsorption-based</b>	No fluid phase changes resulting in lower energy requirements Low direct helium recovery from feed natural gas (<65% reported for plants in operation) Helium-nitrogen mix is inert and easier to process. It is possible to get a high (>99.99% He) purity helium, with a 8 – 10% He and ~90% nitrogen feed gas.	Recommended for helium purification, not for direct from natural gas Requires high purity feed gas i.e. crude helium (impurities cause adsorption bed saturation leading to reduced efficiencies) Lower helium recovery purity from direct separation
<b>Membrane-based processes</b>	No fluid phase changes resulting in lower energy requirements Small footprint (lower impact on environment) Lower capital costs	Requires "cleaned" high purity feed gas to prevent membrane fouling and damage Membranes have not been widely commercialised, requires more research and development – limited data available Requires high pressure ratios resulting in high operational costs

Source: Akap Energy, EPCM Holdings

### Fractional distillation

Helium is commercially extracted from natural gas by a low temperature separation process called fractional distillation. Since helium has a lower boiling

point than any other element, low temperature and high pressure are used to liquefy and draw off nearly all the other gases (mostly nitrogen and methane). In cryogenic technologies, separation is achieved at temperatures below  $-65^{\circ}\text{C}$ . Cryogenic separations can accomplish up to 90% helium recovery.

### Membrane separation

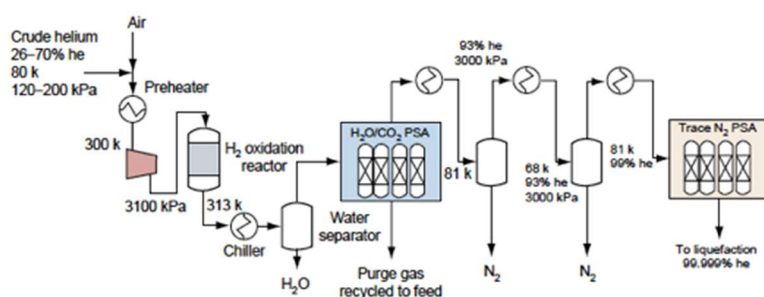
Generally raw feed gas will pass through liquids and particulate removal equipment before reaching the helium plant. Membrane technology can be used to separate helium to achieve high quality helium directly at the well site.

Membranes require little intervention given there are no moving parts. To get a higher purity it is possible to use a high specificity membrane. Generally, membranes can upgrade the helium content in the gas to around 50%.

### Pressure swing adsorption (PSA)

The PSA process involves the pressurised gas mixture passing through a solid bed. Helium remains almost totally unadsorbed on this solid while the other gas components are deposited on or in it. As soon as the adsorption capacity of the solid is exhausted, it is regenerated by reducing the pressure. Two solid beds are operated concurrently so that PSA continuously provides helium; while one of these is in the adsorption mode, the other is being regenerated. The PSA process only functions well with a helium content of at least 25%, and its effectiveness increases with the helium content.

Schematic of the upgraded helium purification process



Source: Agrawal et al, 2003

The advantages of PSA systems are that they are flexible, low capital cost, mobile and durable. There is a short lead time for installation and to start operations. PSA units can be scaled up or down easily and even one well can be enough to justify installing a unit.

### Liquefaction

In a final production step, most of the helium that is produced is liquefied via a cryogenic process that uses nitrogen refrigerant. Nitrogen is then removed from the gas. Finally, heavy hydrocarbons are removed using Temperature Swing Adsorption (TSA). Activated charcoal is used as a final purification step, usually resulting in 99.995% pure Grade-A helium. The purified helium can then be compressed and put into transportation trailers.

## Helium Companies

There are numerous players involved in the helium market but just a handful of companies control the majority of supply and distribution. For example, on the supply side Qatargas, the US Government (through its strategic storage), Sonatrach in Algeria and Exxon produce the majority of supply and could be joined by Gazprom if it ramps up production in the next few years. There are a handful of mainly US focused midstream companies operating helium purification plants. There are the industrial gas companies that buy the helium, the main players are Linde, Air Liquide and Air Products. The other significant smaller players are Messer, Matheson, Iwatani and Uniper.

Over the past three years, the helium sector has witnessed substantial growth, transitioning from just two listed companies to now around 20 listed companies. These are generally relatively new companies that have emerged over the last few years to capitalise on rising helium prices. Most listed helium companies are pure-play junior helium explorers and are Australian or Canadian listed.

### Listed Helium Companies

Company	Listing	Operations	Market Cap (US\$mm) as at 31/10/2023
<b>American Noble Gas</b>	US	US	0.8
<b>Avanti Helium</b>	Canada	Canada/US	30
<b>Blue Star Helium</b>	Australia	US	47.6
<b>Desert Mountain Energy</b>	Canada	US	28
<b>First Helium</b>	Canada	Canada	7.4
<b>Global Helium</b>	Canada	Canada	8
<b>Grand Gulf Energy</b>	Australia	US	8.4
<b>Helios Energy</b>	Australia	China	86
<b>Helium Evolution</b>	Canada	Canada	11.4
<b>Helium One Global</b>	UK	Tanzania	68
<b>Helium Ventures</b>	UK	n/a	1.2
<b>Noble Helium</b>	Australia	Tanzania	45
<b>PetroSun</b>	US	US	48.9
<b>Proton Green</b>	US	US	4
<b>Pulsar Helium</b>	Canada	US/Greenland	13.7
<b>Renergen</b>	Australia/SA	South Africa	133
<b>Royal Helium</b>	Canada	Canada	51.9
<b>Total Helium</b>	Canada	US	23
<b>Uriel Gas</b>	Canada	Canada	3.6
<b>VVC Exploration</b>	Canada	US	38
<b>Western Sierra Resource Corporation</b>	US	US	8.2

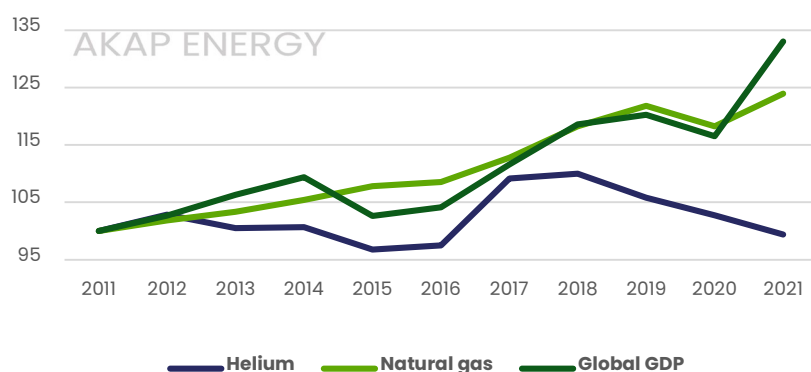
Source: S&P Capital IQ

# Helium Demand and Uses

## Helium Demand

We examine helium demand by usage type and by region. From our research, there are not many sources that provide demand data, we believe that much of the data in the market at present is stale and has relied on extrapolated trends from outdated information and there has been a lack of bottom-up demand analysis. We have looked at the various industries using helium and taken a bottom-up approach to forecasting demand. Also, we have looked at helium consumption by geography aided by using import data.

10 Year Demand Trends vs GDP (indexed to 100)



Source: Akap Energy estimate

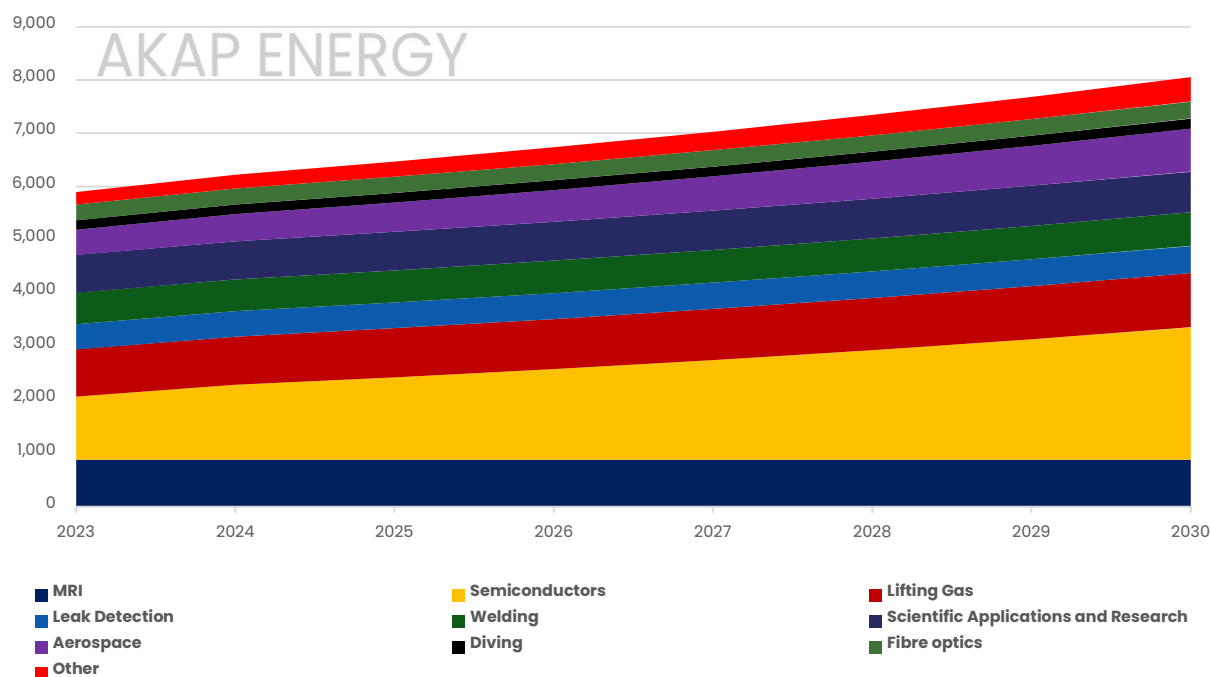
Given the inability to substitute helium in many applications, we see demand as relatively price inelastic. This is evident from the chart above showing how helium demand has stayed flat despite natural gas growing in line with GDP growth. There has been some price elasticity as consumers (where they can) have looked at recycling helium (if cost-effective), conservation and substitution. With prices already significantly higher than at the beginning of the decade, most of the price elastic demand has probably already been eliminated. In fact, if there are periods of lower pricing there is likely to be latent price-sensitive demand that returns to the market.

Given there has been a supply shortage of helium and there is not any significant commercial storage to draw on, it is hard to quantify what the unmet or latent demand for helium is. If more helium supply was to come onto the market, there will potentially be demand coming out of the woodwork. If there was "cheap" helium available on the spot market this would be likely to be snapped up. For example, users of MRI machines that were running close to the minimum limits of helium could take the opportunity to restock and fill their units to capacity.

Another example, according to the USGS, US use declined by ~15% in 2013–14, amid rising prices. As industries switched or became more efficient with supplies (many have built more effective helium recycling facilities for example), we believe there was a certain level of permanent demand destruction.



## Forecast helium consumption by industry 2023–2030E, bcf/y



Source: Akap Energy estimates

The growth rate that we predict is dependent on having the supply available to meet demand, which has not been the case for the majority of the last decade. Given that several high growth markets require helium, if the supply is available, we estimate that helium demand could grow at ~6% per annum. However, if the supply does not materialise, prices will have to continue to rise as they did over the last decade to continue to choke off demand.

We see the key uses of helium coming from semiconductors at 20% of demand; ~15% each from the MRI/NMR machines, lifting gas, and other scientific applications; around 8–10% each from aerospace, welding, and leak detection; and the balance in ~5% each from quantum computing, diving, and cryogenics.

Our methodology for forecasting helium demand is to use a base growth rate of 3% for all industries, which is in line with global GDP growth. We adjust up and down our growth expectations for various industries from this base line. For example, we assume lifting grows 1% faster, semi-conductor manufacturing usage 5% higher than the base and MRIs was 1% slower. This results in an overall CAGR of ~6% over the forecast period, with demand growing from 5.9bcf/y in 2023 to 8.7bcf/y in 2030.

## Uses of Helium

Uses of gaseous versus liquid helium

Gaseous Helium		Liquid Helium
Weather Balloons	Gas Bubbling	MRI
Aerostat	Car Air-bags	Nuclear Fusion
Party Balloons	Fiber Optics	Rocket Fuel Purging
Leak Testing	Plasma	Quantum Computing
Welding	Vacuum Oven	Nuclear Magnetic Resonance
Deep Sea Diving	Nuclear Fuel Rod	Hadron Collider
Hard Drive	SC Lithography	Dilution Refrigerator
Laser Mix	SC Dry Etching	

Source: Akap Energy estimates

Helium is a vital resource, essential in modern technologies with major critical and irreplaceable use throughout the science, medicine and manufacturing industries. There is growing demand for various high-tech applications such as cryogenics, welding and pressure & purging, in addition to more recent developments such as helium filled hard drives. It is an inert gas for cryogenic, heat transfer, shielding, leak detection, analytical and lifting applications. It is the most important element in studying super-cold conditions in low-temperature physics studies. It is a critical component in the manufacturing process, specifically ones which serve unique high-tech applications in MRIs and semiconductor chip manufacturing.

Major factors driving the market are the increasing consumption of helium in the electronics and semiconductor industry as well as the growing usage in the healthcare industry. Space is another key growth area. The key areas of potential growth in helium demand over the next decade from emerging sectors in our view are: quantum computing, airships, nuclear fusion and small modular nuclear fission.

### **Semiconductors and electronics**

One of the key drivers of future helium demand is the rapidly growing electronics manufacturing sector in Asia. Helium, as a chemically inert noble gas, plays a vital role in critical applications such as semiconductor manufacturing, flat-panel display production, and optical fibre manufacturing. Demand for helium in semiconductors is around 1.2bcf/y and we expect it to grow by 10% per annum,

driven by both higher growth in volume of semiconductor manufacturing but also higher demand intensity as semiconductor process complexity increases. Helium demand intensity increases as semiconductor process complexity goes up: 15 years ago, helium demand for electronics was less than 1% of total demand and now it is 15-20%.

Additionally, helium's exceptional properties, including high specific heat and thermal conductivity, are crucial in rapidly cooling silica strands during optical fibre cable manufacturing, enabling high-speed internet. Helium is also revolutionising hard drive technology by replacing air with the introduction of 10TB helium-filled drives, now powering major data centres like Netflix's video streaming infrastructure. A further potential use is in quantum computing which may ultimately replace conventional computers over the coming years. IBM is already preparing a jumbo liquid-helium refrigerator, or cryostat, to hold a quantum computer with 1 million qubits.

### ***Lifting***

Helium is the second lightest element after hydrogen, and it is less dense than air. Therefore, helium is used as lift gas for balloons, meteorological balloons, airships and has been used for blimps since WWI. Although hydrogen is lighter and more abundant than helium, helium is the preferred lift gas, because it is not flammable.

Party balloons remain a big market for helium at just under 10% of global demand. Balloon gas is lower purity (~95%) than what is used in scientific research. As cylinders of pure helium are filled, the escaped gas mixes with air and is captured and compressed into cylinders as balloon gas. One potential growth area that is slowly materialising is the concept of airships. Hybrid or variable lift airships have been worked on by various companies across the world and are more feasible in areas where airplanes cannot operate.

### ***MRI and other cryogenics***

Helium is used as a super coolant in cryogenic applications, particularly in MRI machines, given its unique properties, making it vital for cooling low-temperature superconductors to near absolute zero, enabling superconductors to exhibit zero electrical resistance and generate powerful magnetic fields.

With ~50,000 MRI machines globally, we anticipate annual growth exceeding 5%, driven by expanding clinical applications and growth in developing markets. Usually, after an average of seven years, many machines are being replaced or refitted and overall, around 5,000 new units are sold every year. A new MRI scanner requires up to ~0.05mmcf of helium and will lose anywhere between 0-5% per month, which will need to be topped up. Putting this together, in total we see around 0.9bcf/y of demand from the MRI market.

Offsetting some of the helium growth from the MRI market is the introduction of low or no helium MRI machines. In 2023, companies such as Philips, Siemens, and

Hallmarq have launched helium-free MRI models. Zero boil off (ZBO) refrigeration systems have become more common, allowing essentially unlimited normal operation without need for helium refill. However, the price difference between the ZBO MRI and non-ZBO is typically more than US\$100,000 as well as there being higher refrigeration costs and higher power consumption.

### **Scientific Research**

Global scientific enterprise depends on a steady, reliable and affordable supply of helium. For tens of thousands of scientists and engineers across the globe with research projects ranging from quantum information science to next generation energy materials to space exploration, helium is essential to performing their work. A key use for helium is in universities in NMR machines. It is ubiquitous in the fields of medicine, chemistry, pharmacology, and physics. A typical NMR lab could use ~225mmcf/y. It is also used in high-tech microscopes to produce higher resolution images. Laboratories also require liquid helium for super-conducting quantum interference devices (SQUIDs). This equipment can become useless or permanently damaged if the liquid helium supply is suddenly cut off, and it warms above a threshold temperature.

### **Aerospace**

Helium is critical to the space industry. Helium's low temperature and inert properties make it the only gas that can pressurise and purge liquid rocket engines. NASA uses up to 150mmcf/y of helium. Large, unmanned helium balloons provide NASA with an inexpensive means to place payloads into a space environment. Helium also is used as an inert purge gas for hydrogen systems and as a pressurising agent for ground and flight fluid systems of space vehicles. On average we estimate 1mmcf is used for every launch. There are also many other nations that are looking to expand their space programmes such as India and the EU.

An expected growth area of the market is space tourism with the potential for 3,000 flights by the end of the decade. Three potential technologies to consider are balloons, rockets, and rocket-planes, such as from Zero2Infinity, Blue Origin, and Virgin Galactic. Numerous space tourism startups are also using a helium lifted "space capsule" such as Iwaya Giken in Japan and Space Aura in India. All these technologies will require significant amounts of helium.

### **Separation**

Helium is used for chromatographic separation (physical method of separation), mainly as a carrier gas. This is required in several sectors such as the pharmaceutical industry for drugs, in the food and beverage industry, medical diagnostics, explosives and environmental assessments. It is an ideal gas because it is chemically inert and diffuses rapidly and there are no obvious substitutes.

### **Leak detection**

Helium is used for leak detection, because helium has the smallest molecular size, and it is likewise a monatomic molecule. Therefore, helium passes easily through the smallest leaks. During leak detection an object is filled with helium and in case of a leak a helium mass spectrometer will detect where the leak is located. Helium provides for detecting leaks in rockets, fuel tanks, heat exchanges, gas lines, various electronic devices, television tubes and other manufactured components.

### **Welding**

One of the largest uses for gaseous helium is in welding, where it provides an inert gas shield to protect the weld zone from the atmosphere (to prevent contamination with the oxygen in air). The two major welding processes that use helium are gas tungsten arc welding (GTAW) and gas metal arc welding (GMAW). The high ionisation potential of helium enables the plasma arc welding of exotic metals such as titanium, zirconium, magnesium and aluminium alloys used in construction, shipbuilding and aerospace.

### **Diving**

Helium is used as deep-sea diving gas at water depths below 30m due to its extremely low solubility in water and blood. Helium/oxygen breathing mixtures such as heliair, trimix and heliox are used instead of nitrogen /oxygen breathing mixtures to avoid nitrogen narcosis or the build-up of nitrogen in blood thereby preventing "the bends." In addition, helium does not cause corrosion to the equipment and it is non-toxic.

### **Airbags**

High pressure helium is used to safely inflate airbags in cars during an accident, helping to prevent serious injuries.

### **Nuclear Fusion**

Nuclear fusion, with increased investment from several high profile companies, is showing promising progress, and commercial fusion power could become a reality in a decade. The world's largest fusion plant, ITER, has cost over US\$50bn and will use 5mmcf of helium for cooling. Expected to achieve First Plasma in 2025, successful fusion could replace fossil fuel power plants globally from 2035, necessitating a substantial increase in helium supply.

### **Modular helium nuclear reactors**

There has been a big push to develop small modular nuclear reactors as a zero-carbon power solution that is ultra-safe and affordable. There are a variety of competing technologies but many of these require helium as a coolant in the process. We see this a potentially significant area of growth on a 5-year plus time horizon. The Xe-100 design from X-Energy would use pressurised helium gas to cool its uranium-based fuel. China National Nuclear Corporation has built a demonstration high-temperature gas-cooled helium pebble-bed module reactor plant (HTR-PM).



## Supply

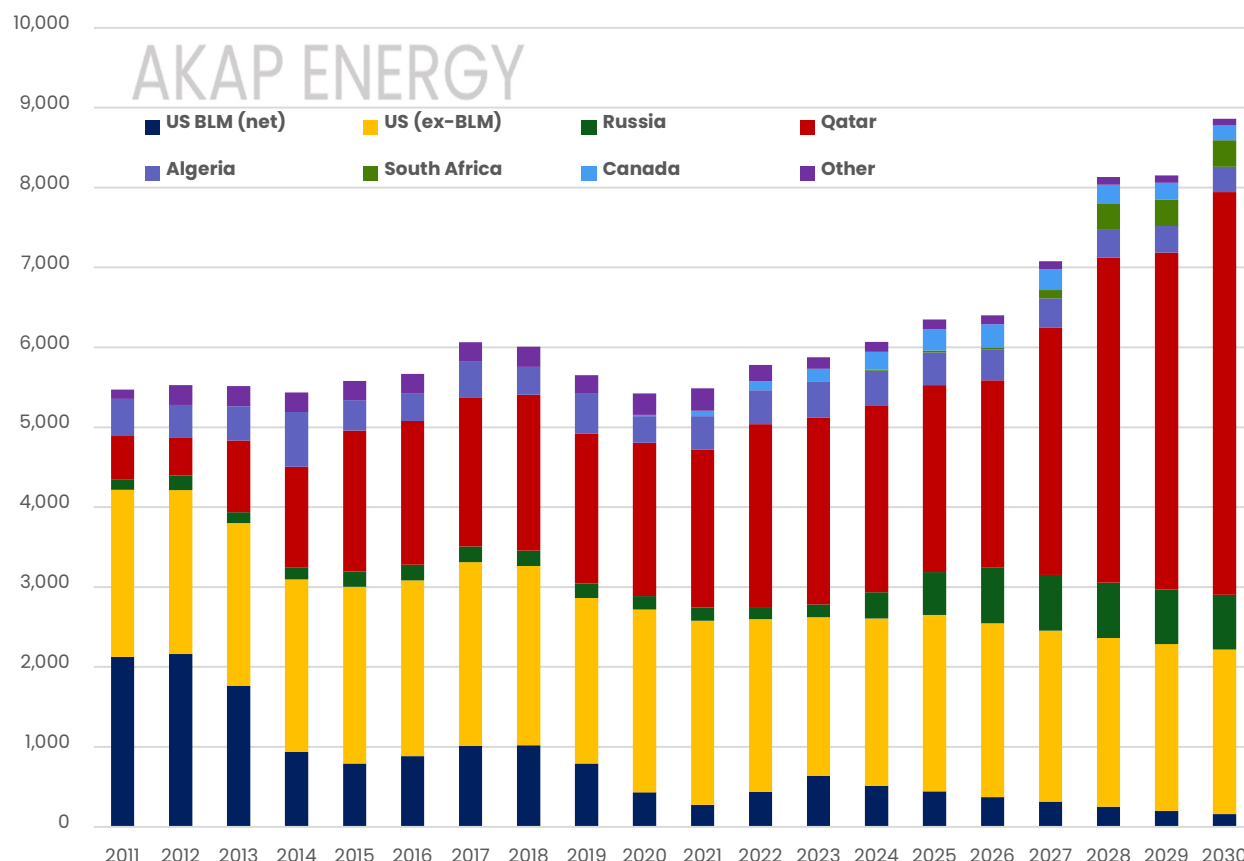
Map of helium producing areas



Source: Akap Energy

We have our own proprietary supply model for helium on a bottom-up basis. Most companies and countries do not disclose production or sales data, so we have had used multiple sources and made our own assumptions to get to our forecasts. We expect that helium supply will grow at a CAGR of around 5–6% to 2030 based on all the current projects planned. However, we see risk skewed to the downside given the history of delays/ramp-up issues for new projects and also the risk of operation/geopolitical disruptions from existing projects. We estimate that 2022 helium supply (including production out of storage) was 5.8bcf/y.

Worldwide helium production by supply source (mmcf/y)



Source: Akap Energy estimates, USGS

Global helium supply is currently very concentrated, with the US and Qatar alone currently accounting for ~75% of world supply. There are two notable projects that supply >50% of world demand: the LaBarge field in the US and the North Field in Qatar (which is currently being expanded). Both are supergiant fields where production can be maintained for decades to come. Therefore, there is not as much of an issue with replacing underlying decline as there is with hydrocarbon production. In aggregate we see existing production declining at around 2-3% per annum or excluding these fields at around 7% per annum. We estimate that US BLM will still accounts for >10% of supply in 2023 (~635mmcf) but this is expected to fall sharply over the coming years as storage is gradually depleted.

There is a significant amount of new capacity under construction and planned globally, however we believe that there won't be a significant impact on supply in the next few years.

The biggest wildcard is Gazprom's Amur project in Russia, which was supposed to add 2.1bcf/y of new supply by 2025. However, a combination of fires at the plants and the war in Ukraine resulting in sanctions against Russia has meant it has been unable to bring meaningful volumes on line. In our base case we assume a low level of Amur production with gradual growth. A new 230mmcf/y plant has come on line in Russia in 2023 but it has experienced difficulties ramping up and we expect it to get to capacity in 2024.

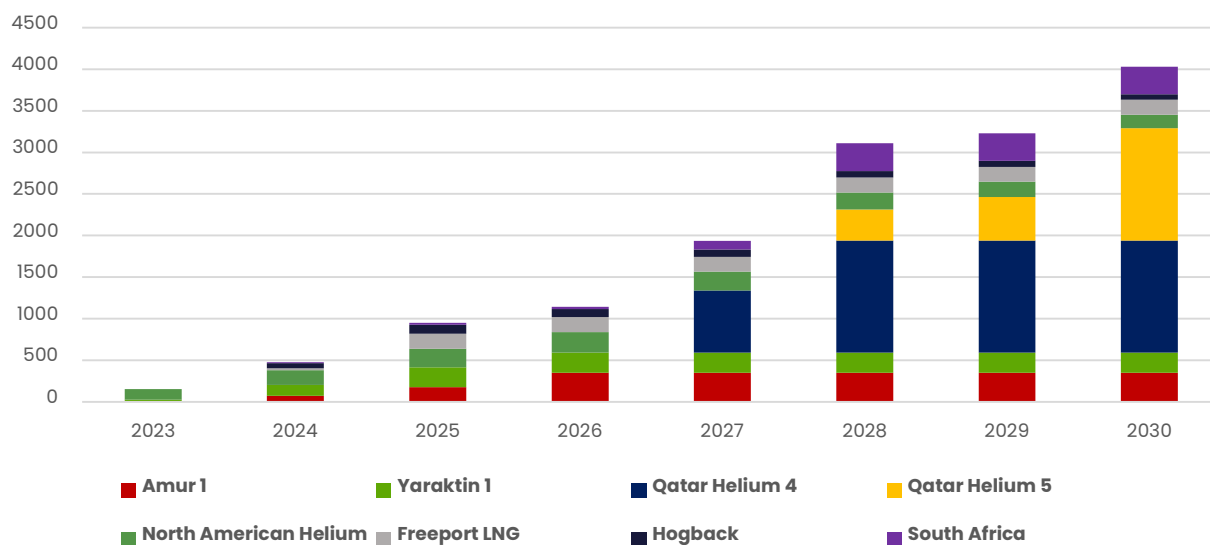


The most significant growth will come from Qatar, with plans for two additional plants of 1.5bcf/y each, however first production is not until 2027 and the full impact will not be seen until 2030 in our view.

The most significant new country to emerge as a producer is expected to be South Africa, where Renergen commenced helium production in 2023 and will initiate commercial sales by 2024 from its pilot plant with plans for large scale development with 350mmcf/y of capacity starting up in 2027.

In North America, Linde will bring a new 200mmcf/y plant on line in Q3'24 and NASCO plans to bring the ~100mmcf/y Hogback field on line in 2024. North American Helium has not disclosed growth targets, but we would expect it to continue to grow at ~50mmcf/y for the next few years. There are several smaller projects planned by independent operators in North America, many of which have seen delays, but these should add some volumes in the 25-50mmcf/y range over the next couple of years. Royal Helium, Blue Star, Total Helium, Avanti Helium are all currently developing their discoveries.

Major New helium projects supply additions to 2030 (mmcf/y)



Source: Akap Energy estimates

## Geopolitical considerations

Helium supply has largely been in the hands of state-owned companies in Qatar and the US and these have been joined by a major new state-owned company, Gazprom after launching its Amur plant. US production has been declining and will fall from 75% of supply in 2011 to 35% in 2025. More importantly, the US BLM helium storage site will not be able to provide a buffer for any supply outages given falling reserves and constraints on production.

Given that >50% of helium supply capacity is expected to come from projects in Qatar and Russia (including Amur) by 2025, there is considerable geopolitical risk. These are two nations that are currently subject to significant political sanctions and regions that are historically more prone to political risk. Also worthy of note, given the risks of conflict with Iran, is that an estimated 30% of the world's helium passes through the Straits of Hormuz.

In 2017 an air, sea and land blockade was imposed on Qatar by four countries including Saudi Arabia and the United Arab Emirates (UAE). This meant helium production stopped for 2 weeks in June 2017. Previously helium was trucked to the UAE for export from the Dubai / Jebel Ali Port. Now helium is shipped directly from the Hamad port in Qatar and it takes around a month to get to either western Europe, the east coast of the US or China/Japan/Korea.

### Qatar helium logistics



Source: Akap Energy (Note: Country borders are not accurate)

## Helium supply by type

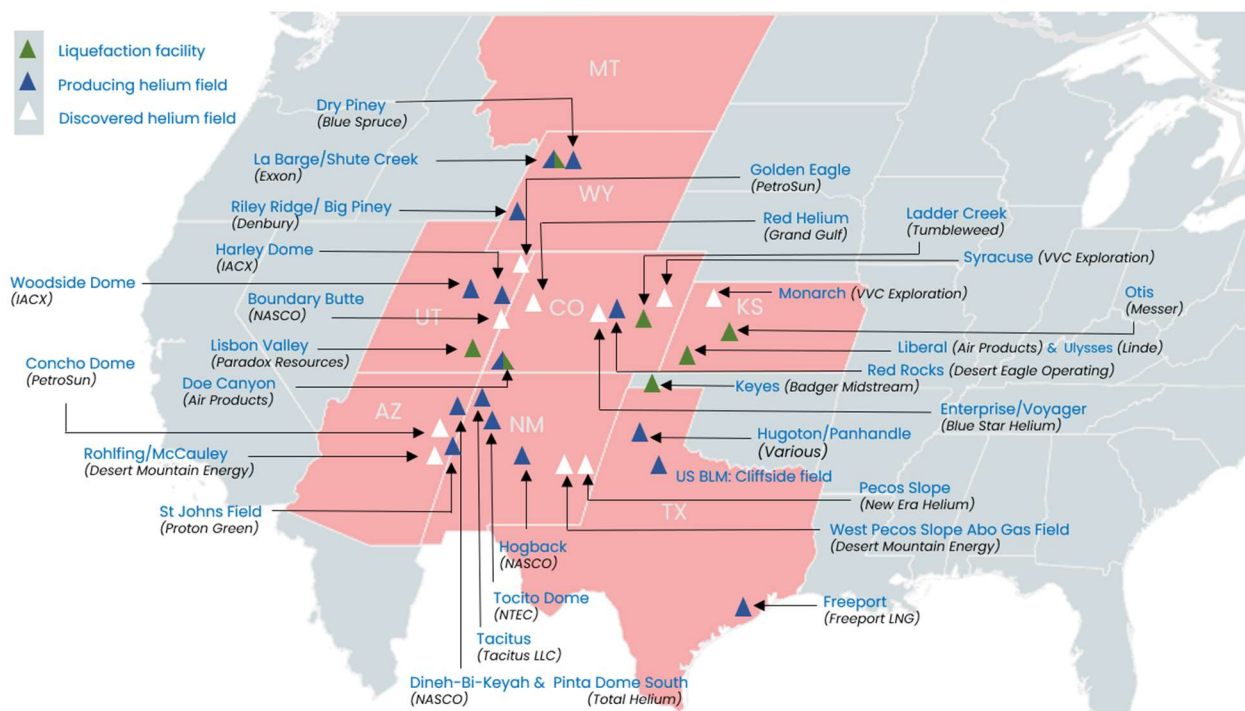
Most of the helium produced around the world is a by-product of natural gas (methane) processing. However, not all natural gas fields contain helium, and very few gas fields have high enough helium concentrations to make it economical for extraction. Historically the helium processing plants were built next to exceptionally large natural gas fields with low concentrations of helium but reasonable quantities in absolute terms. Some plants must process vast quantities of gas to produce helium, for example in Qatar where there is <0.1% helium in the gas stream.

There has been a push for helium production as a primary product following stronger helium prices in the last few years. In the US and Canada, there have been several projects in areas such as Saskatchewan, Alberta, Montana, Arizona and Utah. Globally, South Africa has emerged as an extremely promising area for primary helium production with some of the highest global concentrations of helium in surface seeps.

When developing gas fields where hydrocarbons are not produced and sold, helium content in the gas must typically be at least 0.25% for development to be economic on our estimates. We see the actual concentration of helium needed in the gas stream being dependent on various factors such as location, costs, flow rates and other products that can be valorised in the production stream.

## U.S.

### Major helium fields and processing facilities in the US



Source: Akap Energy estimates

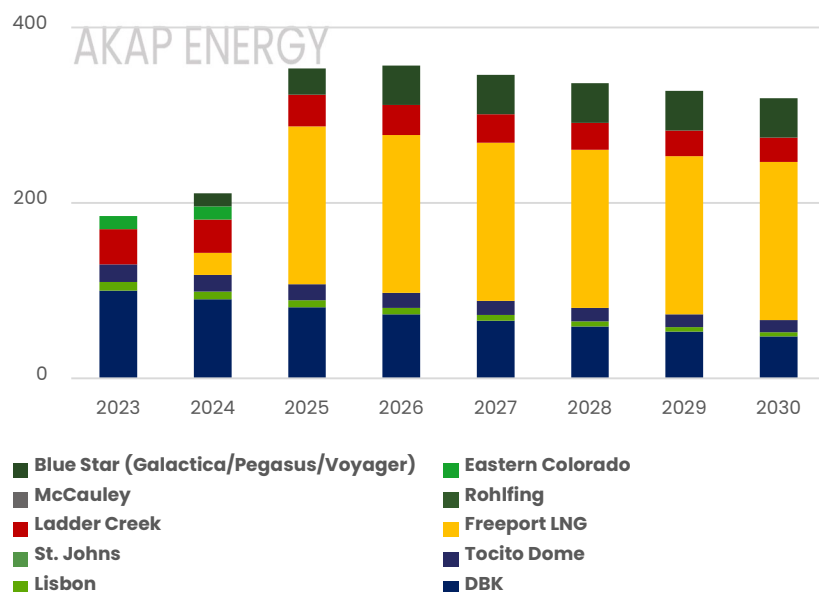
Geological conditions in Texas, Oklahoma and Kansas make the natural gas in these areas some of the most helium-rich in the United States. The US currently produces ~45% of the world's helium (35% excluding out of storage).

However, US helium supply has been in decline over the last decade falling from around 4.2bcf/y in 2012 to 2.6bcf/y in 2022. This is because existing helium production declining but more importantly because of the sharp fall in production out of storage from the BLM. Several helium plants closed around the middle of the last decade due to the lack of available supply. The fall in supply in the US from 75% in 2011 to 45% of total in 2022 has been the major reason for the increase in global helium prices.

We expect helium production to increase in the next couple of years as a few new plants come online, producing helium as the primary product. However, further declines in production from the BLM will offset this. From 2024 onwards we expect US production to move firmly into long-term decline without significant exploration success or new developments.

## Key U.S. fields and helium plants

US helium supply 2023–2030E, excluding BLM



Source: USGS, Akap Energy estimates

**La Barge, Wyoming** – The LaBarge field is in the southwestern corner of Wyoming. It is, majority controlled by ExxonMobil, contains 170tcf of raw gas of which 20tcf is natural gas. It has 0.6% helium content and at current rates of production, the remaining field life is >100 years. Total produced natural gas is 720mmcf/d and up to 4.3mmcf/d (1.6bcf/y) of helium; we assume that the plant will continue to produce at this level for the foreseeable future.

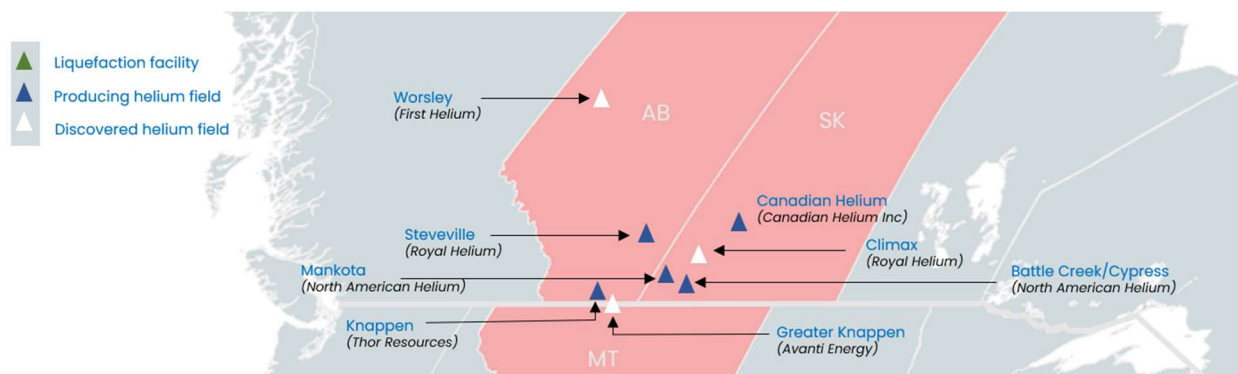
**Hugoton/Panhandle West** – This is one of the largest natural gas fields in the US having produced almost 30tcf to date. It is a very mature, low decline, highly delineated field. The field contains helium concentrations ranging from 0.3–1.9%, 73% methane and 15% nitrogen. In 2022 Hugoton produced around 81bcf of natural gas, which implies helium production of ~350mmcf/y assuming 0.4% helium. The acreage is split amongst many operators the largest of which are private E&P companies.

**Dineh Bi Keyah, Arizona** – The DBK field in Apache County has >5% helium content and is operated by Nasco AG with the gas sold to Linde. This field produces a gas made almost entirely of helium and nitrogen (80%). Its separation plant allows processing of 0.4mmcf/d of 98.8% purity helium. Helium production began in 2014 and production is estimated at 100mmcf/y.

**Doe Canyon, Colorado** – The Doe Canyon plant came online in August 2015 and was expected to produce up to 230mmcf/y but was impacted by a shortage of feed gas. The plant is operated by Air Liquide. The field contains mainly CO<sub>2</sub> and 0.4% helium. The plant is the only one in the world extracting helium from a gas stream composed primarily of CO<sub>2</sub>. We estimate current production of ~90mmcf/y.

## Canada

### Major helium fields and processing facilities in Canada

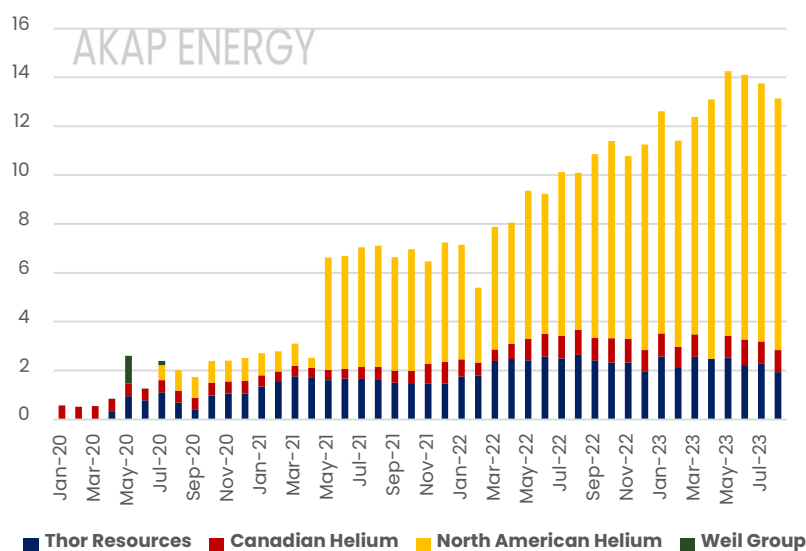


Source: Akap Energy estimates

There are two or three substantial, private explorers active in southwest Saskatchewan where the long-established helium sector has seen a resurgence as global prices have risen. In Southern Saskatchewan, there are at least a dozen helium fields discovered in the region with production from several areas. The gas contains 0.5–3% helium and the remainder is mainly nitrogen (up to 97%) with low CO<sub>2</sub> and methane.

North American Helium (NAH) has developed the Battle Creek field and commenced helium production in July 2020. NAH has ramped up production from a modest 60mmcf/y in 2021 to 130mmcf/y in 2022 and is currently at an annualised rate of 155mmcf/y with seven facilities online producing from various fields. The largest other producer in the area is Thor Resources, another private company that is producing ~25mmcf/y. Royal Helium is bringing on stream in late 2023 a ~25mmcf/y facility in Alberta.

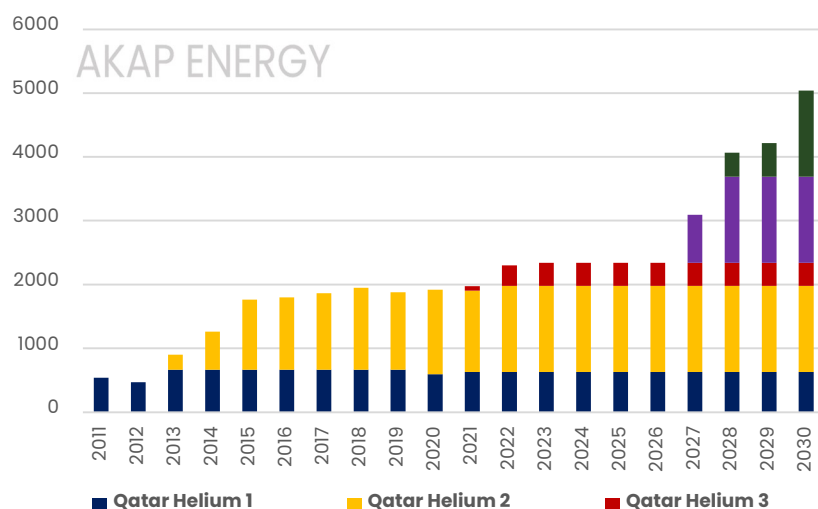
### Canada production by operator (in mmcf)



Source: Akap Energy estimates

## Ras Laffan, Qatar

Qatar helium supply 2011–2030E, mmcf/y



Source: USGS, Akap Energy estimates

Qatar is the leading exporter of helium globally. Its giant North Field (shared with Iran) only contains 0.04% helium but the huge natural gas production rate means that there is still substantial helium available to be produced. The Ras Laffan helium plant, located on the northeast coast of the Qatari peninsula, came online in August 2005 costing US\$115mm. The project is a joint venture between the various LNG plant consortia.

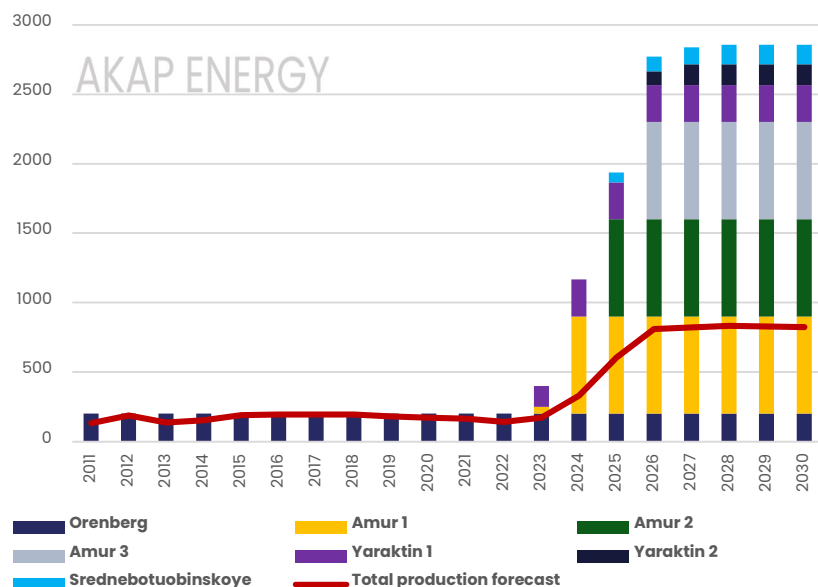
The first plant, “Helium 1”, designed and constructed by Air Liquide, came on stream in 2005 with an original nameplate capacity of 660mmcf/y, which Qatargas now states at 700mmcf/y. The “Helium 2” plant with a design capacity of 1.3bcf/y came on stream in 2013 and the capacity has been increased to 1.5bcf/y according to Qatargas. Offtakers for these plants are Air Liquide, Linde and Iwatani.

A third helium plant with a capacity of 400mmcf/y was originally planned to come online in 2018 but was significantly delayed starting up in 2021. In 2022, Qatar shipped ~2,300 ISO containers of helium (approximately 2.3bcf) and it is on track to ship a similar amount in 2023.

Qatar is currently in the process of expanding its LNG capacity to 126mmtpa from 77mmtpa and alongside this will be building two additional helium plants. Helium 4 will have a capacity of 1.5bcf/y and come on line in 2027 and Helium 5 will have an initial capacity of 535mmcf/y and eventual capacity of 1.5bcf/y, starting up in 2028. By the end of the decade Qatar will have a total helium production capacity of 5.6bcf/y.

## Russia

Russian helium supply potential and our forecasts 2011-2030E, mmcf/y



Source: USGS, Akap Energy estimates

The chart above shows the production capacity for Russia over the coming years and our forecasts which are substantially lower given the problems associated with bringing Amur on line with the sanctions imposed on Russia.

**Orenburg, Russia** – The Orenburg plant is a relatively small plant that was first brought online in 1978. Orenburggazprom (100% subsidiary of Gazprom) is the operator of this facility just west of the town of Orenburg. The rated capacity of this plant is about 230mmcf/y. Production has been below nameplate and declining with 2022 production estimated at 140mmcf. Up to 80% of helium produced is consumed in the internal market of Russia and the rest is exported.



**Amur, Russia** – This could be one of the world's largest helium producers when fully ramped up with a design capacity of 2.1bcf/y and potential to grow to 4bcf/y. Gazprom's Amur gas processing facility is designed to process gas destined for China as part of the Power of Siberia project. The gas flowing in the Amur plant is expected to have a helium content of just 0.15%. However, the economics are very much driven by natural gas sales. The Amur project was planned to add production of 2.1bcf/y in increments of 700mmcf/y (3 separate trains) starting in 2021, then 2022 and 2025 ramping up through 2026 to full capacity. However, in late 2021 and early 2022, 2 fires broke out at the plant and immediately after, the Russia-Ukraine war, has delayed Gazprom's plans.

Recently, in Sep'23, Gazprom restarted helium production at Amur with an initial stated capacity of 350mmcf/y, although it does not seem as if all the volumes are making their way to market. In 2024, we may see the next train being installed to reach 700mmcf/y. There remain many uncertainties regarding how much Gazprom will be able to export, how much helium is destined for storage or use locally in Russia and how much will be taken by China for its strategic helium reserves.

**Yaraktin, Russia** – Irkutsk Oil began helium production from the Yaraktin oil and gas condensate field in August '23. The plant has a nameplate capacity of 250mmcf/y and is located 200km north of Ust-Kut. It has experienced difficulties ramping up and we expect it to get to capacity in 2024.

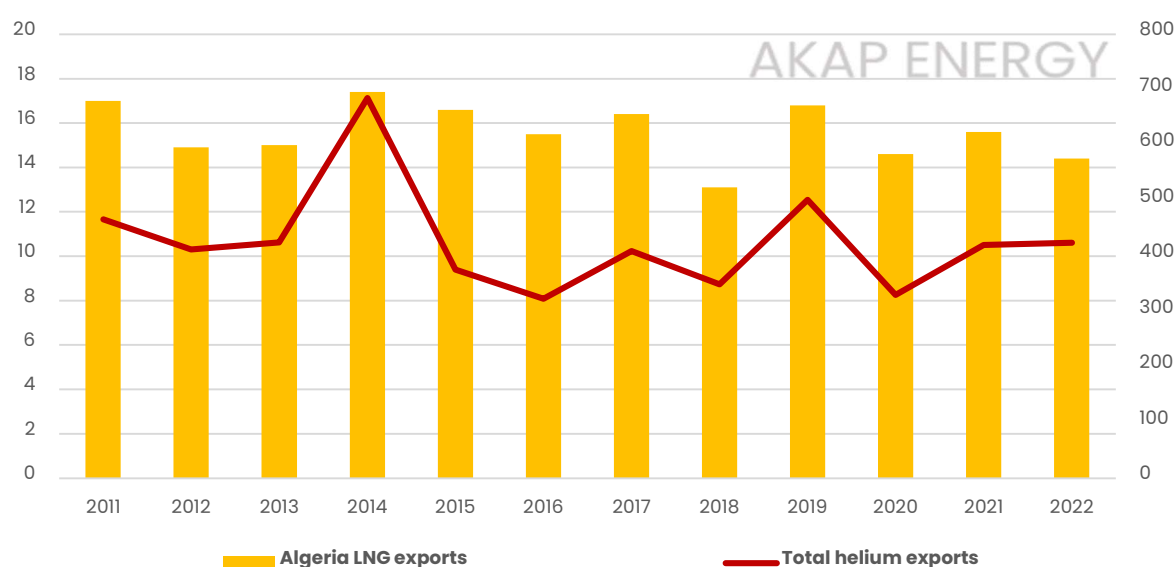
**Srednebotuobinskoye, Russia** – Helium production from natural gas at the Srednebotuobinskoye oil and gas condensate field in Russia is planned to commence in 2025, with an annual volume of up to ~140mmcf/y, reaching full capacity by 2028. A trilateral agreement was signed between the Republic of Yakutia, ALROSA, and DBB to establish a helium extraction complex. The produced helium will be supplied to both domestic and neighbouring markets. However, this is another project that may be impacted by sanctions on Russia.

## South Africa

**Virginia Project, South Africa** – Renergen is the world's newest producer of liquid helium at its Virginia gas project in South Africa. It will produce ~25mmcf/y (at full capacity) from its first plant and ~325mmcf/y from its second plant, which is planned to start up in 2027. It has prospective helium resources of >100bcf with average helium concentration of 3.4% and some discoveries containing up to 12% helium.

## Algeria

LHS: Algerian LNG exports (bcm/y) vs RHS: Algerian helium exports 2011-2022, mmcf/y



Source: BP Statistical Review of World Energy, 2022, Akap Energy estimates

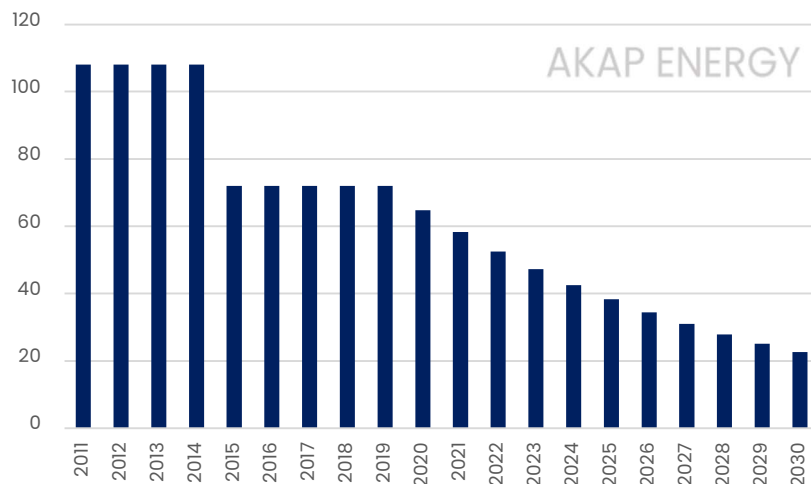
Algeria's helium supply is intricately linked to its LNG production, which, in turn, depends on the allocation of natural gas for LNG versus pipeline exports to Europe. The Hassi R'Mel field (0.2% helium concentration), which accounts for about two-thirds of Algeria's gas exports, is the primary source of helium, but increased pipeline supply from the field has reduced helium production. The Helios plant at the Arzew GL2-Z LNG complex, a Sonatrach and HELAPS Sa (a subsidiary of Air Products) joint venture, has two identical trains with a capacity of 600mmcf/y.

In 2018, Sonatrach signed a deal with Air Products to supply helium recovered from the GLIZ and GL3Z LNG facilities to the Helios plant, adding ~300mmcf/y of helium capacity. The success of the original Helios plant led to the establishment of the Helison plant in 2002, a joint venture between Sonatrach and Linde, situated at the GL1-K LNG facility in Skikda.

There is the potential for new supply from Algeria in the coming years with the increase in throughput of gas into the under-utilised LNG facilities, which in turn should allow the helium facilities to increase their utilisation rates.

## Poland

Polish helium production 2011-2030E, mmcf/y

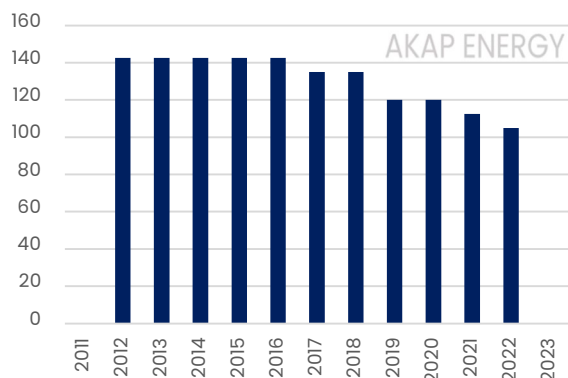


Source: Akap Energy estimates

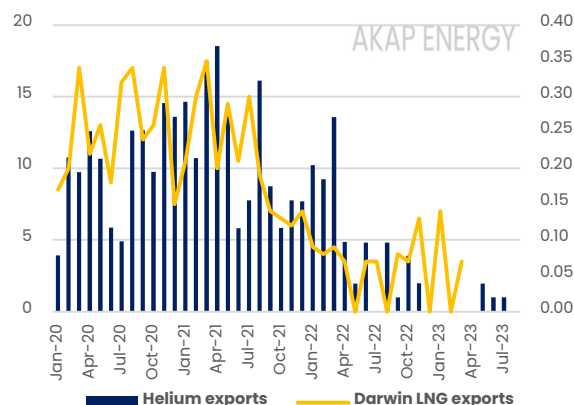
**Odolanow, Poland** – The Odolanow plant in Western Poland first came online in 1977. The owner and operator of the helium plant in Odolanow is Polish Oil and Gas Company (PGNiG). The gas produced at the Odolanów plant contains between 0.08% to 0.45% helium. There are 16 helium fields in the country in the Polish Lowland area. We estimate current production of around 50mmcf/y and expect production to decline in line with mature field declines.

## Australia

Australian helium supply 2011-2030E, mmcf/y



LHS: Australian helium exports (mmcf) vs RHS: Darwin LNG exports (bcm)

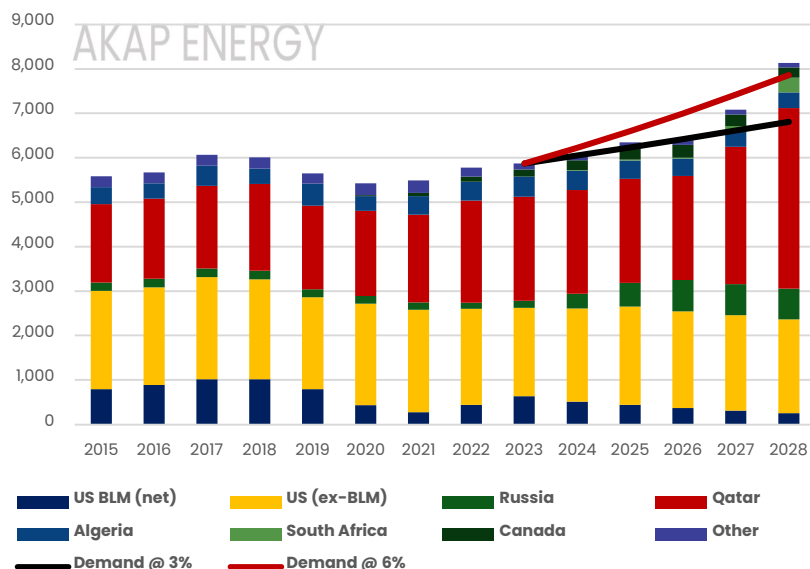


Source: USGS, Akap Energy estimates

All of Australia's volumes came from the Darwin LNG facility, however production ceased in 2023 with the shut down of the Bayu Undan gas field (from which Darwin extracts helium). Australia produced around 135mmcf of helium in 2021 on our estimates (2% of global supply). 2022 volumes fell by 58%. We do not expect any helium exports from Australia in the next couple of years or longer without exploration success.

## Pricing and market balance

Estimated supply demand balance for helium (mmcf/y)



Source: Akap Energy estimates

In our base case forecast we see the helium market as undersupplied for the next few years. Our view is that if there was supply available to the market, helium demand would grow at a rate higher than GDP growth of ~5-6% per annum based on our bottom-up demand analysis. However, we see limited supply growth in the next few years at a CAGR of around 3% between 2023 and 2026. Although there are many uncertainties on supply, this implies that prices will have to continue to rise to choke off demand.

The major wildcard is if Russia is able to get the Amur plants up and running, which could add anywhere up to 2.1bcf/y (35% to existing supply), with Gazprom claiming that it has brought production up to 350mmcf/d.

Longer term our concerns on supply are that there could be delays to the mega helium projects due online in Qatar; historically, projects have encountered issues ramping up. Also, in the US, we see a risk of steeper declines if associated natural gas production declines, and if there is less requirement for CO<sub>2</sub> (which is produced alongside helium in some fields) for improved oil recovery.

On the demand side, we believe that there is latent, unfulfilled demand for helium as there has been limited supply for several years. A wave of new supply could bring back some of the demand that has been lost over the period of shortages and stimulate new demand from growth technology industries that previously were not able to source helium. Also, we think that certain suppliers will be able to garner a premium for their product related to security of supply. For example, suppliers outside of Qatar and Russia may attract a premium as they provide a diversification of supply and eliminate some of the geopolitical risk for buyers.

## Pricing dynamics

Market pricing for helium is difficult to determine as it is not a traded commodity, so there is no helium exchange on the commodities markets. This means there is no benchmark spot or futures pricing as is found with other major commodities. Helium is generally priced on long term contracts between producers and industrial gas buyers, which are largely confidential. Ten-year plus contracts are customary, which are generally take-or-pay with price reopeners. The helium is normally sold at the plant gate into buyers' tube trailers. There is the potential to retain some spot market component in contracts, and newer producers have entered discussions over development funding from potential offtakers.

As a result, helium pricing is opaque as there is no liquid traded market, with only a few key suppliers and a handful of industrial gas buyers. The one consistent source of pricing was from the auction of helium from the large US BLM reserves, but these were only infrequent price points and the last auction held was in 2018. Helium pricing has been on an upward trend as a result of declining volumes from the US BLM storage facility and growing demand for helium globally.

There are various types of helium sold also, which impacts the price. In the US "crude helium" is what is sold by some producers and from the Government storage: this contains at least 50% helium (generally around 70–80%). This is then purified and can be sold as a gas generally as "balloon grade" (~99% helium), also known as "Grade A", or it is further purified to 99.9999% helium and liquefied for storage and transport for many technological applications.

Overall "spot" or current pricing for helium is not so important for the upstream producers in our view because most companies will have signed or look to sign long-term contracts, which means that short-term price fluctuations have little immediate impact, although over time it could lead to price reopener clauses being triggered (either to the upside or downside). This is somewhat similar to the LNG market, however a major difference is that in LNG, generally the price is benchmarked to oil prices, whereas we expect helium prices to be fixed and importantly if there are contracts with investment grade offtakers, it should make them more bankable, especially if there are floor prices. An example of this is the asset-based lending that NASCO was able to secure against its US helium assets.

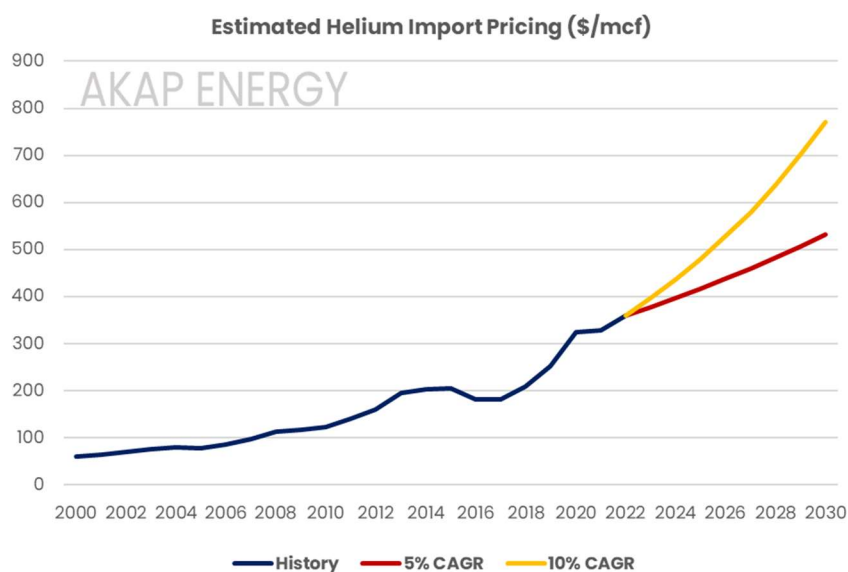
Major consumers of helium tend to be price insensitive given that the cost of helium in the context of the wider cost of a project is small, so even a large percentage increase in the cost of helium will not alter the economics. Furthermore, given there are no replacements for helium, the buyers are price takers. As seen in the LNG business, we believe that certain buyers are willing to pay a large premium to guarantee security of supply or have a diversified supply given that for some consumers, there is no alternative to helium for their processes. For example, scientific researchers account for only a small percentage of the world's annual helium usage, and individually they have no purchasing power in the helium market.

It was estimated that around 10% of global helium demand was lost in 2011-13 due to shortages and pricing doubling. If pricing of helium does fall sharply, we believe that this suggests there is price-sensitive demand that will come back into the market and soften the blow to prices as a result. The market is very susceptible to supply disruption, which has led to price spikes in the past.

The helium market has unique supply, demand, and storage dynamics, leading to almost a continual increase in prices. Over the last decade, helium demand has flatlined (given lack of supply), against a backdrop of 30% global GDP growth. Rather than GDP-linked helium demand growth, as with most commodities, price has had to go up each year instead.

## Helium pricing trends

We track helium pricing over time on a consistent basis for the key countries around the world on a monthly basis using customs data, which will be largely based on long-term contracts but there will be various vintages of agreements and some higher priced spot volumes in the mix. Although there are still some issues with the data, we see this as the most reliable and consistent source of data on the helium market in terms of both traded volumes and prices between regions.



Over the last 20 years, helium pricing (average based on trade data) has increased at a CAGR of 8% reaching ~US\$375/mcf in late 2022. Over the last five years using 2023 to date however helium pricing has been more akin to 18% CAGR to US\$500/mcf – this is >100x current US natural gas pricing. In 2023, we expect prices to end the year at around US\$500/mcf and recent disclosed contracts have been >US\$500/mcf (e.g. Royal Helium). Even, if we assume a lower than trend 5% CAGR in contract helium prices to 2030, prices would reach US\$550/mcf and at 10% CAGR they would be >\$750/mcf and if you take 15% CAGR this would be US\$1,150/mcf which would be much more in line with the current spot pricing indications – to put all this into perspective the US Defence Logistics

Agency's bulk helium pricing, which is mainly used for aerospace operations, reached a record level of US\$1,080/mcf in Oct'23. US spot pricing for helium was between US\$1,000 and \$2,500/mcf in 2022 given extreme shortages, which shows how much offtakers are willing to pay for supply.

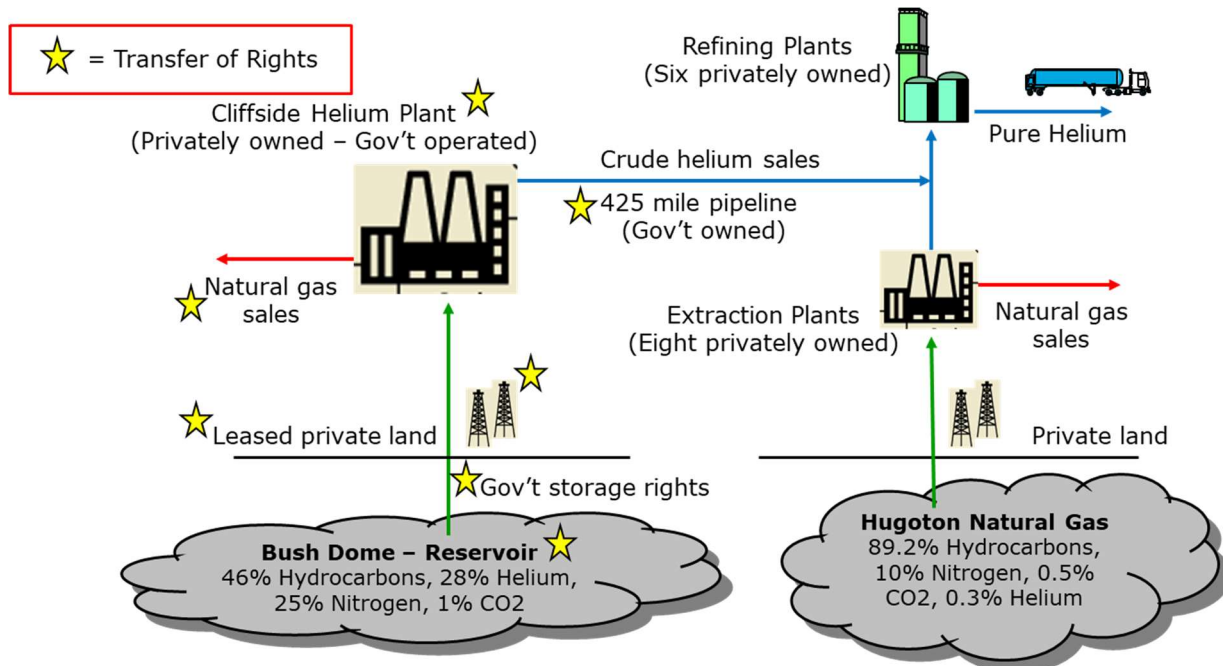
In 2023, we see average global pricing at ~US\$500/mcf for producers. In Europe, importers are paying ~US\$450/mcf while Chinese imports cost ~US\$550/mcf and other Asian countries are paying ~US\$525/mcf. The US reported data is of poor quality, so we analyse the major importing regions from the US which are paying ~US\$540/mcf. Qatar does not report helium exports so analysing like we do for the US, Qatar's importers are paying ~US500/mcf.

Prior to 2005, helium prices were \$50-100/mcf as there was plenty of supply with the buffer of the US strategic reserve, which now only acts as a source of supply, albeit a depleting one. The wildcard to the downside is new Russian supply but there is a big risk given the track record and geopolitical situation.

Another interesting analogy would be with other niche energy transition commodities such as lithium and cobalt. These commodities have seen exponential price growth on the back of significant supply squeezes – similar to what is being seen in the helium space. What was interesting is that many industry analysts viewed these increases as unsustainable, however today these commodity prices remain high. In our view helium is in a similar situation with a squeezed supply and demand continuing to grow with new primary helium discoveries required to meet the expected increase in annual demand from 6 Bcf to 8.5 Bcf by 2030.

## Storage

### US BLM storage



Source: BLM

The main site for helium storage and the only real buffer for the helium market is the US Bureau of Land Management's owned and operated storage facilities. It controls a helium storage reservoir, enrichment plant, and pipeline system near Amarillo, Texas. However this is producing at capacity so in reality it cannot provide additional supply in a shortage. We believe that the dramatic fall in production capacity and total reserves in the BLM storage should ensure a structurally higher price for helium in the future.

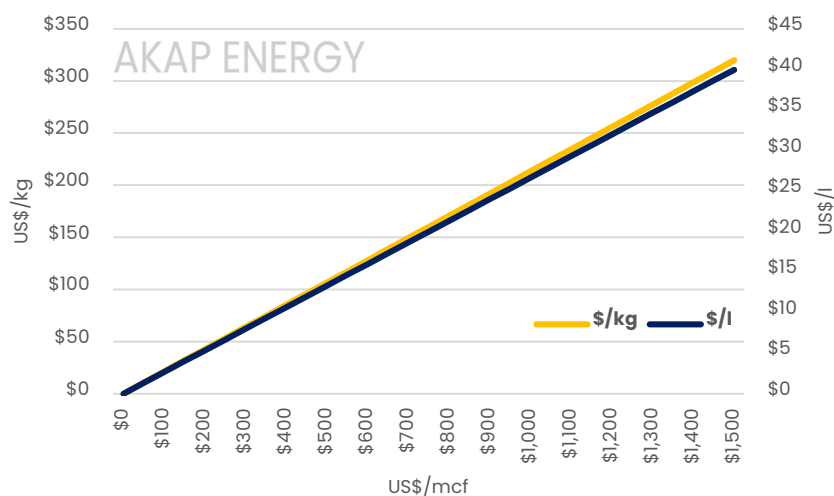
There is minor storage elsewhere with a recent estimated 2bcf of helium capacity site brought on line in Texas by Air Products and Air Liquide has a site in Germany which is much smaller. However, we would not be surprised if some of the large producers (e.g. Russia) or large buyers (e.g. China) are building or already have their own storage in order to ensure security of supply. This could be positive for demand and offset the upstream capacity growth over the coming years to fill storage (e.g. similar to what had been seen in oil markets with the Chinese Strategic Petroleum Reserve).

Given the concentration risk in terms of supply and the critical importance of helium, we would expect both private and Government demand for helium for storage in order to create a buffer in the event of disruption to supplies. Also, from a logistics standpoint a key challenge is to meet customer on-time requirements, independently of the reliability of production sources, by ensuring an optimum transport lead-time to customers, while avoiding losses due to helium warm-up which can occur during transport.



## Units of measurement

Helium pricing conversion chart



Source: Akap Energy estimates

Helium production is generally referred to in million cubic feet per year or mmcf/y (unlike natural gas which is referred to on a daily basis) or billion cubic feet per year: bcf/y. Helium pricing is referred to in various units: either per thousand cubic feet (mcf), per litre (l) or per kilogram (kg). The chart above provides a simple way to convert between the three. At our base case price of US\$500/mcf is the equivalent of US\$13/l or US\$107/kg.

Helium Conversion Data						
	Weight		Gas		Liquid	
	pounds (lb)	kilograms (kg)	cubic feet (scf)	cubic meter (Nm <sup>3</sup> )	gallons (gal)	litres (l)
1 pound	1.0	0.4536	96.69	2.542	0.9593	3.630
1 kilogram	2.205	1.0	213.17	5.603	2.115	8.003
1 scf, gas	0.01034	0.00469	1.0	0.02629	0.009918	0.03754
1 Nm <sup>3</sup> , Gas	0.3935	0.1785	38.04	1.0	0.3773	1.4282
1 gallon, liquid	1.043	0.4730	100.82	2.650	1.0	3.785
1 litre, liquid	0.2755	0.12496	26.64	0.7002	0.2642	1.0

## Glossary

**BLM:** US Bureau of Land Management

**Crude Helium:** Helium with equal to or greater than 50 percent “contained” helium which is recovered from upstream processing of natural gas to produce natural gas liquids (NGLs) or liquefied natural gas (LNG)

**ISO Tanks:** Cryogenic super insulated tanks designed/built under the UN’s International Standards Organization code for intermodal and oceanic container transport and shipping

**Liquid Helium (LHe):** Helium which has been cryogenically liquefied for liquid bulk transport and/or for use as an ultra-low temperature refrigerant

**Pressure swing adsorption (PSA):** Pressure swing adsorption processes utilize the fact that under high pressure, gases tend to be attracted to solid surfaces, or “adsorbed”. The higher the pressure, the more gas is adsorbed.

**Spigot:** Referring to Capacity or Production of helium volume free on board (fob) at the plant

**Refined Helium:** Helium purified to commercial Grade A gaseous helium

**USGS:** United States Geological Survey

**US BLM In-kind sales** – The “in-kind” programme means that when a helium supplier sells a significant amount of helium to a Government agency, it must purchase an equivalent amount of crude helium from the BLM.

## Disclaimer

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## 15. MATERIAL CONTRACTS

The full terms of contracts to which the Company is a party that may be material in terms of the Offers or the operations of the Company or that otherwise are or may be relevant to a potential investor in the Company are not set out in this Prospectus. Summaries of these contracts, however, are set out in Sections 9.5 and 9.6 and in this Section 15.

### 15.1 AGREEMENTS WITH DIRECTORS AND RELATED PARTIES

Details of the material terms of the agreements between the Company and the Directors or other related parties of the Company are set out in Sections 9.5. It is noted that Mr Worner is a part-time employee of Automic Finance Pty Ltd which is part of the Automic Group. Grange Resources Pty Ltd (with whom the Company has a Company Secretarial and Financial Management Services Mandate (see Section 15.6) and Automic Share Registry Services, the Company's Share Registry, are also part of the Automic Group.

### 15.2 MOTUOANE ACQUISITION AGREEMENT (AND NOVO LOAN AGREEMENT)

<b>Parties</b>	<p>The Company</p> <p>Willow Energy Corporation (<b>Willow</b>), Tamlib Investments Pty Ltd, Milton John Zetzman (Jr) and Kevin Donald Rathbun (together, the <b>Willow Beneficiaries</b>) and NOVO Resources Proprietary Limited (<b>NOVO</b>) (each of Willow, the Willow Beneficiaries and NOVO being a <b>Vendor</b> and collectively, the <b>Vendors</b>)</p>
<b>Key Terms</b>	<p>(a) <b>Acquisition of Motuoane Sale Shares</b> – under the Motuoane Acquisition Agreement, the Vendors agreed to sell, and the Company agreed to acquire, all of the Vendors' right, title and interest in 1,481 fully paid ordinary shares in Motuoane (<b>Sale Shares</b>), being 100% of the issued capital of Motuoane (the <b>Motuoane Acquisition</b>). Under the Motuoane Acquisition:</p> <ul style="list-style-type: none"> <li>(i) Willow (on behalf of the Willow Beneficiaries in its capacity as registered holder of Sale Shares and agent for the Willow Beneficiaries) and the Willow Beneficiaries agreed to sell 785 Sale Shares to the Company; and</li> <li>(ii) NOVO agreed to sell 696 Sale Shares to the Company.</li> </ul> <p>(b) <b>Assets of Motuoane:</b> the Motuoane Acquisition Agreement specified that the assets of Motuoane include, materially:</p> <ul style="list-style-type: none"> <li>(i) legal and beneficial ownership of ER315 granted under the Mineral and Petroleum Resources Development Act 2002 (South Africa);</li> <li>(ii) key information relating to ER315; and</li> <li>(iii) the right, title and interest of Motuoane under agreements Motuoane is party to (including the Gas Supply Term Sheet with NOVO Energy (Pty) Ltd (see summary at Section 15.3).</li> </ul> <p>(c) <b>Completion:</b> completion of the Company's acquisition of Motuoane is in the following two stages:</p>



- (i) **Initial Completion** – in respect of the Company's acquisition of 1,285 shares in Motuoane (being 86.77% of the total share capital in Motuoane) (**Initial Sale Shares**). Initial Completion occurred on 28 October 2023.
- (ii) **Deferred Completion** – in respect of the Company's acquisition of the remaining 13.23% of the share capital in Motuoane (being 196 shares held by Willow for the benefit of Kevin Donald Rathbun (a Willow Beneficiary)) (**Deferred Sale Shares**). Deferred Completion will occur at the earlier of: (i) 2 Business Days after the Company receives listing approval from ASX to be admitted to the Official List; or (ii) the first business day following 1 July 2024.
- (d) Consideration:
  - (i) **Initial Completion consideration:** At Initial Completion, in consideration for the Motuoane Vendors selling the Initial Sale Shares to the Company, the Company issued to the Vendors a total of 21,053,900 Shares in the Company and 2,168,800 Class A Vendor Performance Rights, 2,168,700 Class B Vendor Performance Rights and 2,168,700 Class C Vendor Performance Rights. See Section 7.10 for breakdown of Shares and Vendor Performance Rights issued to the Vendors at Initial Completion under the Motuoane Acquisition Agreement.
  - (ii) **Deferred Completion consideration:** At Deferred Completion, in consideration for Willow selling the Deferred Sale Shares to the Company, the Company will issue to Kevin Donald Rathbun (a Willow beneficiary) 3,216,100 ordinary shares in the Company and 331,200 Class A Performance Rights, 331,300 Class B Performance Rights and 331,300 Class C Performance Rights.

See Section 16.2(e) for the terms and conditions of the Vendor Performance Rights.
- (e) **Exploration Expenditure** – the Company agreed to fund (on a non-refundable basis) up to A\$300,000 of costs incurred by Motuoane in respect of:
  - (i) rent and other government fees and charges to be paid to maintain ER315 in good standing;
  - (ii) costs and expenses incurred to renew ER315; and
  - (iii) specific costs as set out in an agreed work programme and budget,



	<p>(<b>Exploration Expenditure</b>). The Company has funded all the Exploration Expenditure to Motuoane.</p>
	<p>(f) <b>NOVO Loan Agreement</b> – Pursuant to a condition precedent under the Motuoane Acquisition Agreement, the Company has also entered into a loan agreement with NOVO under which NOVO may elect to borrow from the Company an amount equal to NOVO's CGT liability on the sale of its 696 Sale Shares to the Company (up to a maximum loan amount of 3,500,000 Rand (approx. A\$280,000)). The loan attracts interest at 5% per annum and is repayable by the date that is 30 days after NOVO's Shares in the Company are released from escrow. As at the date of this Prospectus, NOVO has not elected to borrow funds under the NOVO Loan Agreement. If the Company is required to loan funds to NOVO under the NOVO Loan Agreement then the amount loaned to NOVO will be diverted from the funds allocated in Section 7.7 above for new project generation and acquisition.</p>

### 15.3 NOVO ENERGY GAS SALES TERM SHEET

<b>Parties</b>	<p>Motuoane Energy (Pty) Ltd (<b>Motuoane</b>)</p> <p>NOVO Energy (Pty) Ltd (<b>NOVO Energy</b>)</p>
<b>Term Sheet</b>	<p>The Term Sheet states that: (i) the Parties wish record that it is their mutual intent to agree a Gas Sales Agreement for the supply of methane gas (<b>Gas</b>) at offtake points identified between the Parties; (ii) the Term Sheet contains the salient terms to be agreed between the Parties and is intended to assist the Parties to complete the Gas Sales Agreement; (iii) the Parties agree that the Term Sheet constitutes a non binding offer; and (iv) the Parties will use their best endeavours to execute a formal Gas Sales Agreement incorporating the principal terms (set out in the Term Sheet including conditions precedent, commencement date, term, supply conditions, minimum annual quantities, reductions and increases to minimum annual quantities and pricing) set out in the Term Sheet prior to Motuoane commencing the commercial production of Gas.</p>

To date, no formal Gas Supply Agreement has been agreed between Motuoane and NOVO Energy. In due course, the Company intends to engage with NOVO Energy in order to endeavour to agree a formal Gas Supply Agreement on mutually agreed terms. Any such negotiation may or may not result in the execution of formal documentation. .

### 15.4 JOINT LEAD MANAGER MANDATE

<b>Parties</b>	<p>The Company</p> <p>Peloton Capital Pty Ltd (<b>Peloton</b>) and Originate Capital Pty Ltd (<b>Originate</b>) (together, the <b>JLMs</b>)</p>
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<b>Fees</b>	<p>A fee of 6% (ex GST) of the funds raised under the Public Offer (payable in cash) broken down as follows:</p> <ul style="list-style-type: none"> <li>(a) lead manager fee of 2% payable on all proceeds raised under the Public Offer;</li> <li>(b) broker fee of 4% payable on all proceeds raised under the Public Offer.</li> </ul> <p>Additionally, a chairman's list fee of 4% is payable on all proceeds raised under the Public Offer via the Chairman's list.</p> <p>The fees will be split equally between the JLMs.</p>
<b>Options</b>	<p>An option fee of 4,000,000 Advisor Options will be issued to the JLMs or their nominees.</p> <p>The Advisor Options will have an exercise price of \$0.30 and will expire four years from the Listing Date. Please refer to Section 16.2(b) for the full terms and conditions of the Advisor Options.</p> <p>The Advisor Options will be split equally between the JLMs.</p>
<b>Termination</b>	<p>The JLM Mandate may be terminated by:</p> <ul style="list-style-type: none"> <li>(c) either party giving 30 days' written notice; or</li> <li>(d) in the event of a material default under the JLM Mandate by the non-defaulting party providing written notice to the defaulting party immediately where (i) the non-defaulting party has previously given the defaulting party notice in writing setting out the reasons why the defaulting party has materially defaulted and (ii) the defaulting party has not remedied the breach within 10 business days of the date of the written notice.</li> </ul> <p>If the Company terminates the JLM Mandate as above and, at any time prior to the expiration of 12 months following the date of termination of the JLM Mandate, the Company enters into an agreement or takes any actions that subsequently results in a transaction that is substantially similar to the transaction the subject of the JLM Mandate, or a similar transaction is consummated, then the Company will pay the JLMs the fees (as specified above) in cash within 7 days of the closing of such transaction.</p>
<b>Expenses</b>	<p>In addition to the fees specified above, all out-of-pocket expenses reasonably incurred by the JLMs in respect of the transaction the subject of the JLM Mandate or the JLMs engagement must be paid by, or reimbursed in full by, the Company. The JLMs will seek approval from the Company before incurring any single expense greater than \$2,000.</p>
<b>Other Services</b>	<p>During the term of the JLM Mandate (ending, unless terminated earlier, until completion of the transaction the subject of the JLM Mandate) and for a period of 12 months thereafter, the JLMs will have a right of first refusal to act as the Company's lead financial advisor and capital markets advisor, lead placement agent, lead arranger, lead book runner lead manager, as the case may be, in connection with any actual or</p>



proposed acquisition or disposition transactions in which the Company will engage a financial advisor or public or private offering of equity, equity linked, debt or asset backed securities. As compensation, the JLMs will be paid customary fees to be mutually agreed at the appropriate time.

The Joint Lead Manager Mandate otherwise contains provisions considered standard for an agreement of its nature (including representations and warranties and confidentiality provisions).

## 15.5 LAND USE AGREEMENTS

Motuoane Energy (Pty) Ltd has entered into Land Use Agreements with various landowners to facilitate its exploration activities on areas of the D3 Project covered by the Land Use Agreements. Details of these Land Use Agreements including a summary of the key terms are contained within the Solicitor's Report on Permits in Section 10.

## 15.6 COMPANY SECRETARIAL AND FINANCIAL MANAGEMENT SERVICES MANDATE

The Company has engaged Grange Consulting Group Pty Ltd, which is part of the Automic Group, to provide company secretarial and financial management services to the Company on the key terms set out below. It is noted that Mr Matt Worner, a Director of the Company, is a part-time employee of Automic Finance Pty Ltd which is part of the Automic Group.

<b>Parties</b>	<p>The Company</p> <p>Grange Consulting Group Pty Ltd (part of the Automic Group)</p>
<b>Personnel</b>	<p>Pursuant to the mandate, the parties agree the roles of various staff of Grange Consulting Group Pty Ltd under the mandate. In this regard, Cameron O'Brien has been appointed to the position Company Secretary and Chief Financial Officer of the Company.</p>
<b>Remuneration</b>	<p>The Company has agreed to pay Grange Consulting Group Pty Ltd the following fees for the provision of company secretary and financial management services:</p> <ul style="list-style-type: none"> <li>(a) \$10,000 for company secretarial and financial management services provided prior to ASX Listing; and</li> <li>(b) \$10,000 per month (excluding GST) commencing from ASX Listing.</li> </ul> <p>In addition to the above, the Company will be responsible for all incidental expenses incurred by Grange Consulting in providing its services including disbursements and travel as previously agreed with the Company.</p>
<b>Termination</b>	<p>The mandate may be terminated by:</p> <ul style="list-style-type: none"> <li>(a) mutual agreement between the parties; or</li> <li>(b) either party giving 60 days' written notice.</li> </ul>





## **15.7 CONSTITUTION**

Investors who are issued Shares under the Public Offer will become bound by the Constitution of the Company. The Constitution of the Company governs the relationship between the Company, its shareholders and its directors, in accordance with section 140 of the Corporations Act.

A copy of the Company's constitution can be obtained from the Company's website at [www.d3energy.com.au](http://www.d3energy.com.au)



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## **16. ADDITIONAL INFORMATION**

### **16.1 LITIGATION**

As at the date of this Prospectus, the Company is not involved in any legal proceedings and the Directors are not aware of any legal proceedings pending or threatened against the Company.

### **16.2 RIGHTS ATTACHING TO SECURITIES**

#### **(a) Shares**

The Shares offered for subscription under this Prospectus are new Shares that will rank equally with the issued Shares. The rights attaching to Shares are set out in the Constitution and in certain circumstances are regulated by the Corporations Act, the Listing Rules, the ASX Settlement Operating Rules and general law. The rights, privileges and restrictions attaching to Shares are summarised below. This is not exhaustive nor is it a definitive statement of the rights and liabilities of Shareholders. To obtain such a statement you should obtain independent legal advice. A copy of the Constitution is available for inspection at the Company's registered office during normal business hours.

##### **(i) General meetings and Notice of Meetings**

Shareholders are entitled to be present in person, or by proxy, attorney or representative to attend general meetings of the Company. Shareholders may requisition meetings in accordance with section 249D of the Corporations Act and the Constitution.

##### **(ii) Voting rights**

Subject to any rights or restrictions for the time being attached to any class or classes of Shares, at general meetings of Shareholders or classes of Shareholders:

- (A) each Shareholder entitled to vote may vote in person or by proxy, attorney or representative or, if a determination has been made by the Board, by direct voting;
- (B) on a show of hands, every person present who is a Shareholder or a proxy, attorney or representative of a Shareholder has one vote; and
- (C) on a poll, every person present who is a Shareholder or a proxy, attorney or representative of a Shareholder (or where a direct vote has been lodged) shall, in respect of each fully paid Share held by him or her, or in respect of which he or she is appointed a proxy, attorney or representative, have one vote for the Share, but in respect of partly paid Shares shall have such number of votes being equivalent to proportion which the amount paid (not credited) is of the total amounts paid and payable in respect of those Shares (excluding amounts credited).

##### **(iii) Dividend rights**

Subject to and in accordance with the Corporations Act, the ASX Listing Rules, the rights of any preference Shareholders and to the rights of the holders of any shares created or raised under any special arrangement as to dividend, the Directors may from time to time decide to pay a dividend to the Shareholders entitled to the dividend which shall be payable on all Shares according to the proportion that the amount paid (not credited) is of the total amounts paid and



payable (excluding amounts credited) in respect of such Shares. The Directors may rescind a decision to pay a dividend if they decide, before the payment date, that the Company's financial position no longer justifies the payment. The Directors may from time to time pay to the Shareholders any interim dividends that they may determine. No dividend shall carry interest as against the Company. Except as otherwise provided by statute, all dividends unclaimed for one year after having been declared may be invested or otherwise made use of by the Directors for the benefit of the Company until claimed. In the event of a breach of the ASX Listing Rules relating to Restricted Securities or of any escrow arrangement entered into by the Company under the ASX Listing Rules in relation to any Shares which are classified under the ASX Listing Rules or by ASX as Restricted Securities, the Shareholder holding the Shares in question shall cease to be entitled to be paid any dividends in respect of those Shares for so long as the breach subsists.

(iv) **Winding-up**

If the Company is wound up the liquidator may, with the authority of a special resolution of the Company, divide among the Shareholders in kind the whole or any part of the property of the Company, and may for that purpose set such value as the liquidator considers fair upon any property to be so divided, and may determine how the division is to be carried out as between the Shareholders or different classes of Shareholders. No member is obliged to accept any Shares, securities or other assets in respect of which there is any liability. The liquidator may, with the authority of a special resolution of the Company, vest the whole or any part of any such property in trustees upon such trusts for the benefit of the contributories as the liquidator thinks fit, but so that no Shareholder is compelled to accept any Shares or other Securities in respect of which there is any liability. Subject to the rights of Shareholders (if any) entitled to Shares with special rights in a winding up and the Corporations Act all monies and property that are to be distributed among Shareholders on a winding-up, shall be distributed in proportion to the Shares held by them respectively, irrespective of the amount paid-up or credited as paid-up on the Shares.

(v) **Transfer of Shares**

Generally, Shares are freely transferable, subject to formal requirements, the registration of the transfer not resulting in a contravention of or failure to observe the provisions of a law of Australia and the transfer not being in breach of the Corporations Act or the ASX Listing Rules.

Directors may refuse to register any transfer of Shares where the ASX Listing Rules permits or requires the Company to do so or the transfer is a transfer of Restricted Securities which is or might be in breach of the ASX Listing Rules or any escrow agreement entered into by the Company in relation to such Restricted Securities pursuant to the ASX Listing Rule. Where the Directors refuse to register a transfer in accordance with this clause, they shall send notice of the refusal and the precise reasons for the refusal to the transferee and the lodging broker (if any) in accordance with the ASX Listing Rules. The Directors may suspend the registration of transfers at any times, and for any periods, permitted by the ASX Settlement Operating Rules that they decide.

(vi) **Variation of rights**

Pursuant to section 246B of the Corporations Act the Company may, with the sanction of a special resolution passed at a meeting of Shareholders, vary the rights attaching to Shares.



If at any time the Share capital is divided into different classes of Shares, the rights attached to any class (unless otherwise provided by the terms of issue of the Shares of that class) may be varied, whether or not the Company is being wound up, with the consent in writing of the holders of three quarters of the issued Shares of that class, or if authorised by a special resolution passed at a separate meeting of the holders of the Shares of that class, subject to Part 2F.2 of Chapter 2F of the Corporations Act.

(vii) **Shareholder Liability**

As the Shares under the Prospectus are fully paid ordinary shares, they are not subject to any calls for money by the Directors and will therefore not become liable to forfeiture.

(viii) **Future Increases in Capital**

Without prejudice to any special rights previously conferred on the holders of any existing Shares or class of Shares, unissued Shares shall be under the control of the Directors and, subject to the Corporations Act, the ASX Listing Rules and this Constitution, the Directors may at any time issue such number of Shares either as ordinary Shares or Shares of a named class or classes (being either an existing class or a new class) at the issue price that the Directors determine and with such preferred, deferred, or other special rights or such restrictions, whether with regard to dividend, voting, return of capital or otherwise, as the Directors shall, in their absolute discretion, determine.

(ix) **Alteration to the Constitution**

In accordance with the Corporations Act, the Constitution can only be amended by a special resolution passed by at least three quarters of Shareholders present and voting at the general meeting. At least 28 days' written notice specifying the intention to propose the resolution as a special resolution must be given to Shareholders.

(x) **ASX Listing Rules**

If the Company is admitted to the Official List, notwithstanding anything in the Constitution, if the Listing Rules prohibit an act being done, the act must not be done. Nothing in the Constitution prevents an act being done that the Listing Rules require to be done. If the Listing Rules require an act to be done or not to be done, authority is given for that act to be done or not to be done (as the case may be). If the Listing Rules require the Constitution to contain a provision or not to contain a provision the Constitution is deemed to contain that provision or not to contain that provision. If a provision of the Constitution is or becomes inconsistent with the Listing Rules, the Constitution is deemed not to contain that provision to the extent of the inconsistency.

(b) **Management and Consultant Performance Rights to be issued under the Management and Consultant Offer**

Under the Management and Consultant Offer, the Company intends to issue 4,020,000 Management and Consultant Performance Rights to the Directors, Key Management Personnel and Consultants referred to in Section 6.7 for a \$nil issue price.

The Management and Consultant Performance Rights and the ordinary shares underlying the Management and Consultant Performance Rights 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 in the United States, except in transactions exempt



from or not subject to the registration requirements of the US Securities Act and any other applicable US securities laws.

The Management and Consultant Performance Rights are subject to the following Performance Milestone Conditions (**Milestones**) and have the following expiry dates (**Expiry Dates**):

Class	Milestone	Expiry Date
Class A	Each Class A Management and Consultant Performance Right will vest and convert into one Share upon the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.40.	5 years from the date of issue
Class B	Each Class B Management and Consultant Performance Right will vest and convert into one Share upon the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.50.	5 years from the date of issue
Class C	Each Class C Management and Consultant Performance Right will vest and convert into one Share upon the Company achieving a volume weighted average price for 20 consecutive trading days (20 Day VWAP) exceeding \$0.60	5 years from the date of issue

The other terms and conditions of the Management and Consultant Performance Rights are as follows:

(i) **Notification to Holder**

The Company shall notify the holder of a Management and Consultant Performance Right (**Holder**) in writing when the relevant Milestone has been satisfied.

(ii) **Conversion**

Subject to paragraph (xv) below, upon satisfaction of the applicable Milestone, each Management and Consultant Performance Right will, as soon as reasonably practicable (and in any event not later than 45 days from vesting), convert into one (1) Share.

(iii) **Conversion on change of control**

Subject to paragraph (xv) below and notwithstanding the relevant Milestone has not been satisfied, upon the occurrence of either:

- (A) a takeover bid under Chapter 6 of the *Corporations Act 2001* (Cth) having been made in respect of the Company and having received acceptances for more than 50% of the Company's shares on issue and being declared unconditional by the bidder; or



- (B) a Court granting orders approving a compromise or arrangement for the purposes of or in connection with a scheme of arrangement for the reconstruction of the Company or its amalgamation with any other company or companies

then, to the extent Management and Consultant Performance Rights have not converted into Shares due to satisfaction of the Milestones, the Management and Consultant Performance Rights will accelerate vesting conditions and will automatically convert into shares on a one-for-one basis.

(iv) **Lapse of a Management and Consultant Performance Right**

Any Management and Consultant Performance Right that has not been converted into a Share prior to the Expiry Date specified above will automatically lapse. For the avoidance of doubt, a Management and Consultant Performance Right will not lapse in the event a relevant Milestone is met before the Expiry Date and the Shares the subject of a conversion are deferred in accordance with paragraph (xv) below.

(v) **Fraudulent or dishonest action**

If a Holder ceases to be an employee, consultant or director of the Company or one of its subsidiaries in circumstances where the cessation or termination is specifically referenced to the Holder having been found to have acted fraudulently or dishonestly in the performance of his or her duties, then:

- (A) the Board must deem any Management and Consultant Performance Rights of the Holder to have immediately lapsed and be forfeited; and
- (B) any Management and Consultant Performance Rights that have vested will continue in existence in accordance with their terms of issue only if the relevant Milestone has previously been met, and any shares issued on satisfaction of the applicable Milestone will remain the property of the Holder.

(vi) **Ceasing to be management personnel**

If a Holder ceases to be a member of management or a director of the Company or its subsidiaries or ceases to be engaged by the Company or its subsidiaries in circumstances where the cessation or termination arises because the Holder:

- (A) voluntarily resigns his or her position within twelve (12) months after completion of the IPO (other than to take up employment with a subsidiary of the Company);
- (B) wilfully breaches the terms of the engagement of the Holder or any policy of the Company's published policies regulating the behaviour of holder;
- (C) is convicted of a criminal offence which, in the reasonable opinion of the Company, might tend to injure the reputation or the business of the Company; or
- (D) is found guilty of a breach of the Corporations Act and the Board considers that it brings the holder or the Company into disrepute,

then:



- (E) unless the Board decides otherwise in its absolute discretion, any Management and Consultant Performance Rights of the Holder will be deemed to have immediately lapsed and be forfeited; and
- (F) any Management and Consultant Performance Rights that have vested will continue in existence in accordance with their terms of issue only if the relevant Milestone has previously been met and any Shares issued on satisfaction of the applicable Milestone will remain the property of the Holder.

(vii) **Other circumstances**

The Management and Consultant Performance Rights will not lapse and be forfeited where the Holder ceases to be a member of management or a director of the Company or its subsidiaries or ceases to be engaged by the Company or its subsidiaries for one of the following reasons:

- (A) death or total permanent disability (in respect of total permanent disability being that because of a sickness or injury, the Holder is unable to work in his or her own or any occupation for which they are suited by training, education, or experience for a period beyond one year);
- (B) redundancy (being where the Holder ceases to be a member of management or a director of the Company or its subsidiaries or ceases to be engaged by the Company or its subsidiaries due to the Company no longer requiring the Holder's position to be performed by any person); or
- (C) any other reason, other than a reason listed in paragraph (f) and (g), that the Board determines is reasonable to permit the holder to retain his or her Performance Rights,

and in those circumstances the Performance Rights will continue to be subject to the applicable Milestone.

(viii) **Share ranking**

All Shares issued upon the conversion of the Management and Consultant Performance Rights will upon issue rank *pari passu* in all respects with existing shares in D3.

(ix) **Application to ASX**

The Management and Consultant Performance Rights will not be quoted on ASX.

(x) **Timing of issue of Shares on Conversion**

Within 5 Business Days after the date that Management and Consultant Performance Rights are converted, the Company will:

- (A) issue the number of Shares required under these terms and conditions in respect of the number of Management and Consultant Performance Rights converted;
- (B) if required, give ASX a notice that complies with section 708A(5)(e) of the Corporations Act; and



- (C) if admitted to the official list of ASX at the time, apply for official quotation on ASX of the Shares issued pursuant to the conversion of the Management and Consultant Performance Rights.

If a notice delivered under paragraph (j)(ii) for any reason is not effective to ensure that an offer for sale of the Shares does not require disclosure to investors, the Company must, no later than 20 Business Days after becoming aware of such notice being ineffective, lodge with ASIC a prospectus prepared in accordance with the Corporations Act and do all such things necessary to satisfy section 708A(11) of the Corporations Act to ensure that an offer for sale of the Shares does not require disclosure to investors.

(xi) **Transfer of Management and Consultant Performance Rights**

The Management and Consultant Performance Rights are not transferable.

(xii) **Participation in new issues**

A Management and Consultant Performance Right does not entitle a Holder (in their capacity as a Holder of a Management and Consultant Performance Right) to participate in new issues of capital offered to holders of Shares such as bonus issues and entitlement issues.

(xiii) **Reorganisation of capital**

If at any time the issued capital of the Company is reconstructed, all rights of a Holder will be changed in a manner consistent with the applicable ASX Listing Rules and the Corporations Act at the time of reorganisation.

(xiv) **Dividend and Voting Rights**

The Management and Consultant Performance Rights do not confer on the holder an entitlement to vote on any resolutions proposed by the Company (except as otherwise required by law) or receive dividends.

(xv) **Deferral of conversion if resulting in a prohibited acquisition of Share**

If the conversion of a Management and Consultant Performance Right would result in any person being in contravention of section 606(1) of the Corporations Act 2001 (Cth) (**General Prohibition**) then the conversion of that Management and Consultant Performance Right shall be deferred until such later time or times that the conversion would not result in a contravention of the General Prohibition. In assessing whether a conversion of a Management and Consultant Performance Right would result in a contravention of the General Prohibition:

- (A) Holders may give written notification to the Company if they consider that the conversion of a Management and Consultant Performance Right may result in the contravention of the General Prohibition. The absence of such written notification from the Holder will entitle the Company to assume the conversion of a Management and Consultant Performance Right will not result in any person being in contravention of the General Prohibition;
- (B) the Company may (but is not obliged to) by written notice to a Holder request a Holder to provide the written notice referred to in paragraph (xv)(A) within seven days if the Company considers that the conversion of a Performance Right may result in a contravention of the General Prohibition. The absence of such written notification from the Holder will entitle the Company to assume the conversion of a





Performance Right will not result in any person being in contravention of the General Prohibition.

(xvi) **No rights to return of capital**

A Management and Consultant Performance Right does not entitle the Holder to a return of capital, whether in a winding up, upon a reduction of capital or otherwise.

(xvii) **Rights on winding up**

A Management and Consultant Performance Right does not entitle the Holder to participate in the surplus profits or assets of the Company upon winding up.

(xviii) **Tax Deferral**

For the avoidance of doubt, Subdivision 83A-C of the Income Tax Assessment Act 1997 which enables tax deferral on performance rights, applies (subject to the conditions in that Act) to the Management and Consultant Performance Rights.

(xix) **No other rights**

A Management and Consultant Performance Right gives the Holder no rights other than those expressly provided by these terms and those provided at law where such rights at law cannot be excluded by these terms.

(xx) **ASX Listing Rule compliance**

The Board reserves the right to amend any term of the Management and Consultant Performance Rights to ensure compliance with the ASX Listing Rules.

(c) **Management and Consultant Options offered under the Management and Consultant Offer**

Pursuant to the Management and Consultant Offer, the Company will issue a total of 6,225,000 Management and Consultant Options to the Directors, Key Management Personnel and consultants and employees referred to in Section 6.7 for a \$nil issue price.

The Management and Consultant Options and the ordinary shares underlying the Management and Consultant Options 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 in the United States, except in transactions exempt from or not subject to the registration requirements of the US Securities Act and any other applicable US securities laws.

The terms and conditions of the Management and Consultant Options are as follows:

(i) **Entitlement**

Each Management and Consultant Option entitles the holder (**Optionholder**) to subscribe for one Share upon exercise of the Option.

(ii) **Exercise Price**

The amount payable upon exercise of each Management and Consultant Option will be \$0.30 (Exercise Price).



(iii) **Expiry Date**

Each Management and Consultant Option will expire at 5:00 pm (WST) on the date that is three (3) years from the Listing Date (**Expiry Date**). A management and Consultant Option not exercised before the Expiry Date will automatically lapse on the Expiry Date.

(iv) **Exercise Period**

The Management and Consultant Options are exercisable at any time on or prior to the Expiry Date (**Exercise Period**).

(v) **Notice of Exercise**

The Management and Consultant Options may be exercised during the Exercise Period by notice in writing to the Company in the manner specified on the Management and Consultant Option certificate (**Notice of Exercise**) and payment of the Exercise Price for each Management and Consultant Option being exercised in Australian currency by electronic funds transfer or other means of payment acceptable to the Company.

(vi) **Cashless Exercise Facility**

(A) Subject to the Shares of the Company being quoted on the ASX, if the Optionholder wishes to exercise some or all of the Management and Consultant Options the Optionholder may elect by notice in such form and manner as the Board may prescribe to pay the Exercise Price by using a cashless exercise facility (**Cashless Exercise Facility**).

(B) The Cashless Exercise Facility entitles the Optionholder to set-off the Exercise Price against the number of Shares which the Optionholder is entitled to receive on the exercise of the Optionholder's Management and Consultant Options. By using the Cashless Exercise Facility, the Optionholder will receive the Shares to the value of the surplus after the Exercise Price has been set off.

(C) If the Optionholder elects to use the Cashless Exercise Facility, the Optionholder will (instead of paying the Exercise Price) only be issued that number of Shares (rounded down to the nearest whole number) calculated in accordance with the following formula:

$$S = NO \times [(MV-EP) - MV]$$

where:

S is the number of Shares to be issued on the exercise of the Management and Consultant Options;

NO equals the number of Management and Consultant Options being exercised;

MV is the market value of Shares (calculated using the volume weighted average price at which Shares were traded on the ASX over the 5 trading days immediately prior to the date of exercise); and

EP equals the Exercise Price.



- (D) If the difference between the Exercise Price otherwise payable for the Management and Consultant Options and the then market value of the Shares at the time of exercise (calculated in accordance with the formula set out above is zero or negative, then the Optionholder will not be entitled to use the Cashless Exercise Facility.

(vii) **Exercise Date**

A Notice of Exercise is only effective on and from the later of the date of receipt of the Notice of Exercise and the date of receipt of the payment of the Exercise Price for each Management and Consultant Option being exercised in cleared funds (**Exercise Date**).

(viii) **Timing of issue of Shares on exercise**

Within five Business Days after the Exercise Date, the Company will:

- (A) issue the number of Shares required under these terms and conditions in respect of the number of Management and Consultant Options specified in the Notice of Exercise and for which cleared funds have been received by the Company;
- (B) if required, give ASX a notice that complies with section 708A(5)(e) of the Corporations Act, or, if the Company is unable to issue such a notice, lodge with ASIC a prospectus prepared in accordance with the Corporations Act and do all such things necessary to satisfy section 708A(11) of the Corporations Act to ensure that an offer for sale of the Shares does not require disclosure to investors; and
- (C) if admitted to the official list of ASX at the time, apply for official quotation on ASX of Shares issued pursuant to the exercise of the Management and Consultant Options. If a notice delivered under (viii)(B) above for any reason is not effective to ensure that an offer for sale of the Shares does not require disclosure to investors, the Company must, no later than 20 Business Days after becoming aware of such notice being ineffective, lodge with ASIC a prospectus prepared in accordance with the Corporations Act and do all such things necessary to satisfy section 708A(11) of the Corporations Act to ensure that an offer for sale of the Shares does not require disclosure to investors.

(ix) **Shares issued on exercise**

Shares issued on exercise of the Management and Consultant Options rank equally with the then issued Shares.

(x) **Reconstruction of capital**

If at any time the issued capital of the Company is reconstructed, all rights of an Optionholder are to be changed in a manner consistent with the Corporations Act and the ASX Listing Rules at the time of the reconstruction.

(xi) **Participation in new issues**

There are no participation rights or entitlements inherent in the Management and Consultant Options and Optionholders will not be entitled to participate in new issues of capital offered to Shareholders during the currency of the Management and Consultant Options without exercising the Management and Consultant Options.



(xii) **Change in exercise price**

A Management and Consultant Option does not confer the right to a change in Exercise Price or a change in the number of underlying securities over which the Management and Consultant Option can be exercised.

(xiii) **Transferability**

The Management and Consultant Options are not transferable.

(d) **Advisor Options**

Under the Advisor Offer, the Company intends to issue 4,000,000 Advisor Options to the Joint Lead Managers (or their nominees) under the Joint Lead Manager Mandate (refer Section 15.4) for a \$nil issue price

The Advisor Options and the ordinary shares underlying the Advisor Options 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 in the United States, except in transactions exempt from or not subject to the registration requirements of the US Securities Act and any other applicable US securities laws.

The terms and conditions of the Advisor Options are as follows:

(i) **Entitlement**

Each Advisor Option entitles the holder (**Optionholder**) to subscribe for one Share upon exercise of the Option.

(ii) **Exercise Price**

The amount payable upon exercise of each Advisor Option will be \$0.30 (**Exercise Price**).

(iii) **Expiry Date**

Each Advisor Option will expire at 5:00 pm (WST) on the date that is four (4) years from the Listing Date (**Expiry Date**). An Advisor Option not exercised before the Expiry Date will automatically lapse on the Expiry Date.

(iv) **Exercise Period**

The Advisor Options are exercisable at any time on or prior to the Expiry Date (**Exercise Period**).

(v) **Notice of Exercise**

The Advisor Options may be exercised during the Exercise Period by notice in writing to the Company in the manner specified on the Advisor Option certificate (**Notice of Exercise**) and payment of the Exercise Price for each Advisor Option being exercised in Australian currency by electronic funds transfer or other means of payment acceptable to the Company.

(vi) **Exercise Date**

A Notice of Exercise is only effective on and from the later of the date of receipt of the Notice of Exercise and the date of receipt of the payment of the Exercise Price for each Advisor Option being exercised in cleared funds (**Exercise Date**).



(vii) **Timing of issue of Shares on exercise**

Within five Business Days after the Exercise Date, the Company will:

- (A) issue the number of Shares required under these terms and conditions in respect of the number of Advisor Options specified in the Notice of Exercise and for which cleared funds have been received by the Company;
- (B) if required, give ASX a notice that complies with section 708A(5)(e) of the Corporations Act, or, if the Company is unable to issue such a notice, lodge with ASIC a prospectus prepared in accordance with the Corporations Act and do all such things necessary to satisfy section 708A(11) of the Corporations Act to ensure that an offer for sale of the Shares does not require disclosure to investors; and
- (C) if admitted to the official list of ASX at the time, apply for official quotation on ASX of Shares issued pursuant to the exercise of the Advisor Options. If a notice delivered under (ix)(B) above for any reason is not effective to ensure that an offer for sale of the Shares does not require disclosure to investors, the Company must, no later than 20 Business Days after becoming aware of such notice being ineffective, lodge with ASIC a prospectus prepared in accordance with the Corporations Act and do all such things necessary to satisfy section 708A(11) of the Corporations Act to ensure that an offer for sale of the Shares does not require disclosure to investors.

(viii) **Shares issued on exercise**

Shares issued on exercise of the Advisor Options rank equally with the then issued Shares.

(ix) **Reconstruction of capital**

If at any time the issued capital of the Company is reconstructed, all rights of an Optionholder are to be changed in a manner consistent with the Corporations Act and the ASX Listing Rules at the time of the reconstruction.

(x) **Participation in new issues**

There are no participation rights or entitlements inherent in the Advisor Options and Optionholders will not be entitled to participate in new issues of capital offered to Shareholders during the currency of the Advisor Options without exercising the Advisor Options.

(xi) **Change in exercise price**

An Advisor Option does not confer the right to a change in Exercise Price or a change in the number of underlying securities over which the Advisor Option can be exercised.

(xii) **Transferability**

The Advisor Options are not transferable.

(e) **Vendor Performance Rights**

The Vendor Performance Rights issued and to be issued under the Motuoane Acquisition Agreement (see Section 7.10 for details of the Shares and Vendor Performance Rights issued



and to be issued under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement) will vest and automatically convert into one Share upon the achievement of the Performance Milestone as set out below. For the purpose of ascertaining the vesting and conversion of the Performance Rights, the Company will determine (acting reasonably) when or whether the relevant Performance Milestone has been met. In the event of a dispute as to whether a Performance Milestone has been met, the relevant parties must endeavour to resolve the dispute and if not so resolved a party may refer the dispute for resolution by an independent expert to be agreed by the parties or if not agree appointed by the Chairman of the London Court of International Arbitration.

The Vendor Performance Rights and the ordinary shares underlying the Vendor Performance Rights 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 in the United States, except in transactions exempt from or not subject to the registration requirements of the US Securities Act and any other applicable US securities laws.

Class	Performance Milestone
Class A	Upon a successful well test being completed on ER315 which either: <ul style="list-style-type: none"> <li>flows at not less than 75mscf/d for a period of 5 consecutive days; or</li> <li>tests Gas with a helium content of not less than 5%.</li> </ul>
Class B	Upon independent certification of a 2C Contingent Resource of not less than 100Bcf of Gas or 1 Bcf of helium on ER315.
Class C	Upon cumulative Gas sales from ER315 of not less than US\$25,000 being achieved.

For the purposes of the Performance Milestones and the terms and conditions of the Vendor Performance Rights, “**Gas**” means all condensates, natural gas liquids, natural gasses and any other hydrocarbons in a liquid or gaseous state as well as any other liquids or gasses (such as helium) which may be recovered as by-products from drilled boreholes.

Other key terms and conditions of the Vendor Performance Rights are as follows

(i) **Expiry Date**

If not converted prior, each Vendor Performance Right will convert on the date that is four (4) years from the date of issue of the Vendor Performance Right (**Expiry Date**) provided that if a work programme on ER315 is delayed due to Force Majeure Event for a period of more than sixty (60) consecutive days, or multiple periods which in total amount to more than one hundred and twenty (120) days, the Expiry Date shall be extended by such period of delay of the work programme except that is that period of delay exceeds one (1) year then the Expiry Date will be extended by one (1) year only.

A **Force Majeure Event** is an event that is beyond the reasonable control of the parties including an act of God, epidemic or pandemic, war, riot, civil disturbance, cyclone, flood, storm, fire, explosion, embargo, failure of power supply or breakage or accident to or loss of items of plant and equipment. For the avoidance of doubt, change in economic conditions (including a change in the prevailing Gas price) or the unavailability of funds will not be a Force Majeure Event.

(ii) **Not Shares**



Vendor Performance Rights are not shares in the capital of the Company

(iii) **General Meetings**

Each Vendor Performance Right confers on the holder (**Holder**) the right to receive notices of general meetings and financial reports and accounts of the Company that are circulated to Shareholders. Holders have the right to attend general meetings of Shareholders.

(iv) **No voting rights**

A Vendor Performance Right does not entitle the Holder to vote on any resolutions proposed by the Company except as otherwise required by law.

(v) **No dividend rights**

A Vendor Performance Right does not entitle the Holder to any dividends

(vi) **No rights to a return of capital**

A Vendor Performance Right does not entitle the Holder to a return of capital, whether in a winding up, upon a reduction of capital or otherwise.

(vii) **Rights on winding up**

A Vendor Performance Right does not entitle the Holder to participate in the surplus profits or assets of the Company upon winding up.

(viii) **Not transferable**

A Vendor Performance Right is not transferable.

(ix) **Capital reorganisation**

If at any time prior to the Expiry Date there is a Capital Reorganisation (being a reorganisation, reconstruction, consolidation, sub-division, bonus issue or some other analogous action in respect of the ordinary share capital of the Company), all rights of a Holder will be equitably adjusted so as to ensure no relative benefit or detriment occurs to, or is conferred upon, the Holder, Shareholders or the Company as a result of the Capital Reorganisation and otherwise so as to comply with the applicable ASX Listing Rules at the time of the Capital Reorganisation.

(x) **Application to ASX and removal of trading restrictions**

(A) The Performance Rights will not be quoted on ASX. However, if the Company is listed on ASX at the time of conversion of the Vendor Performance Rights into Shares, the Company must within 2 Business Days of conversion apply for the official quotation on ASX of the Shares arising from the conversion.

(B) At the time of issue of the Shares under (A) above, the Company must undertake all actions necessary to ensure that any trading restrictions imposed on the Shares under the Corporations Act (but excluding any trading restriction under a restriction agreement executed by the Holder in respect of the Vendor Performance Rights and/or such Shares) are lifted by either:



- lodging with the ASX a cleansing notice (which complies with Section 708A(6) of the Corporations Act) (**Cleansing Notice**) at the time of applying for the official quotation of the Shares arising from the conversion; or
- if the Company is unable to issue a Cleansing Notice, lodging a prospectus with the ASIC within 28 days of issue of the Shares that satisfies the requirements of Section 708A(11) of the Corporations Act (**Cleansing Prospectus**) and the Holder undertakes not to sell or otherwise dispose of the Shares until the Cleansing Prospectus is issued.

(xi) **Participation in entitlements and bonus issues**

Without prejudice to paragraph (ix), a Vendor Performance Right does not entitle a Holder (in their capacity as a holder of a Vendor Performance Right) to participate in new issues of capital offered to holders of Shares such as bonus issues and entitlement issues.

(xii) **No other rights**

A Vendor Performance Right gives the Holder no rights other than those expressly provided by these terms and those provided at law where such rights at law have not been excluded by these terms.

(xiii) **Vesting and conversion on a Change of Control**

If, prior to the Expiry Date, a Change in Control Event occurs then each Vendor Performance Right outstanding at that time will, immediately prior to the Change in Control Event, vest and convert into one (1) Share. A **Change of Control Event** is:

(A) the occurrence of:

- the offeror under a takeover bid pursuant to Chapter 6 of the Corporations Act in respect of the Shares announcing that it has achieved acceptances in respect of more than 50% of all Shares; and
- that takeover bid being, or having become or been declared, unconditional; or

(B) the coming into effect, pursuant to section 411(10) of the Corporations Act, of the order of the court made under section 411(4)(b) of the Corporations Act in respect of a members scheme of arrangement under Part 5.1 of the Corporations Act under which all Shares are to be either cancelled or transferred to a third party (but not a scheme of arrangement for the purposes of a corporate restructure (including change of domicile, consolidation, sub-division, reduction or return) of the issued capital of the Company); or

(C) a party that does not have a relevant interest in more than 50% of all Shares as at the date of issue of the Vendor Performance Rights commences having a relevant interest in more than 50% of all Shares.

(xiv) **Deferral of conversion if resulting in a prohibited acquisition of Shares**

If the conversion of a Vendor Performance Right would result in any person being in contravention of section 606(1) of the Corporations Act (**General Prohibition**)





then the conversion of that Vendor Performance Right shall be deferred until such later time or times that the conversion would not result in a contravention of the General Prohibition.

(xv) **Lapse of Vendor Performance Right**

Each Vendor Performance Right that has not been converted shall lapse on the Expiry Date. For the avoidance of doubt, a Vendor Performance Right will not lapse in the event that the conversion of a Performance Right is deferred in accordance with paragraph (xiv) above.

(xvi) **Conversion procedure**

(A) The Company will issue the Shares immediately upon conversion of the Vendor Performance Right for no consideration and shall record the issue in the manner required by the Corporations Act.

(B) The Company will issue the Holder with a new holding statement for any Shares issued upon conversion of Performance Rights within 5 Business Days following the issue of such Shares.

(xvii) **Ranking upon conversion**

The Share into which a Vendor Performance Right may convert will rank *pari passu* in all respects with existing Shares.

## **16.3 REGULATORY RELIEF**

The Company has applied for and obtained in-principle confirmation that ASX would, upon receipt of an application for admission to the Official List, likely confirm that the 8,820,000 Management and Consultant Performance Rights and the 2,500,000 Class C Vendor Performance Rights on issue as at ASX Listing are appropriate and equitable for the purposes of Listing Rule 6.1 subject to certain conditions.

For the purposes of those conditions, the Company confirms the following in relation to the Management and Consultant Performance Rights and the Class C Vendor Performance Rights

(a) **Management and Consultant Performance Rights**

(i) The 8,820,000 Management and Consultant Performance Rights to be issued pursuant to the Management and Consultant Offer will be issued to Mr Greg Columbus, Mr David Casey, Mr Matthew Worner, Mr Cameron O'Brien, Mr Milton John Zetzman, Mr Paul Young, Mr FJ Marx and Ms Zanele Ndhlovu (or their respective nominees), as detailed in Section 6.7.

(ii) The relationship of each of Mr Greg Columbus, Mr David Casey, Mr Matthew Worner, Mr Cameron O'Brien and Mr Milton John Zetzman with the Company is detailed in Sections 9.1-9.6. The relationship of Mr Paul Young, Mr FJ Marx and Ms Zanele Ndhlovu with the Company are as follows:

A. the Company has entered into an Independent Contractor Agreement with an entity associated with Mr Paul Young (Chalfont Exploration Ltd) pursuant to which geoscience services are provided to the Company (which such services the Company expects will be provided by Mr Young):

B. Mr FJ Marx provides geological services to Motuoane:



- C. Ms Zanele Ndhlovu is an employee of the Motuoane providing administration and bookkeeping services.

The Management and Performance Rights are being issued to Mr Milton John Zetzman and Mr Paul Young as service providers (through their respective associated entities) to the Company and to Mr FJ Marx as service provider to Motuoane and Ms Zanele Ndhlovu as an employee of the Motuoane.

- (iii) The Management and Consultant Performance Rights are being issued to remunerate and incentive Mr Greg Columbus, Mr David Casey, Mr Matthew Worner and Mr Cameron O'Brien, Mr Milton John Zetzman, Mr Paul Young, Mr FJ Marx and Ms Zanele Ndhlovu by linking their remuneration and consulting fees (as applicable) to the achievements of the strategic goals and long term performance of the Company by aligning remuneration and consulting fees (as applicable) and reward to the growth in shareholder value with share based vesting targets.

The Company considers the issue of the Management and Consultant Performance Rights to be appropriate and equitable as the milestones are purely share price driven, and the holders will play an important role in their achievement. The Company views the Management and Consultant Performance Rights and the relevant incentive provided by their issue as playing an important role in the retention of key management and consultants and employees who have progressed the Company and its assets to date and who possess the required skills and understanding of the Company's business and the exploration sector generally to continue to drive growth.

By virtue of their roles as Directors, Mr Greg Columbus, Mr David Casey, Mr Matthew Worner will all be vital in assisting the Company to grow and achieving growth for Shareholders. Mr Cameron O'Brien is the Company's Chief Financial Officer and Company Secretary and will play a direct role in the Company achieving the milestones by utilising his specific skill sets regarding possible deal captures, future acquisitions, structuring and industrial relations.

Mr Milton John Zetzman has been appointed as the Company's Technical Director and an entity associated with Mr Zetzman (Brandfort Resources Corp.) has been engaged to provide technical management services as set out in Section 9.6(b). An entity associated with Mr Paul Young (Chalfont Exploration Limited) has been engaged to provide geoscience services to the Company as set out above. Mr FJ Marx provides geological services to Motuoane. Ms Zanele Ndhlovu is an employee of Motuoane providing administration and bookkeeping services.

- (iv) The interests in the Company and the remuneration or consulting fees (as applicable) payable to Mr Greg Columbus, Mr David Casey, Mr Matthew Worner, Mr Cameron O'Brien and Mr Milton John Zetzman are detailed in Section 9.3. The interests in the Company and the remuneration or consulting fees (as applicable) payable to Mr Paul Young's associated entity (Chalfont Exploration Limited), Mr FJ Marx and Ms Zanele Ndhlovu are as follows:

- A. Mr Paul Young's associated entity (Chalfont Exploration Limited): £150 (approx. AU\$290) per hour.
- B. Mr FJ Marx: ZAR103,200 (approx. AU\$8,200) per month.
- C. Ms Zanele Ndhlovu: ZAR57,500 (approx. AU\$4,500) per month.

- (v) The number of Management and Consultant Performance Rights to be issued under the Management and Consultant Offer as detailed in Section 6.7. The



number of Management and Consultant Performance Rights to be issued was determined so as to properly incentivise and align the interests of Directors and key management and consultants, with those of Shareholders. Therefore, the Company considers the issue of the Management and Consultant Performance Rights to be reasonable and appropriate.

- (vi) The Management and Consultant Performance Rights will be issued on the terms set out in Section 16.2(b).
- (vii) Refer to Section 7.9 for the effect conversion of the Management and Consultant Performance Rights will have on the capital structure of the Company.

**(b) Class C Vendor Performance Rights**

- (i) The 2,500,000 Class C Vendor Performance Rights have been, or will be prior to ASX Listing, issued to NOVO Resources Proprietary Limited, Tamlib Investments Pty Ltd, Mr Milton John Zetzman and Mr Kevin Rathbun pursuant to the Motuoane Acquisition Agreement, as detailed in Section 7.10. See Section 7.10 for details of the Vendor Performance Rights issued and to be issued under the Motuoane Acquisition Agreement and Section 15.2 for details of the Motuoane Acquisition Agreement.
- (ii) The relationship of each of NOVO Resources Proprietary Limited, Tamlib Investments Pty Ltd, Mr John Zetzman and Mr Kevin Rathbun with the Company is that they are all Vendors under the Motuoane Agreement and are or will be prior to ASX Listing Shareholders and holders of Class C Vendor Performance Rights as detailed in Section 7.10. In addition, Mr Milton John Zetzman is Technical Director of the Company as detailed in Section 9.2 and will be issued Management and Consultant Performance Rights and Management and Consultant Performance Options under the Management and Consultant Offer as detailed in Section 9.3.
- (iii) The Class C Vendor Performance Rights have been, and will be, issued as partial consideration under the Motuoane Acquisition Agreement so as to align the Vendors' interests with the Company's other shareholders on a risk and reward basis. The performance milestone under the Vendor Class C Performance Rights (described in Section 16.2(e)) are specific and able to be determined objectively (i.e. each Vendor Class C Performance Right will vest and automatically convert into one Share) and is a milestone that the Company considers will, if achieved, add shareholder value. The Company believes that structuring a portion of the consideration payable to the Vendors on achieving the performance milestone under the Vendor Class C Performance Rights (described in Section 16.2(e)) allows for a tighter capital structure of the Company at ASX Listing and is a genuine pathway by which more value is created for Shareholders if the performance milestone is achieved.
- (iv) Under the Motuoane Acquisition Agreement (under which the Class C Vendor Performance Rights have been and will be issued), the Company has and will acquire 100% of the shares in Motuoane Energy (Pty) Ltd, a South African domiciled company which holds the Permits comprising the D3 Project. See Section 15.2 for details of the Motuoane Acquisition Agreement. See Sections 7.1, 7.2 and 7.3 for further details about the D3 Project.
- (v) Details of the Vendors and their ownership interests in Motuoane and their interests in the Company is detailed in Section 7.10.
- (vi) The number of Class C Vendor Performance Rights issued and to be issued under the Motuoane Acquisition Agreement is detailed in Section 7.10. The number of



Vendor Class C Performance Rights were negotiated at arm's length with the Vendors. The quantum of the Vendor Class C Performance Rights was agreed at a level that the Company believes fairly rewards the Vendors for the Company's success without significantly diluting the Shareholders. Therefore, the Company considers the issue of the Class C Vendor Performance Rights to be reasonable and appropriate.

- (vii) The Class C Vendor Performance Rights will be issued on the terms set out in Section (b).
- (viii) Refer to Section 7.9 for the effect conversion of the Class C Vendor Performance Rights will have on the capital structure of the Company.

#### 16.4 EMPLOYEE INCENTIVE SECURITIES PLAN

The Company has adopted an employee incentive plan (**Plan**) to allow eligible participants to be granted options, performance rights or Shares or other convertible securities in the Company. The principal terms of the Plan are summarised below:

<b>Eligible Participant</b>	<p>Eligible Participant means a person that:</p> <ul style="list-style-type: none"> <li>(a) is a "primary participant" (as that term is defined in section 1100L of the Corporations Act) in relation to the Company or an Associated Entity (as that term is defined in the Corporations Act) of the Company (in general terms "a primary participant" includes current and prospective directors, employees and service providers); and</li> <li>(b) has been determined by the Board to be eligible to participate in the Plan from time to time.</li> </ul>
<b>Purpose</b>	<p>The purpose of the Plan is to:</p> <ul style="list-style-type: none"> <li>(a) assist in the reward, retention and motivation of Eligible Participants;</li> <li>(b) link the reward of Eligible Participants to Shareholder value creation; and</li> <li>(c) align the interests of Eligible Participants with shareholders of the Group (being the Company and each of its Associated Entities (as that term is defined in the Corporations Act), by providing an opportunity to Eligible Participants to receive an equity interest in the Company in the form of shares, options, performance rights or other convertible securities (<b>Securities</b>); and</li> <li>(d) attract and retain a high standard of managerial and technical personnel for the benefit of the Company.</li> </ul>
<b>Plan administration</b>	<p>The Plan will be administered by the Board. The Board may exercise any power or discretion conferred on it by the Plan rules in its sole and absolute discretion. The Board may delegate its powers and discretion.</p>
<b>Eligibility, invitation and application</b>	<p>The Board may from time to time determine that an Eligible Participant may participate in the Plan and make an invitation to that Eligible Participant to apply for Securities on such terms and conditions as the Board decides.</p>



	<p>On receipt of an Invitation, an Eligible Participant may apply for the Securities the subject of the invitation by sending a completed application form to the Company. The Board may accept an application from an Eligible Participant in whole or in part.</p> <p>If an Eligible Participant is permitted in the invitation, the Eligible Participant may, by notice in writing to the Board, nominate a party (being a party that is a “related person” as that term is defined in section 1100L of the Corporations Act which, in general terms includes immediate family members, controlled bodies corporate and related self-managed superannuation funds (<b>Nominee</b>)) in whose favour the Eligible Participant wishes to renounce the invitation.</p> <p>Invitations must contain such information as is required by applicable law including Part 7.12 Division 1A of the Corporations Act. If required by the Corporations Act, the invitation must be contained or accompanied by, an offer document that complies with Part 7.12 Division 1A of the Corporations Act.</p>
<b>Grant of Securities</b>	<p>The Company will, to the extent that it has accepted a duly completed application, grant the “<b>Participant</b>” (being the Eligible Participant or a Nominee approved by the Board) the relevant number of Securities, subject to the terms and conditions set out in the invitation, the Plan rules and any ancillary documentation required.</p>
<b>Terms of Convertible Securities</b>	<p>Each ‘Convertible Security’ represents a right to acquire one or more Shares (for example, under an option or performance right), subject to the terms and conditions of the Plan. Prior to a Convertible Security being exercised a Participant does not have any interest (legal, equitable or otherwise) in any Share the subject of the Convertible Security by virtue of holding the Convertible Security. A Participant may not sell, assign, transfer, grant a security interest over or otherwise deal with a Convertible Security that has been granted to them unless otherwise determined by the Board. A Participant must not enter into any arrangement for the purpose of hedging their economic exposure to a Convertible Security that has been granted to them.</p>
<b>Vesting of Convertible Securities</b>	<p>Any vesting conditions applicable to the grant of Convertible Securities will be described in the invitation. If all the vesting conditions are satisfied and/or otherwise waived by the Board, a vesting notice will be sent to the Participant by the Company informing them that the relevant Convertible Securities have vested. Unless and until the vesting notice is issued by the Company, the Convertible Securities will not be considered to have vested.</p>
<b>Exercise of Convertible Securities and cashless exercise</b>	<p>To exercise a Convertible Security, the Participant must deliver a signed notice of exercise and, subject to a cashless exercise of Convertible Securities (see below), pay the exercise price (if any) to or as directed by the Company, at any time prior to the earlier of any date specified in the vesting notice and the expiry date as set out in the invitation.</p> <p>An invitation may specify that at the time of exercise of the Convertible Securities, the Participant may elect not to be required to provide payment of the exercise price for the number of Convertible Securities specified in a notice of exercise, but that on exercise of those Convertible Securities the Company will transfer or issue to the Participant that number of Shares equal in value to the positive difference between the Market Value of the Shares at the time of exercise and the exercise price</p>



	<p>that would otherwise be payable to exercise those Convertible Securities.</p> <p>Market Value means, at any given date, the volume weighted average price per Share traded on the ASX over the 5 trading days immediately preceding that given date, unless otherwise specified in an invitation.</p> <p>A Convertible Security may not be exercised unless and until that Convertible Security has vested in accordance with the Plan rules, or such earlier date as set out in the Plan rules.</p>
<b>Delivery of Shares on exercise of Convertible Securities</b>	<p>As soon as practicable after the valid exercise of a Convertible Security by a Participant, the Company will issue or cause to be transferred to that Participant the number of Shares to which the Participant is entitled under the Plan rules and issue a substitute certificate for any remaining unexercised Convertible Securities held by that Participant.</p>
<b>Forfeiture of Convertible Securities</b>	<p>Where a Participant who holds Convertible Securities becomes a “Good Leaver” (being an Eligible Participant who ceases employment, office or engagement with any Group Company and who is not a “Bad Leaver” (see below)), vested Convertible Securities that have not been exercised will continue in force and remain exercisable until their expiry date and all unvested Convertible Securities will be forfeited unless the Board otherwise determines. Vested Convertible Securities that have not been exercised as at the cession of employment, office or engagement by a Group Company of a “Bad Leaver” (being an Eligible Participant who: is terminated for serious and wilful misconduct, material breach of employment/engagement contract, gross negligence or any conduct justifying termination of employment/engagement contract without notice; breaches a post-termination restriction in an employment contract; or is ineligible to hold office for the purposes of Part 2D.6 (disqualification from managing corporations) of the Corporations Act) will be forfeited on the date of cession of employment, office or engagement and all unvested Convertible Securities held by a “Bad Leaver” will also be forfeited. Notwithstanding the foregoing, the Board may decide (on any conditions which it thinks fit) that some or all of the Participant’s Convertible Securities will not be forfeited at that time, but will be forfeited at the time and subject to the conditions it may specify by written notice to the Participant.</p> <p>Where the Board determines that a Participant has acted negligently, recklessly, fraudulently or dishonestly, or wilfully breached his or her duties to the Group, the Board may in its discretion deem all unvested Convertible Securities held by that Participant to have been forfeited.</p> <p>Unless the Board otherwise determines, or as otherwise set out in the Plan rules:</p> <ul style="list-style-type: none"> <li>(a) any Convertible Securities which have not yet vested will be forfeited immediately on the date that the Board determines (acting reasonably and in good faith) that any applicable vesting conditions have not been met or cannot be met by the relevant date; and</li> <li>(b) any Convertible Securities which have not yet vested will be automatically forfeited on the expiry date specified in the invitation or vesting notice.</li> </ul>





<b>Change of control</b>	<p>If a change of control event occurs in relation to the Company, or the Board determines that such an event is likely to occur, the Board may in its discretion determine the manner in which any or all of the Participant's Convertible Securities will be dealt with, including, without limitation, in a manner that allows the Participant to participate in and/or benefit from any transaction arising from or in connection with the change of control event.</p>
<b>Rights attaching to Plan Shares</b>	<p>All Shares issued or transferred under the Plan or issued or transferred to a Participant upon the valid exercise of a Convertible Security, (<b>Plan Shares</b>) will rank pari passu in all respects with the Shares of the same class. A Participant will be entitled to any dividends declared and distributed by the Company on the Plan Shares and may participate in any dividend reinvestment plan operated by the Company in respect of Plan Shares. A Participant may exercise any voting rights attaching to Plan Shares.</p>
<b>Disposal restrictions on Plan Shares</b>	<p>If the invitation provides that any Plan Shares are subject to any restrictions as to the disposal or other dealing by a Participant for a period, the Board may implement any procedure it deems appropriate to ensure the compliance by the Participant with this restriction including imposing a holding lock on Shares.</p> <p>For so long as a Plan Share is subject to any disposal restrictions under the Plan, the Participant will not:</p> <ul style="list-style-type: none"> <li>(a) transfer, encumber or otherwise dispose of, or have a security interest granted over that Plan Share; or</li> <li>(b) take any action or permit another person to take any action to remove or circumvent the disposal restrictions without the express written consent of the Company.</li> </ul>
<b>Adjustment of Convertible Securities</b>	<p>If there is a reorganisation of the issued share capital of the Company (including any subdivision, consolidation, reduction, return or cancellation of such issued capital of the Company), the rights of each Participant holding Convertible Securities will be changed to the extent necessary to comply with the Listing Rules applicable to a reorganisation of capital at the time of the reorganisation.</p> <p>If Shares are issued by the Company by way of bonus issue (other than an issue in lieu of dividends or by way of dividend reinvestment), the holder of Convertible Securities is entitled, upon exercise of the Convertible Securities, to receive an issue of as many additional Shares as would have been issued to the holder if the holder held Shares equal in number to the Shares in respect of which the Convertible Securities are exercised.</p> <p>Unless otherwise determined by the Board, a holder of Convertible Securities does not have the right to participate in a pro rata issue of Shares made by the Company or sell renounceable rights.</p>
<b>Participation in new issues</b>	<p>There are no participation rights or entitlements inherent in the Convertible Securities and holders are not entitled to participate in any new issue of Shares of the Company during the currency of the Convertible Securities without exercising the Convertible Securities.</p>



<b>Maximum Allocation</b>	<p>The Company must not make an offer of Securities under the Plan in respect of which monetary consideration is payable (either upfront, or on exercise of Convertible Securities) unless it reasonably believes that:</p> <p>(a) the total number of Plan Shares that may be issued or acquired upon exercise of the Convertible Securities offered; plus</p> <p>(b) the total number of Plan Shares issued or that may be issued as a result of offers made in connection with the Plan at any time during the previous 3 year period,</p> <p>would not exceed 5% of the total number of Shares on issue at the date of the offer or such other limit as may be specified by the relevant regulations or the Constitution from time to time.</p>
<b>Amendment of Plan</b>	<p>Subject to the following paragraph, the Board may at any time amend any provisions of the Plan rules, including (without limitation) the terms and conditions upon which any Securities have been granted under the Plan and determine that any amendments to the Plan rules be given retrospective effect, immediate effect or future effect.</p> <p>No amendment to any provision of the Plan rules may be made if the amendment materially reduces the rights of any Participant as they existed before the date of the amendment, other than an amendment introduced primarily for the purpose of complying with legislation or to correct manifest error or mistake, amongst other things, or is agreed to in writing by all Participants.</p>
<b>Plan duration</b>	<p>The Plan continues in operation until the Board decides to end it. The Board may from time to time suspend the operation of the Plan for a fixed period or indefinitely and may end any suspension. If the Plan is terminated or suspended for any reason, that termination or suspension must not prejudice the accrued rights of the Participants.</p> <p>If a Participant and the Company (acting by the Board) agree in writing that some or all of the Securities granted to that Participant are to be cancelled on a specified date or on the occurrence of a particular event, then those Securities may be cancelled in the manner agreed between the Company and the Participant.</p>
<b>Income Tax Assessment Act</b>	<p>The Plan is a plan to which Subdivision 83A-C of the <i>Income Tax Assessment Act 1997</i> (Cth) applies (subject to the conditions in that Act).</p>
<b>US offer restrictions</b>	<p>The ordinary shares issuable under the Plan 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 in the United States, except in transactions exempt from or not subject to the registration requirements of the US Securities Act and any other applicable US securities laws.</p>

## 16.5 INTERESTS OF DIRECTORS

Other than as set out in this Prospectus, no Director holds, or has held within the two years preceding lodgement of this Prospectus with the ASIC, any interest in:

- (a) the formation or promotion of the Company; or





- (b) any property acquired or proposed to be acquired by the Company in connection with:
  - (i) its formation or promotion; or
  - (ii) the Offer; and
- (c) the Offer,

and no amounts have been paid or agreed to be paid and no benefits have been given or agreed to be given to a Director or a proposed Director:

- (d) as an inducement to become, or to qualify as, a Director; or
- (e) for services provided in connection with:
  - (i) the formation or promotion of the Company; or
  - (ii) the Offer.

## **16.6 INTERESTS OF EXPERTS AND ADVISERS**

### **(a) General**

Other than as set out below or elsewhere in this Prospectus, no:

- (i) 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;
- (ii) promoter of the Company; or
- (iii) underwriter (but not a sub-underwriter) to the issue or a financial services licensee named in this Prospectus as a financial services licensee involved in the issue,

holds, or has held within the two (2) years preceding lodgement of this Prospectus with ASIC, any interest in:

- (iv) the formation or promotion of the Company; or
- (v) any property acquired or proposed to be acquired by the Company in connection with:
  - (vi) its formation or promotion; or
  - (vii) the Public Offer; and
  - (viii) the Public Offer,

and no amounts have been paid or agreed to be paid and no benefits have been given or agreed to be given to any of these persons for services provided in connection with:

- (ix) the formation or promotion of the Company; or
- (x) the Public Offer.

### **(b) Independent Geologist**



Sproule Incorporated has acted as Independent Geologist and has prepared an Independent Technical Assessment Report which has been included in Section 10. The Company estimates it will pay Sproule Incorporated approximately \$84,868 for these services. During the 24 months preceding lodgement of this Prospectus with ASIC, Sproule Incorporated has received no other fees from the Company.

(c) **Investigating Accountant**

BDO Corporate Finance (WA) Pty Ltd has acted as Investigating Accountant and has prepared an Independent Limited Assurance Report which has been included in Section 11. The Company estimates it will pay approximately \$20,000 plus GST and disbursements for these services. During the 24 months preceding lodgement of this Prospectus with ASIC, BDO Corporate Finance (WA) Pty Ltd has received no other fees from the Company for consulting services.

(d) **Joint Lead Manager – Peloton Capital Pty Ltd**

Peloton Capital Pty Ltd has acted as a Joint Lead Manager to the Public Offer and will receive those fees set out in Section 15.4 following the successful completion of the Offers for its services as a Joint Lead Manager to the Public Offer. Further details in respect to the Joint Lead Manager Mandate are summarised in Section 15.4. During the 24 months preceding lodgement of this Prospectus with the ASIC, Peloton Capital Pty Ltd has received fees of \$105,000 for services provided in connection with seed raisings of the Company (being 6% of \$1,750,000 raised under the seed railings and split equally between the Joint Lead Managers).

(e) **Joint Lead Manager – Originate Capital Pty Ltd**

Originate Capital Pty Ltd has acted as a Joint Lead Manager to the Public Offer and will receive those fees set out in Section 15.4 following the successful completion of the Offers for its services as a Joint Lead Manager to the Public Offer. Further details in respect to the Joint Lead Manager Mandate are summarised in Section 15.4. During the 24 months preceding lodgement of this Prospectus with the ASIC, Originate Capital Pty Ltd has received fees of \$105,000 for services provided in connection with seed raisings of the Company (being 6% of \$1,750,000 raised under the seed railings and split equally between the Joint Lead Managers).

(f) **Solicitors in relation to the Offers**

Poplar Legal has acted as the solicitors to the Company in relation to the Offers. The Company estimates it will pay Poplar Legal approximately \$169,000 plus GST for these services. Subsequently, fees will be charged in accordance with normal charge out rates. During the 24 months preceding lodgement of this Prospectus with ASIC, Poplar Legal has received other fees of \$42,360 plus GST from the Company for legal services.

(g) **Solicitors in relation to the Report on Permits**

Bowman Gillfillan Incorporated has prepared the Solicitors' Report on Permits which has been included in Section 12. The Company estimates it will pay Bowman Gillfillan Incorporated approximately \$52,248 plus disbursements for these services. Bowman Gillfillan Incorporated has also provided legal due diligence services in connection with the Offers. The Company estimates that it will pay Bowman Gilfillan approximately \$76,000 plus disbursements for these services. During the 24 months preceding lodgement of this Prospectus with ASIC, Bowman Gillfillan Incorporated has received no other fees from the Company for legal services.

(h) **Author of South Africa Gas Market Report - Prime Africa Consult**



Prime Africa Consult has prepared the South Africa Gas Market Report which has been included in Section 13. The Company estimates it will pay Prime Africa Consult approximately \$19,000 plus GST for these services. During the 24 months preceding lodgement of this Prospectus with ASIC, Prime Africa Consult has not received fees from the Company for any other services.

(i) **Author of Helium Market Report – AKAP Energy Limited**

AKAP Energy Limited has prepared the Helium Market Report which has been included in Section 14. The Company estimates it will pay AKAP Energy Limited approximately GBP10,000 (approx. AU\$19,300) for these services. During the 24 months preceding lodgement of this Prospectus with ASIC, AKAP Energy Limited has not received fees from the Company for any other services.

(j) **Auditor**

BDO Audit (WA) Pty Ltd has been appointed as the Company's auditor. The Company estimates it will pay approximately \$25,527 plus GST for these services associated with the Offers. During the 24 months preceding lodgement of this Prospectus with ASIC, BDO Audit (WA) Pty Ltd has received \$23,160 in fees for the Company for audit services.

(k) **Share registry**

Automic Group has been appointed as the Company's Share registry and will be paid for these services on normal commercial terms.

## **16.7 CONSENTS**

Chapter 6D of the Corporations Act imposes a liability regime on the Company (as the offeror of the Shares), the Directors, any persons named in the Prospectus with their consent as proposed Directors, any underwriters, persons named in the Prospectus with their consent having made a statement in the Prospectus and persons involved in a contravention in relation to the Prospectus, with regard to misleading and deceptive statements made in the Prospectus. Although the Company bears primary responsibility for the Prospectus, the other parties involved in the preparation of the Prospectus can also be responsible for certain statements made in it.

Each of the parties referred to in this Section:

- (a) does not make the Offers;
- (b) has not authorised or caused the issue of this Prospectus;
- (c) does not make, or purport to make, any statement in this Prospectus other than those referred to in this Section; and
- (d) to the maximum extent permitted by law, expressly disclaims and takes no responsibility for any statement included in or omitted from this Prospectus other than a reference to its name and a statement included in this Prospectus with the consent of that party as specified in this Section 16.7.

### ***Independent Geologist***

Sproule Incorporated has given its written consent to being named as the Independent Geologist to the Company in this Prospectus, to the inclusion of the Independent Technical Assessment Report in Section 10 in the form and context in which the report is included and to all references to that report and information derived from that report in this Prospectus in the form and context to which those references are included and to the Qualified Reserves and Resource's Evaluator's



Statement in Section 2.12. Sproule Incorporated has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

Renergen Limited has provided its written consent to the inclusion in the Independent Technical Assessment Report in Section 10 of all statement by it (or information said to be based on statement by it) in the form and context in which they are included. Renergen Limited has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

#### ***Investigating Accountant***

BDO Corporate Finance (WA) Pty Ltd has given its written consent to being named as Investigating Accountant in this Prospectus and to the inclusion of the Independent Limited Assurance Report in Section 11 in the form and context in which the report is included and to all references to that report and information derived from that report in this Prospectus in the form and context to which those references are included. BDO Corporate Finance (WA) Pty Ltd has not withdrawn its consent prior to lodgement of this Prospectus with ASIC.

#### ***Auditor***

BDO Audit (WA) Pty Ltd has given its written consent to being named as auditor to the Company in this Prospectus and to the inclusion of the audited financial information of the Company contained in the Independent Limited Assurance Report in Section 11 in the form and context in which it appears. BDO Audit (WA) Pty Ltd has not withdrawn its consent prior to lodgement of this Prospectus with ASIC.

#### ***Joint Lead Manager – Peloton Capital Pty Ltd***

Peloton Capital Pty Ltd has given its written consent to be named as a Joint Lead Manager to the Offer in this Prospectus. Peloton Capital Pty Ltd has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

#### ***Joint Lead Manager – Originate Capital Pty Ltd***

Originate Capital Pty Ltd has given its written consent to be named as a Joint Lead Manager to the Offer in this Prospectus. Originate Capital Pty Ltd has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

#### ***Solicitors to Offers***

Poplar Legal has given its written consent to being named as Solicitors to the Offers in this Prospectus. Poplar Legal has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

#### ***Author of Solicitor's Report on Permits***

Bowman Gilfillan Incorporated has given its written consent to being named as Author of the Solicitors' Report on Permits in this Prospectus and to the inclusion of the Solicitors' Report on Permits in Section 12 in the form and context in which the report is included and to all references to that report and information derived from that report in this Prospectus in the form and context to which those references are included and has given its written consent to being named as the Company's South African Legal Advisors and to the statements attributed to Bowman Gilfillan Incorporated in Part 4 of Section 5 (Regulatory Risk Relating to South African Exchange Control Regulations) in the form and context to which Bowman Gilfillan is so named and those statements are included. Bowman Gilfillan Incorporated has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

#### ***Author of South African Natural Gas Market Report***



Prime Africa Consult has given its written consent to being named as Author of the South African Natural Gas Market Report in this Prospectus and to the inclusion of the South African Natural Gas Market Report in Section 13 in the form and context in which the report is included and to all references to that report and information derived from that report in this Prospectus in the form and context to which those references are included. Prime Africa Consult has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

#### **Author of Helium Market Report**

AKAP Energy Limited has given its written consent to being named as Author of the Helium Market Report in this Prospectus and to the inclusion of the Helium Market Report in Section 14 in the form and context in which the report is included and to all references to that report and information derived from that report in this Prospectus in the form and context to which those references are included. AKAP Energy Limited has not withdrawn its consent prior to the lodgement of this Prospectus with ASIC.

### **16.8 EXPENSES OF THE OFFERS**

The total expenses of the Offers (excluding GST) are estimated to be approximately \$1,154,950 and are expected to be applied towards the items set out in the table below:

<b>Item of Expenditure</b>	<b>Amount (\$)</b>
ASIC fees	3,206
ASX fees	101,444
Lead Manager fees or Brokers' fees	600,000
Solicitor's Report on Permits	52,000
Independent Limited Assurance Report	20,000
Legal Expenses (Australia and South Africa)	255,000
Independent Technical Assessment Report	85,000
South Africa Natural Gas Market Report	19,000
Helium Market Report	19,300
<b>TOTAL</b>	<b>1,154,950</b>



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## 17. GLOSSARY

Where the following terms are used in this Prospectus they have the following meanings, unless the context requires otherwise:

**\$** means an Australian dollar.

**Accredited Investor** means an “accredited investor” as defined in Rule 501(a) under the US Securities Act.

**Advisor Offer** means the offer of Advisor Options pursuant to this Prospectus as set out in Section 6.7

**Advisor Option** means an option to acquire a Share on the terms and conditions set out in Section 16.2(b)

**ASIC** means the Australian Securities & Investments Commission.

**ASX** means ASX Limited (ACN:008 624 691) or the market operated by it (as the context requires).

**ASX Settlement Operating Rules** means the operating rules of the settlement facility operated by ASX Settlement Pty Ltd (ACN 008 504 532), as amended from time to time.

**Board** means the board of Directors.

**Business Day** means a day other than a Saturday or a Sunday when trading banks are ordinarily open for business in Perth, Western Australia.

**Chairman** means the chairman of the Board.

**Closing Date** means the closing date of the Offers as set out in the Indicative Timetable in Section 3 (subject to the Company reserving the right to extend the Closing Date or close the Offers (or any of them) early).

**Company** or D3 means D3 Energy Limited (ACN 649 276 808).

**Constitution** means the constitution of the Company.

**Corporate Governance Principles and Recommendations** means the Corporate Governance Principles and Recommendations (Fourth Edition) as published by the ASX Corporate Governance Council.

**Corporations Act** means the Corporations Act 2001 (Cth) and any regulations promulgated under it.

**D3 Project** means the natural gas and helium exploration project constituted by the Permits.

**Directors** means the directors of the Company from time to time.

**Institutional Investor** means an institutional and professional investor to whom Securities may be offered pursuant to the securities laws of the relevant foreign jurisdictions, and in particular:

- if in Canada (British Columbia, Ontario and Quebec provinces only), an “accredited investor” as defined in National Instrument 45-106 – *Prospectus Exemptions* (“NI 45-106”);



- if in Hong Kong, a “professional investor” (as defined in the Securities and Futures Ordinance of Hong Kong, Chapter 571 of the Laws of Hong Kong);
- if in New Zealand, a person who (i) is an investment business within the meaning of clause 37 of Schedule 1 of the Financial Markets Conduct Act 2013 (New Zealand) (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 (and, if an eligible investor, have provided the necessary certification)
- if in Singapore, an “institutional investor” or an “accredited investor” (as such terms are defined in the Securities and Futures Act 2001 of Singapore (“SFA”)); and
- if in the United Kingdom, a “qualified investor” within the meaning of Article 2(e) of the UK Prospectus Regulation; and within the categories of persons referred to in Article 19(5) (investment professionals) or Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the UK Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended.

**Joint Lead Managers or JLMs** means the Joint Lead Managers under the Joint Lead Manager Mandate set out in Section 15.4, being Peloton Capital Pty Ltd and Originate Capital Pty Ltd.

**Listing Date** means the date upon which the Company is admitted to the Official List.

**Listing Rules** means the Listing Rules of the ASX and any other rules of the ASX which are applicable while the Company is admitted to the Official List, each as amended or replaced from time to time, except to the extent of any express written waiver by the ASX.

**Management and Consultant Offer** means the offer of Management and Consultant Options Management and Consultant Performance Rights pursuant to this Prospectus as set out in Section 6.7.

**Management and Consultant Options** means an option to acquire a Share on the terms and conditions set out in Section 16.2(c).

**Management and Consultant Performance Right** means a right to be issued Shares in certain circumstances as described in Section 16.2(b).

**Managing Director** means the managing director of the Company.

**Motuoane** means Motuoane Energy (Pty) Ltd.

**Motuoane Acquisition Agreement** means the Acquisition Agreement dated 16 August 2021 between the Company, Willow Energy Corporation, Tamlib Investments Pty Ltd, Milton John Zetzman Jr, Kevin Donald Rathbun and NOVO Resources Proprietary Limited as amended by letters dated 29 October 2021, 30 November 2021 and 3 March 2022 and as further amended by letter dated 14 April 2022 attaching an Amended and Restated Acquisition Agreement and by letter dated 20 February 2024, a summary of which is contained in Section 15.2

**Minimum Subscription** means the raising of \$10,000,000 (before costs) pursuant to the Public Offer.

**MPRDA** means the Mineral and Petroleum Resources Development Act, 2002 (South Africa).

**Offers** means the Public Offer and the Secondary Offers.



**Offer Application Form** means the Offer Application Form attached to or accompanying this Prospectus.

**Official List** means the official list of the ASX.

**Option** means an option to acquire a Share on the terms and conditions set out in Section 16.2(b) of this Prospectus.

**PASA** means the Petroleum Agency South Africa.

**Permits** means the exploration permits that comprise the D3 Project held 100% by Motuoane as set out in Section 7 and further described in the Independent Technical Assessment Report in Section 10 and the Solicitors' Report on Permits in Section 12 or any one of them, as the context requires.

**Prospectus** means this prospectus dated 5 March 2024.

**Public Offer** means the offer of Shares pursuant to this Prospectus as set out in Section 6.2.

**Quotation** means official quotation by the ASX in accordance with the Listing Rules.

**Secondary Offers** means the Management and Consultant Offer and the Advisor Offer.

**Section** means a section of this Prospectus.

**Securities** means Shares, Advisor Options, Management and Consultant Options, Management and Consultant Performance Rights and Vendor Performance Rights, or any one of them, as the context requires.

**Share** means a fully paid ordinary share in the capital of the Company.

**Share Registry** means Automic Group.

**Shareholder** means a holder of a Share.

**Vendor Performance Right** means a right to be issued Shares in certain circumstances as described in Section 16.2(e).

**Vendors** means the vendors under the Acquisition Agreement, being Willow Energy Corporation, Tamlib Investments Pty Ltd, Milton John Zetzman Jr, Kevin Donald Rathbun and NOVO Resources Proprietary Limited.

**WA** means Western Australia.

**WST** means Western Standard Time as observed in Perth, Western Australia.





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## 18. DIRECTORS' AUTHORISATION AND CONSENT

This Prospectus is issued by the Company and its issue has been authorised by a resolution of the Directors.

Each Director has consented to the lodgement of this Prospectus with ASIC in accordance with section 720 of the Corporations Act and has not withdrawn that consent.

Dated 5 March 2024.

A handwritten signature in black ink, appearing to be 'David Casey', written over a horizontal line.

**David Casey**  
**MANAGING DIRECTOR**  
For and on behalf of  
D3 Energy Limited