

The Art of Possible

Corporate Presentation

Why is Helium critical?



Renergen at a glance





Our Products

RENERGEN FUTURE ENERGY, TODAY

Helium Uses - "Irreplaceable without Substitutes" Helium is a vital and irreplaceable element in many modern industries

Properties of helium

Chemically inert

Helium doesn't readily react with other elements Makes it ideal for applications where chemical reactions could be problematic

Non-toxic

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Colourless, odourless and tasteless

Low density

Helium is the second lightest element in the universe (after hydrogen) Provides buoyancy without the risk of combustion associated with hydrogen

Low boiling point

Boiling point of -268.9oC Does not solidify at atmospheric pressure

Superfluidity

Helium has zero viscosity in liquid form and can flow without any loss of kinetic energy It is the only substance that carries this property

Critical mineral

In 2023, the EU listed Helium as a critical raw material The US Government treats Helium as a priority mineral through large investment in supply chains, including Renergen

- The global market is **16 containers per day. Phase 2 will produce ONE** container per day!
- Helium is a rare commodity
- Helium becomes economically viable to extract from natural gas at concentrations as low as 0.1%
- The Virginia Gas Project's average concentration of helium is over 3%



1. Global helium demand is expected to grow at a rate of approximately 4% per annum, driven by significant expansion in semiconductor and rocketry end markets

Where Will We Play? Our Helium Mission Structure of the helium market



Note: Logos and companies shown do not necessarily represent current Renergen customers.



Renergen's unique helium concentration enables it to recover helium while emitting significantly lower associated CO_2 emissions

- As US helium reserves approach depletion and global demand continues to grow between 1.5% 3% annually a near-term supply shortage is forecasted. As the world continues to need helium, finding sources economic concentrations
- Renergen's Virginia Gas Field not only offers an alternative supply source to meet rising global demand, but due to its uniquely high helium concentration levels, allows the inert gas with no known substitutes to be recovered with a significantly reduced carbon footprint compared to other major global reserves forecast to come online this decade

Higher helium concentrations requires processing of less methane

Each tonne of LNG produces approx. 2.75 tonnes of CO₂ equivalent

RENERGER

ENTIRE ENERGY 100A

- Mega gas projects such as Russia's Amur and Qatar's Ras Laffan Helium 3 & 4 have helium concentrations as low as 0.04%, with the helium considered a by-product
- By comparison, Renergen's Virginia Gas Field has a uniquely high helium concentration with the Base Case model assuming 2.00% but with pockets as high as 12.0% in certain locations
- Renergen is a source of helium that produces considerably less CO₂ to recover the same amount of helium compared to other projects globally
- Data from the latest drilling campaign continues to reaffirm this high concentration as demonstrated in MHA/Sproule's updated resource report of November 2021
- The Project's considerably higher helium concentration ensures that Renergen has a reduced carbon footprint compared to all other global deposits, both active and future as illustrated in the chart
- In order to achieve the same quantity of helium output, these other global projects with a lower helium concentration are required to process a significantly higher amount of methane compared to Renergen, producing higher carbon emissions

Carbon Footprint Comparison

Difference (%)



567%

4.900%

413%

LNG - The South African Industrial Gas Market

Natural gas is currently imported via pipeline from Mozambique by Sasol

- Pipeline runs to Johannesburg reticulated to customers via low-pressure pipeline
- Majority of imported gas is used by Sasol for its petrochemicals business
 - Estimated shortfall of gas in Johannesburg of up to 220,000 GJ/day
 - In August 2023, Sasol stated they will curtail natural gas to customers by June 2026
- For many businesses in SA, there is no alternative and imported LNG can only be moved by pipeline, which only services Johannesburg
- No plans are formalised to develop other pipelines in the country
- Correspondingly, LNG prices in South Africa are priced against import parity or competitive fuels such as LPG or diesel, with pricing between US\$ 16 - 20/GJ in certain applications
- By 2030 inland natural gas shortages could be as high as 250 PJ per annum, according to the draft Gas Master Plan of 2024 published by the Department of Mineral Resources and Energy



Gas-Supply Cliff Is South Africa's Next Crisis, Energy Body Says



Source: Draft Gas Master Plan of 2024



Gas-supply cliff is South Africa's next crisis: energy body

By Antary Spazzin - 17 Hovember 2023 F Facebook X Twitter in Loberts (*



IGUA-SA warns South Africa set to run out of natural gas supply



Pande-Temane Complex in Mozambique which supplies SASOL petrochemical plants in South Africa. They in turn pr electricity from the gas plus supply the country's industrial gas needs. Image Credit: Sasol

The Sasol Etd. Sas Bloomberg

Domestic LNG for Transport

Phase 2 rollout will see Renergen control a nationwide LNG filling station network, with over 65,000 trucks passing our filling stations daily in an addressable market

- Over 377,000 large trucks on the road in SA, with 65,000 per day on the main highways. Phase 2 aims to supply 2,500, or less than 4% of the addressable market
- Renergen will establish multiple LNG refueling stations in using a combination of depot specific and open access filling points
- Renergen's LNG operation is completely vertically integrated, controlling the custody chain of the gas directly into the customers' assets
- Renergen pioneered an innovative solution for our refrigeration trucking customers, using the exergy from the gasification process to cool the food box, reducing costs and greenhouse gas emissions







The Virginia Gas Project



Renergen Corporate Structure

Renergen has a straightforward corporate structure. It is a listed holding company on both the JSE and ASX whose principal investment is Tetra4 Propriety Limited (Tetra4), a project company that owns exploration and production rights for the Virginia Gas Field, as well as exploration rights in the Evander Field, 80km east of Johannesburg. Mahlako Energy Fund established Mahlako Gas Energy along with Third Way Investment Partners, who collectively acquired a 5.5% stake in Tetra4 for a sum of ZAR 550 million in February 2024.





Renergen Board of Directors and Governance Structure



Stefano Marani CEO

B.Sc Actuarial Hons with +15 years' experience in structured finance for institutions including Deutsche Bank and Morgan Stanley. Instrumental in acquisition of Tetra4 and founding shareholder in Renergen



Brian Harvey CFO

BTech. Mech Eng. BCom Hons in Accounting. CA(SA) with over 15 years' experience in senior finance roles working for multinational, foreign & JSE listed companies in the resources sector, including Weir Minerals, Royal Bafokeng Holdings and Anglo American plc

David King

Chairman Founder and director of Sapex, Gas2Grid and Eastern Star Gas. Substantial natural resource related experience having previously served as managing director of North Flinder Mines Ltd and CEO of Beach Petroleum and Claremont Petroleum



Mbali Swana Non-Executive Director CEO of Prop5, a turnkey built environment infrastructure and engineered products developer which he founded in 1986



Nick Mitchell

Experienced Network Engineer with experience in developing infrastructure projects in Africa. Instrumental in acquisition of Tetra4. Current Chairman of the Onshore Petroleum Association of South Africa

vironment oducts 986



Dumisa Hlatshwayo *Non-Executive Director* 30 years in senior management positions in the financial services industry

Audit, Risk and IT Committee (ARIC)

Dumisa Hlatshwayo (Chairman) Mbali Swana David King Governance, Ethics, Transformation, Social and Compensation Committee (GETSC)

Mbali Swana (Chairman) Dumisa Hlatswayo David King Nick Mitchell Nomination Committee (NomCo)

David King (Chairman) Stefano Marani Nick Mitchell Mbali Swana

Business Snapshot - "Vertically Integrated Model" Production of liquid natural gas ("LNG") and liquid helium



- Phase 1 helium contracted.
- Phase 2 circa 50% contracted.



LNG Power generation (Phase 2)

"Wellhead to electron"

With chronic load-shedding in South Africa, business is beginning to look at alternatives to Eskom, and LNG for gas to power could be a significant opportunity.



LNG Industrial users

"Wellhead to burner"

- Customers currently using liquefied petroleum gas (LPG), with LNG offering a cheaper and cleaner solution.
- Phase 1 has the Ardagh Group and Italtile as key customers and is in negotiation with various customers on Phase 2 LNG.



LNG Liquid fuel substitution

"Wellhead to tank"

- Dual fuel applications for trucks, reducing emissions and running costs.
- Tetra4 will establish LNG storage & dispensing at customer depots and on main routes in Johannesburg, Cape Town, Durban, Bloemfontein, Harrismith, and Port Elizabeth, subject to demand.



Summary of the Virginia Project's Methane & Helium Net Gas Reserves



1 – Calculated at 3%

- At the request of Renergen Limited, Sproule, an independent sub-surface consultancy based in Calgary, Canada has conducted an independent update to its April 2019 assessment of the unconventional methane and helium reserves and resources in the Tetra4 Virginia Gas Field. This evaluation includes estimates of recoverable methane and helium volumes from Proved Developed Producing wells, Proved Developed Non-Producing wells (PDNP's), Proved Undeveloped locations (PUDs), total Proved, Probable, and Possible reserves
- Sproule has also 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. It has also estimated the volumes of Prospective Resources, those volumes of gases that are
 undiscovered, but the likelihood of their existence can be estimated

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How Did the Gas Get There?

Renergen's production right is on the rim of the Vredefort Crater, formed by an asteroid strike approximately 2 billion years ago, where natural helium is produced as a result of natural decay of ultra-high uranium and thorium deposits

- Timing of the asteroid impact and conditions after impact resulted in bacteria adapting to the specific surroundings
- Bacteria evolved to use the energy from the radioactivity underground to metabolise carbon into natural gas, similar to chlorophyl using sunlight to metabolize CO2 into sugar and oxygen
- Helium gas is produced as a by-product of radioactive decay so that the natural gas and helium are found together in this deposit



Figure 9: RMS amplitude anomalies (white arrows) at depth slices indicating hydrocarbon accumulations. Fractures and faults (red arrows) connected to gas accumulations







The resource's geology and fault-lines have been extensively mapped

Virginia status

- The Virginia Gas Field Project is situated in the Witwatersrand Supergroup of meta-sediments of Precambrian age that host the Welkom Goldfields
- The reservoirs are of a fractured nature and do not exhibit the characteristics of conventional oil and gas reservoirs or unconventional shale gas or shale oil reservoirs
- Tetra4 has developed, and tested by drilling and flow testing, the comprehensive understanding that methane and helium are trapped in both faults and adjacent to volcanic dykes and sills within the Ventersdorp and Witwatersrand Groups
- The primary and most important factor is the total length of fractures and dykes/sills that exist and are planned to be drilled

Virginia Production Right (Excluding Exploration Rights)		
Gas-bearing structures	Extent	
Total Faults Extent (km)	565.65	
Total Dykes Extent (km)	666.88	
Total Sills Area (km)	502.08	



Virginia Gas Project - Progression to date

		CNG - Pilot Phase Decommissioning of CNG operations in September 2022	LNG & helium - Phase 1 Commencement of operations September 2022 with full Phase 1 production anticipated during FY24	 LNG & helium - Phase 2 Remaining milestones: Finalisation of debt package Award of EPC contracts and construction contracts Anticipated first gas to plant by 2027 Equity funding
\heartsuit	Helium Capacity	Zero	310 kg/day	Up to 4,200kg/day
÷.	Capacity	200 GJ/day (CNG)	2,500 GJ/day (LNG)	34,400GJ/day (LNG)
5	Cost to Build	ZAR 25 Million (circa.)	\$60 Million (circa.)	\$1.2 Billion (circa.)
5	Funding Sources	Debt: Zero Equity: Initial listing of Renergen as a SPAC on JSE in 2015 R73 Million raised	Debt: US DFC: US\$ 40m + IDC ZAR 162m Equity: Raised on both the JSE and the ASX	Debt: US DFC: US\$ 500m + Standard Bank: US\$ 250m Equity: 10% Tetra4 Sale: US\$ 55m + Mezzanine US\$ 50m + Nasdaq IPO for balance later this year
0) Status	Operated for 6 years and then decommissioned to tie wells into Phase 1	LNG and liquid helium in production. Anticipated to reach nameplate capacity end FY24	Anticipated turn-on 2027/8

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Capital Structure Sources and uses

Debt The US Development Finance Corporation

- DFC has approved an additional US\$500 million of debt for Phase 2 expansion
- Standard Bank will lend an additional US\$250 million of debt for Phase 2 expansion

Equity

Equity at Tetra4 level

• The company is in the process of concluding a private sale of equity in its subsidiary, Tetra4, as part of the funding package for Phase 2

Equity at Renergen level

- Following on from the Tetra4 transaction, which is the key marker for implied valuation of the project, the company plans to list on the Nasdaq stock exchange with an Initial Public Offering (IPO) of US\$150 million prior to drawing the debt above
- Within 18 months from the IPO, Renergen will raise the balance with a follow-on issuance

Mezzanine debt

 Several investors are expressing appetite for US\$50m of mezzanine debt which will reduce overall dilution in the project

Key Comparables

Transaction	Resource ¹	Value	Implied REN value
BLM sale of He ²	2 BCF	US\$ 353 m	US\$ 918 m (R17.4 bn)
New Era Helium Nasdaq De-SPAC	2 BCF	US\$ 135 m	US\$ 2.4 bn (R45.6 bn)
Mahlako investment into Tetra4	0.75 BCF	R 550 m	US\$ 497 m (R9.45 bn)
Renergen	13.6 BCF	R 1.8 bn	

1 Aside from the BLM, Resource is assumed at the 2P level

2 Implied Renergen valuation ignores the LNG business completely



contracts Interfacing	Reduce the amount of risk taken on by the Owner. Moving away from free issue approach in favour of a risk averse methodology and looking to include balance of plant into whole process plant scope under single contract		
esourcing	Redefine the Owners capability requirements to align with the engagement of an Owner's Engineer to execute the project. This will free core resources to focus on project definition, permitting, contracting, risk management, particularly quality assurance and interfacing with all stakeholders		
contract Management	Once Contracts are agreed upon, the cost, time and quality (performance) of the Project will be invigilated by the Owners Project Programme Management team		
ite Support	Increasing site support during construction (specifically looking at technical specialist support and general administration) will promote better, more informed decisions about activities on site and feed into better on -site planning		
community Engagement	A further distillation of community stake-holders pre-construction and greater focused engagement during construction to assist in smooth implementation		
contingency	Early-stage project contingency to be commensurate with the project risk profile		
ownstream Interfacing	Dedicated downstream commercial and client infrastructure team (including technical support) to be developed earlier and allow for customer planning in the beginning project stages		

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