Renergen Limited

Meteoric helium and methane production growth

We initiate coverage on Renergen with a risked NAV of AUD 4.8/sh

Renergen is a South Africa focused and listed company (JSE:REN) with an additional listing in Australia (ASX:RLT). REN is on the cusp of commercial production from its main asset, the Virginia Gas Project, which has >400bcf of 2P methane and 14bcf of 2P helium reserves (>2 years of entire global helium demand). Phase 2 development will see total gas production ramp to >40mmcf/d maintained flat over the life of the licence and generating ~US$300mm (million) in EBITDA on our estimates. It is the only onshore natural gas producer in South Africa: an energy-scarce area, with high customer density and limited competition. The innovative company has launched a helium "token" which should provide the only helium pricing assessment in the market. It has also developed a proprietary algorithm to pinpoint where to drill for gas based on various biological markers as well as launching a patented vaccine transportation solution cooled by helium or liquid nitrogen.

Strong profitability and ESG benefits from its helium and methane

REN has two revenue streams: helium and natural gas, which are both standalone profitable given low development and production costs plus strong pricing. The Company has strong ESG credentials as its natural gas sales reduce South African carbon emissions by substituting coal usage (potential to reduce 2.3mmtpa of CO_2). Fiscal terms are attractive in South Africa with low tax and royalties meaning strong free cashflow once the project is on stream. It has long-term helium sales agreements with attractive, locked-in pricing, emphasising why helium is a high multiple business. REN has strong corporate relationships with the likes of Linde, TOTAL, Messer, IDC, iSi Automotive and Consol. The management team has shown its ability to spot unique market opportunities and managed the company through the Covid challenges and the CEO and COO own ~15% of the company.

Positive helium market fundamentals and equity market appetite

We see the helium market as undersupplied in 2022 following recent fires at the key supply growth project in Russia, an outage at the US BLM and strong demand growth. Listed helium companies have soared in value over the last couple of years in stark contrast to oil and gas companies. Helium is an extremely highly valued commodity with a price that is >50x that of natural gas in the US, meaning that even small amounts or low concentrations can be highly economic. Renergen's assets have some of the highest helium concentrations seen globally due to the unique geology of being situated in an asteroid crater. Whilst there has been a plethora of new helium focused companies coming to market, we believe that Renergen stands out against the peer group given that it has been involved in helium and natural gas exploration for many years more than most; it is the only company we believe that has actual proven and certified helium reserves; and we expect it to be the first company to achieve commercial helium production.

Catalysts: start-up of Phase 1 and financing and FID of Phase 2

The main catalysts are commencement of Phase 1 production validating that the technology works, derisking Phase 2 on which we are expecting funding announcements around both debt and equity, as well as uptake on the helium "tokens" issued to raise up to US$25mm. We subsequently expect FID on Phase 2 later this year. Well results will continue to be important in terms of flow rates and helium content.

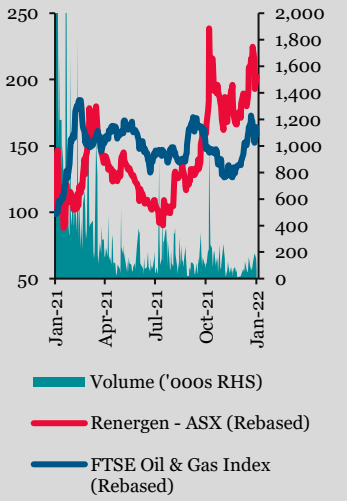
Valuation: >50% upside to our risked NAV

Our main valuation methodology is a risked NAV as Renergen will not be generating significant cash flow until Phase 2 comes online. Our risked NAV is A$4.8/sh or R55/sh, which implies ~55% upside from the current share price. Taking just the 2P value (excluding contingent resources and exploration upside) gives a risked value of A$4.3/sh or R49/sh, still implying 35% upside. On a fully unrisked basis we see ~250% upside to the current share price.

GICS Sector	**Energy**
Ticker	ASX:RLT; JSE:REN
Market cap 31-Jan-22 (US$mm)	280
Share price 31-Jan-22 (AUD)	3.21

NAV summary (AUD $/sh)

Asset	Unrisked	Risked
Core NAV	1.0	0.9
Development	6.8	3.4
Exploration	3.1	0.5
Total	**10.9**	**4.8**



H&P Advisory Limited is a Retained Advisor to Renergen. The cost of producing this material has been covered by Renergen as part of a contractual engagement with H&P; this report should therefore be considered an "acceptable minor non-monetary benefit" under the MiFID II Directive.

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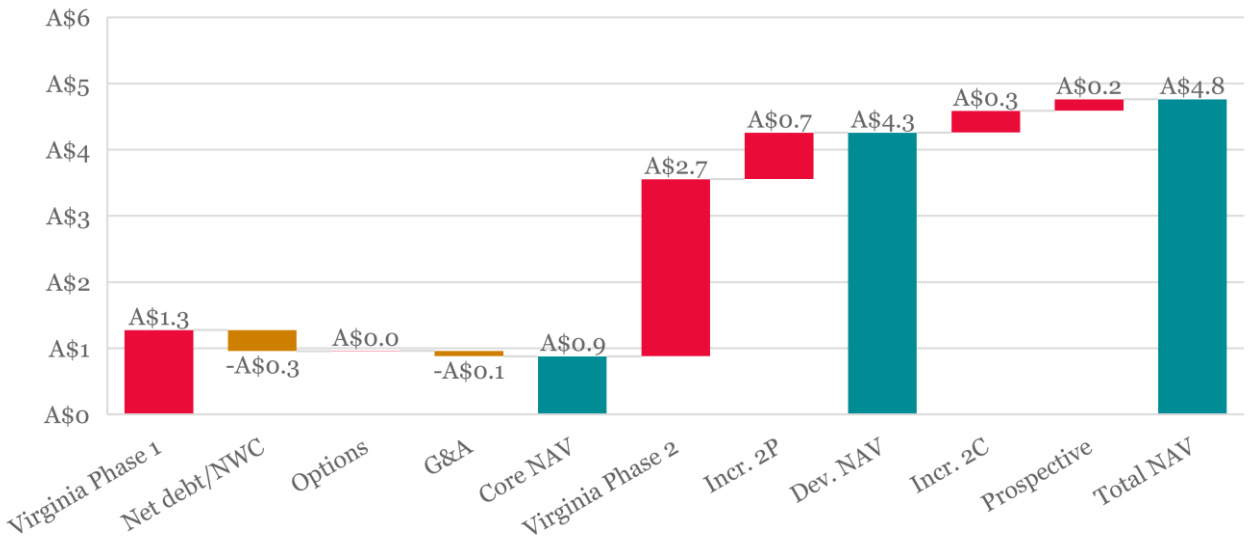
Investment Case

Company overview – Renergen is a South Africa domiciled and listed company with an additional listing in Australia. Its main asset is the Virginia Gas Project, which has >400bcf (~70mmboe) of 2P natural gas reserves and 14bcf of 2P helium reserves (equal to >2 years of entire global helium demand). The founders (CEO and COO) own ~15% of the company. It is the only onshore natural gas producer in South Africa: an energy-scarce area, with high customer density and limited competition. Renergen has a first mover advantage in bringing helium to market in Southern Africa. Its assets have some of the highest helium concentrations seen globally due to the unique geology of being situated in an asteroid crater. The Company has shown itself to be an innovator in the industry, launching a helium "token" which should provide the only helium pricing assessment in the market and direct commodity exposure, as well as developing a proprietary algorithm to pinpoint where to drill for gas based on various biological markers. It has also responded to the COVID crisis by developing a mechanism that allows the safe transportation of vaccines for around a month at extremely low temperatures and without power.

Investment case highlights – Whilst there has been a plethora of new helium focused companies coming to market, Renergen is one of the only independent listed companies globally that has proven helium reserves. It has two revenue streams; helium and natural gas, which are both standalone profitable given low-cost development and production plus strong pricing. Renergen has strong ESG credentials as its natural gas sales reduce South African carbon emissions by substituting coal usage (potential to reduce 2.3mm tonnes per annum of CO_2). It plans to produce 44mmcf/d of raw gas, which would generate >US$350mm at our base case price forecasts. Fiscal terms are attractive in South Africa with low tax and royalties meaning strong free cashflow once the project is on stream. It has long-term helium sales agreements with attractive, locked-in pricing, emphasising why helium is a high multiple business. It has strong corporate relationships with the likes of Linde, TOTAL, Messer, IDC, iSi Automotive and Consol. It has a management team that has shown its ability to spot unique market opportunities and managed the company through the Covid challenges.

Risked NAV build up for Renergen (AUD/sh)



Source: H&P estimates

Valuation – Our risked NAV is A$4.8/sh or R55/sh, which implies ~55% upside from the current share price. Taking just the 2P value gives a risked value of A$4.3/sh or R49/sh, still implying 35% upside. We see a further A$3.1/sh or R35/sh of unrisked upside from the contingent and prospective resources but only carry A$0.5/sh or R6/sh on a risked basis. On a fully unrisked basis we see ~150% upside to the current share price.

Strong ESG credentials – Environmental, social and corporate governance (ESG) is an increasingly important issue for investors. Renergen is focused on pioneering a cleaner energy source in an energy starved South Africa, thus both reducing the carbon footprint whilst reducing energy poverty. Renergen intends to produce 40mmcf/d of natural gas, which would be able to power a 280MW CCGT gas power plant and by substituting coal production from Eskom, would reduce CO_2 emissions by 2.3 million tonnes. South Africa's economy is one of the most carbon-intensive in the world, with a fleet of 15 coal-fired power plants providing more than three-quarters of the nation's electricity. The helium that will be produced is an inert gas so there are no associated emissions from the use of it but it is a vital gas for many industries such as within healthcare.

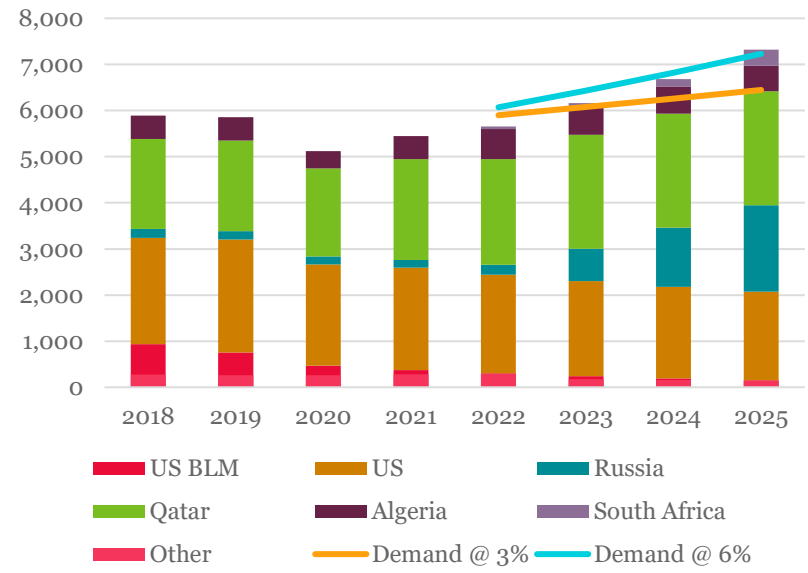
South African gas market – South Africa is in the midst of an energy crisis as it has a significant fuel deficit and a reliance on coal. There is >200mmcf/d gas shortfall in Johannesburg with a further 60mmcfe/d of LPG demand and potential for LNG for trucking. Therefore, there are ample opportunities for Renergen to tap with its initial Phase 2 production plans of ~40mmcf/d of natural gas with confidence that it could further grow the business in the longer-term. In South Africa, LNG is more cost competitive and a cleaner source of fuel than diesel without the need for any legislative involvement or changes. An LNG heavy vehicle (such as a bus or truck) gets around 25% more out of a tank of LNG than diesel, and the carbon emissions are around 30% less. Renergen developed a zero-emission solution for the cold chain logistics industry deploying LNG.

Management: innovative and ambitious – Renergen has an innovative management team with inside ownership of ~15% that has shown its ability to spot unique market opportunities. It has been a first mover in various areas ranging from the first SPAC in South Africa, the first onshore gas producer to supply CNG in country and the only company to be involved in a token securitising helium production. Rather than waiting for the demand to emerge, Renergen has looked to create its own markets showing a clear focus on commerciality. Senior management remuneration is highly incentivised by sharply growing the share price.

Helium market investment dynamics vs oil & gas– Exploration opportunities provide investors with uncorrelated returns to the market and investing in helium brings further diversification to a portfolio as it is uncorrelated to oil and gas. Listed helium companies have soared in value over the last couple of years in stark contrast to oil and gas companies. Helium is an extremely highly valued commodity with a price that is around 50x that of natural gas, meaning that even small amounts or low concentrations can be highly economic. Given the smaller footprint of a helium development, a standalone helium production facility can be developed quicker than a conventional greenfield oil and gas discovery that would normally take five-plus years. A concentrated market also confers a competitive advantage to the current participants.

Renergen's competitive advantages – We believe that Renergen stands out against the peer group given that it has been involved in helium and natural gas exploration for many years longer than most, it is the only company we believe that has actual proven and certified helium reserves and we expect it to be the first company to achieve commercial helium production. Renergen will produce higher purity liquid helium, whereas much of the peer group will be selling crude helium, for which pricing is significantly lower. Furthermore, Renergen is not reliant on helium for its project's commerciality as its natural gas (LNG) sales would be commercial even without the helium. Renergen is also the only company to have announced a significant contract to sell liquefied helium direct to an end-user.

Estimated supply demand balance for helium (mmcf/y)



Source: Akap Energy estimates

Helium fundamentals – We believe helium extraction is an exciting growth industry, with a growing set of new exploration and production companies focused on this increasingly valuable commodity. Helium has several unique properties that make it an essential element for many industries, without a substitute, which cannot be synthesised or manufactured. It has been an essential part of growing technology-focused businesses (e.g. semiconductors, university labs, fibre optics and space travel) and there are many more potential growth areas. It does not suffer from environmental criticism, pipeline constraints, regulatory burdens and excess taxes. It is a scarce commodity but when it is found it is relatively quick and easy to produce meaning generally stronger returns than from oil and gas projects. We see the helium market as undersupplied in 2022 and potentially 2023 following recent fires at the key supply growth project in Russia.

Investment risks – Other than the usual risks facing exploration and production companies (e.g. commodity prices, COVID-19, security, geopolitical, geological, ESG and health & safety risks), the main specific risks that we see facing Renergen are the restrictive supply indentures on most of the helium contracts it has signed, South African political and legislative risk, development risk (cost and delays) for its Virginia Gas Project, performance of the wells planned to supply the project and funding risk as the company will require a combination of debt and equity funding to take final investment decision on the Phase 2 project.

Catalysts

There are various catalysts that we see potentially impacting the equity story over the coming year.

- **Commencement of helium production** – Renergen expects helium production to commence in April 2022. Gas to plant commenced in January and the tanks are expected to be filled in March. This is important as it will be the first commercial helium produced by Renergen and will derisk the Phase 2 development.

- **Funding and FID of Phase 2** – We see the key remaining milestone ahead of taking FID on Phase 2 as the completion of the funding. There is a substantial investment of US$900mm required. As a result of the long-term contracts signed on most of the production, we expect that Renergen will be able to majority debt-fund the project, with most coming from the US Government's DFC. We also expect there to be further capital raised through the issuance of a bond (post Phase 2 start-up) plus the cash generated from the sale of the tokens known as ArgHe(s). We expect that the remainder will be equity plus the cash flow generated from the Phase 1 project. We estimate that the equity requirement will be up to US$250mm.

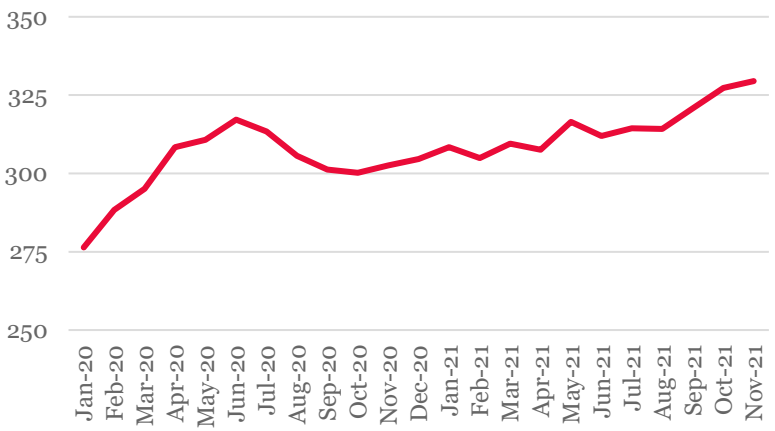
- **Potential NASDAQ listing** – Renergen could look at listing its shares on the NASDAQ in the US to be able to access a wider shareholder base, which should also provide additional liquidity. There are several helium focused companies listed in North America, so investors should be more familiar with the investment case for helium and also we see Renergen as being more advanced than many of the North American peer group. Renewable energy business Montauk for example has a JSE and NASDAQ listing (>US$1bn market cap).

- **Upsizing of helium production and further helium contracts** – Renergen originally planned to produce 5t/d (~1mmcf or 1 ISO container) of helium from Phase 2. However, the higher than expected helium content and better than expected wells mean that Renergen could look to double its helium production after Phase 2 is operational. At 2mmcf/d, this would be around 10% of current global demand for helium, meaning that Renergen has the potential to be one of the world's leading suppliers.

- **Further exploration** - Renergen's 2P reserves only cover a fraction of its acreage with significant potential demonstrated over the remainder of its lands. There is the potential to significantly increase its reserves through an exploration programme. It also owns further acreage beyond Virginia with its Evander licence that is also highly prospective for natural gas and helium. Evander spans approximately 52,000 hectares, with many abandoned holes drilled for coal and gold exploration.

- **Well results** – The well results and drilling performance from the initial development wells for Phase 2 could potentially lead to lower costs and a higher helium yield. There is significant contingency baked into the wells planned for Phase 2, so better than expected drilling performance will reduce the number of wells required. Also, if the helium percentages turn out to be higher than conservatively forecast, there is the potential to boost helium production.

3-month rolling average helium pricing based on importers data from Qatar, $/mcf



Source: AKAP Energy estimates

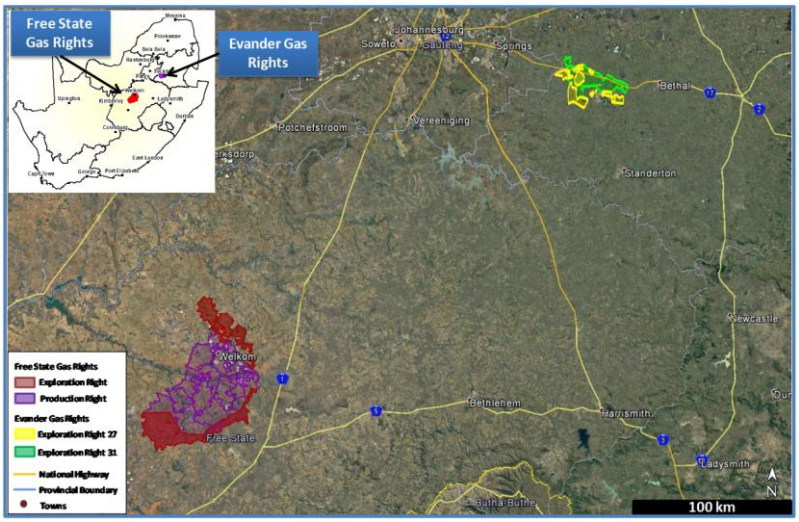
- **Helium pricing** – Helium pricing will be a driver of Renergen's valuation even though it has locked in a substantial portion of its supply. This is because it will still impact the spot element of its volumes, the value of its undeveloped resources and will influence general sentiment on helium E&P companies. We expect that the recent fires at Gazprom's Amur plant, which was expected to add a sizeable amount of supply to the market, will keep the market tight and prices high through 2022. Renergen's capex for Phase 2 includes the purchase of ISO containers, which will allow it to move down the value chain on its remaining 35% spot volumes, allowing it to access higher pricing.

- **Helium token performance** – Renergen's helium tokens will shortly start trading on the BitGet and PancakeSwap exchanges. The performance and pricing of these tokens will be important for sentiment and if prices rise significantly, it will provide Renergen with the opportunity to sell more tokens and in essence allow them to sell their helium forward and lock-in an attractive price.

- **CyroVacc business growth** – Renergen's CryoVacc business is early stage but has proved commerciality and there is the potential to scale up over the next year as it takes its product to the market, first to DPD Laser and with other potential customers in the pipeline. We currently carry no value for this business in our NAV.

Company Overview

Renergen's assets



Source: Renergen

Renergen is an emerging Helium and LNG producer based in South Africa founded in 2014 as the country's first SPAC. The name "Renergen" alludes to the fact that its gas regenerates, given it is from a biogenic source. Renergen's main asset is its 100% shareholding in Tetra4, which holds the first and currently only onshore petroleum production right in South Africa (Virginia Gas Project), giving it a first mover advantage on distribution of domestic natural gas. The production right was granted just before a moratorium was put in place and is valid for 23 years. The asset, which was owned by Australian listed Molopo, was acquired in December 2015 for US$1 plus a vendor loan from administrators by CEO and COO backed by the Otto family, then reversed into the SPAC in Nov 2015.

The Virginia Gas Project has 2P reserves of 407bcf (~70mmboe) of natural gas and 14bcf of helium (the equivalent of >2 years of global supply). It has been producing small quantities of CNG to date with LNG and helium production due to commence later this year ahead of Renergen sanctioning a much larger project, expected before year end. In June, Renergen discovered a 1.1% helium concentration at its Evander prospect, which is also located around 120 km from South Africa's Johannesburg.

With global energy demand on the rise, Renergen is well positioned in the energy scarce region of South Africa, where the customer density is high, and competition is limited. Due to this, LNG has historically enjoyed a significant premium to global prices. Demand for Tetra4's LNG has now significantly exceeded its production capacity.

Along with upstream energy operations, Renergen has created a vaccine storage solution which simplifies the process of transferring immunisations. Renergen's Cryo-Vacc allows vaccines to be stored in extremely cold temperatures for 30 days without the need for a power supply. The storage contains liquid helium, which can be boiled and released consistently for a month — providing the cold temperature. Renergen has already filed for the patent rights to its design and is now calling on collaborators to use the solution such as Pfizer's COVID-19 jab.

Valuation

Our favoured valuation methodology is a bottom-up risked NAV, in which we have built a DCF valuation of the 2P reserves, plus the main development and exploration prospects (assuming they will be developed), and then risked them for geological and commercialisation risk. Given that the main project is not on line as yet and also most of its peer group in the helium sector do not have production, comparative mulitple analysis is irrelevant for now. We use a 12% discount rate, which is in line with our other coverage companies in Africa, however there is an argument for a lower discount rate given some of the fixed price offtake that Renergen has in place and the abiltiy to debt fund against this.

Key assumptions

Main assumptions	Units	ZAR	AUD	USD
2022+ Brent oil price	per bbl	R1,103	A$96	U$70
2022+ Helium price	per mcf	R3,938	A$342	U$250
2022+ Helium price	per kg	R839	A$73	U$53
2022+ Nat gas price	per mcf	R260	A$23	U$17
2023+ Nat gas price	per mcf	R260	A$23	U$17
South African diesel	per mcf	R400	A$35	U$25
South African LPG	per mcf	R420	A$37	U$27

Source: H&P estimates

NAV

Asset	Net bcf	NPV US$/mcf	Unrisked US$m	Unrisked R/sh	Unrisked A$/sh	Risking CoS	Risked US$m	Risked R/sh	Risked A$/sh
Net debt			-U$30	-R3.6	-A$0.3		-U$30	-R3.6	-A$0.3
Options and warrants			U$0.4	R0.0	A$0.0		U$0.4	R0.0	A$0.0
G&A @ 3x			-U$7.7	-R0.9	-A$0.1		-U$7.7	-R0.9	-A$0.1
Net working capital			-U$0.1	R0.0	A$0.0		-U$0.1	R0.0	A$0.0
Virginia Phase 1	20	$6.8	U$134	R16.3	A$1.4	90%	U$120	R14.7	A$1.3
Core NAV	**20**	**$4.9**	**U$96**	**R12**	**A$1.0**	**86%**	**U$83**	**R10**	**A$0.9**
Virginia Phase 2	357	$1.4	U$505	R61.5	A$5.3	50%	U$252	R30.8	A$2.7
Incremental 2P reserves	44	$3.0	U$132	R16.2	A$1.4	50%	U$66	R8.1	A$0.7
Development NAV	**401**	**$1.6**	**U$637**	**R78**	**A$6.8**	**50%**	**U$319**	**R39**	**A$3.4**
Incremental 2C reserves	249	$0.5	U$125	R15.2	A$1.3	25%	U$31	R3.8	A$0.3
Prospective resource	332	$0.5	U$166	R20.2	A$1.8	10%	U$17	R2.0	A$0.2
Contingent / Exploration	**581**	**$0.5**	**U$290**	**R35**	**A$3.1**	**16%**	**U$48**	**R6**	**A$0.5**
Total NAV	**581**	**$1.8**	**U$1,024**	**R125**	**A$10.9**	**44%**	**U$449**	**R55**	**A$4.8**

Source: H&P estimates

Our risked NAV is A$4.8/sh or R55/sh, which implies ~55% upside from the current share price. Taking just the 2P value gives a risked value of A$4.3/sh or R49/sh, still implying 35% upside. We see a further A$3.1/sh or R35/sh of unrisked upside from the contingent and prospective resources but only carry A$0.5/sh or R6/sh on a risked basis. On a fully unrisked basis we see ~150% upside to the current share price.

Core NAV

Net debt – Renergen had US$30mm of net debt at end August 2021. This is the equivalent of -R2/sh on our NAV.

Options proceeds – We use the fully diluted share count, factoring in ~6mm options, which would boost the share count by ~5% if exercised and would raise US$0.4mm. This has a minimal impact on the NAV.

G&A – We estimate G&A of around US$3mm per annum, which we capitalise at 3x and is the equivalent of -R0.5/sh on our NAV.

Net working capital – There is a marginal impact from net working capital on the NAV.

Virginia Phase 1 – Our unrisked valuation of the project is US$134mm (relatively high NPV of US$6.8/mcf of methane and helium combined given capex is sunk) but we apply a 10% risking (90% chance of success) to factor in the risk of any hiccups on start-up. Our risked value is US$120mm or R8/sh. There is more detail around the valuation in the asset section. We estimate that 19bcf of methane and 0.5bcf of helium are developed over the life.

Development and exploration upside

Virginia Phase 2 – Our unrisked valuation of the project is US$505mm (NPV of US$1.4/mcf of methane and helium given the capex is still to be spent) and we apply a more punitive risking of 50% to factor in the funding/equity dilution risk and also as this project is pre-FID and there is a larger risk through the development process. We estimate that 350bcf of methane and 6bcf of helium are developed over the life with a risked value of US$378m or R25/sh.

Incremental 2P reserves – Above and beyond the Phase 1 and 2 developments, Renergen has a further 46bcf of methane and helium combined which we value at an NPV US$3/mcf given that there will already be significant infrastructure in place to leverage off to either produce for longer or through debottlenecking. However, given that this is longer term potential without any clear development plans we apply a 50% risking to arrive at a risked value of US$66mm or R4/sh.

Incremental 2C reserves – Renergen has a further 249bcf of contingent resources providing a solid basis for a future phase 3 development. We use a low valuation of US$0.5/mcf to factor in the longer term potential and lower value due to the larger discounting impact. On an unrisked basis there is US$125mm of value but we only use a 25% chance of commercialisation and include US$31mm in our NAV or R2/sh.

Prospective resource – Renergen has a further 332bcf of prospective resources to go after, which could further boost the size of phase 3 or further phases. We use a low valuation of US$0.5/mcf to factor in the longer term potential and lower value due to the larger discounting impact. On an unrisked basis there is US$125mm of value but we risk this heavily given the exploration risk still involved and hence carry just US$17mm in our NAV or R1/sh.

NAV sensitivities

We look at the risked NAV for Renergen at various gas prices and discount rates relative to our base case.

		Helium Price ($/mcf)				
		$150	$200	$250	$300	$350
Discount rate	8%	A$7.7	A$8.1	A$8.5	A$9.0	A$9.4
	10%	A$5.7	A$6.0	A$6.4	A$6.7	A$7.0
	12%	A$4.2	A$4.5	A$4.8	A$5.0	A$5.3
	14%	A$3.2	A$3.4	A$3.6	A$3.8	A$4.0
	16%	A$2.4	A$2.5	A$2.7	A$2.9	A$3.1

Source: H&P estimates

Risked NAV (A$/sh) at different gas prices and discount rates

		LNG price ($/mcf)				
		$11.5	$14.0	$16.5	$19.0	$21.5
Discount rate	8%	A$6.0	A$7.3	A$8.5	A$9.8	A$11.1
	10%	A$4.4	A$5.4	A$6.4	A$7.3	A$8.3
	12%	A$3.2	A$4.0	A$4.8	A$5.5	A$6.3
	14%	A$2.3	A$3.0	A$3.6	A$4.2	A$4.9
	16%	A$1.7	A$2.2	A$2.7	A$3.2	A$3.8

Source: H&P estimates

Risked NAV (A$/sh) at different gas prices and discount rates

		Helium Price ($/mcf)				
		$150	$200	$250	$300	$350
LNG price $/mcf	$11.5	A$2.6	A$2.9	A$3.2	A$3.4	A$3.7
	$14.0	A$3.4	A$3.7	A$4.0	A$4.2	A$4.5
	$16.5	A$4.2	A$4.5	A$4.8	A$5.0	A$5.3
	$19.0	A$5.0	A$5.3	A$5.5	A$5.8	A$6.1
	$21.5	A$5.8	A$6.1	A$6.3	A$6.6	A$6.9

Source: H&P estimates

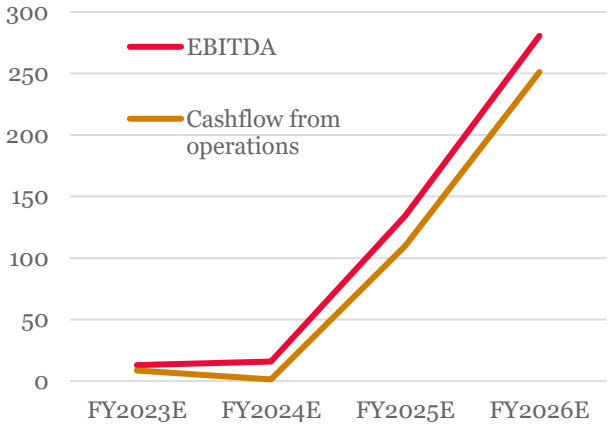
Financial ratios

Financial ratios and multiples	FY2023E	FY2024E	FY2025E	FY2026E
Cash	19	-196	-185	-145
Gross debt	258	474	690	474
Net debt (USD mm)	238	670	875	619
Equity (USD mm)	276	275	342	502
Capital employed (USD mm)	260	690	963	867
P/E	n.m.	n.m.	4.3x	1.8x
EV/EBITDA	22.9x	18.9x	2.2x	1.1x
ROACE	2.7%	-0.3%	7.5%	16.1%
FCF yield	-72.0%	-149.9%	-71.4%	88.9%
Net debt/EBITDA	-12.3x	18.4x	42.5x	6.5x

Source: H&P estimates

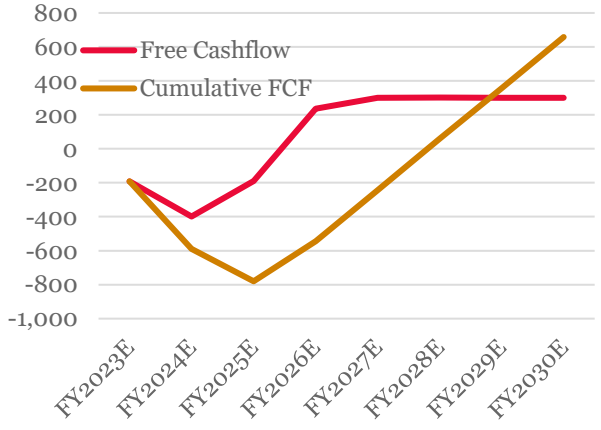
We expect Renergen to generate ~US$13mm in EBITDA in FY'23 as Phase 1 starts up, growing to US$135mm in FY'25 and US$281mm the year after. We do not expect Renergen to pay cash tax for several years given accelerated depreciation meaning cash flow will be similar to EBITDA after interest.

EBITDA and CFFO forecasts(US$mm)



Source: H&P estimates

Cumulative and absolute FCF forecasts (US$mm)



Peer group comparison

We believe that the helium focused exploration companies are the main peer group to look at Renergen against given that Renergen has the potential to be one of the leading helium suppliers globally. In the table below we look at the universe but we do not include any valuation multiples as none of the companies has any production or meaningful revenues as yet.

Renergen helium E&P company peer group

Company	Ticker	Market Cap	Net Debt	YTD	1 month	6 month	1 year	2 year	2P helium
		$mm	$mm	% performance (TSR)					bcf
Renergen Limited	**JSE:REN**	**289**	**33**	**9%**	**0%**	**92%**	**108%**	**182%**	**407**
PetroSun, Inc.	OTCPK:PSUD	191	1	-23%	-11%	-20%	129%	568%	0
Helios Energy Limited	ASX:HE8	164	-7	-10%	-39%	-41%	-50%	-51%	0
Desert Mountain Energy C	TSXV:DME	134	-23	12%	-7%	-50%	41%	943%	0
Helium One Global Ltd	AIM:HE1	94	-7	47%	40%	-64%	42%	0%	0
Total Helium Ltd.	TSXV:TOH	72	0	-28%	n/a	n/a	n/a	n/a	0
VVC Exploration Corporati	TSXV:VVC	63	-2	3%	8%	2%	8%	246%	0
Avanti Energy Inc.	TSXV:AVN	54	-7	-21%	-14%	-31%	30%	731%	0
Global Helium Corp.	CNSX:HECO	51	0	-25%	-37%	30%	n/a	n/a	0
Blue Star Helium Limited	ASX:BNL	48	-2	-30%	-22%	27%	-3%	688%	0
Royal Helium Ltd.	TSXV:RHC	45	-11	-26%	-35%	-28%	-45%	515%	0
Grand Gulf Energy Limite	ASX:GGE	27	-1	17%	-36%	177%	168%	408%	0
Western Sierra Resource C	OTCPK:WSRC	25	8	-8%	-35%	-60%	223%	231%	0
First Helium	TSXV:HELI	16	0	29%	31%	30%	n/a	n/a	0
Imperial Helium Corp.	TSXV:IHC	13	0	-11%	-17%	-51%	n/a	n/a	0
American Noble Gas, Inc.	OTCPK:IFNY	8	0	-10%	-7%	45%	118%	527%	0
Helium Ventures	OFEX:HEV	2	0	0%	-34%	-58%	n/a	n/a	0
Average				**-5%**	**-13%**	**0%**	**64%**	**454%**	

Source: H&P estimates, Capital IQ

There has been a proliferation of helium exploration companies coming to public markets over the last 18 months to capitalise on the helium shortages and rise in prices seen in 2019. The share price performance of the sector on a 1-year and 2-year view shows that the market started to see the potential for the helium market over this period.

However, we believe that Renergen stands out against the peer group given that it has been involved in helium and natural gas exploration for many years longer than most, it is the only company we believe that has actual proven and certified helium reserves and we expect it to be the first company to achieve commercial helium production. As a result it is by far the largest listed helium E&P company with an EV that is 50% higher than its nearest rival.

Renergen is also constructing its own liquefaction plant, allowing it to gain access to premium pricing for higher purity liquid helium, whereas much of the peer group will be selling crude helium, for which pricing is significantly lower.

Furthermore, Renergen is not reliant on helium for its project's commerciality as its natural gas (LNG) sales would be economic even without the helium. Renergen is also the only company to have announced a significant contract to sell liquefied helium direct to an end-user.

Renergen's natural gas is going to directly replace higher carbon fuels such as coal and diesel so it has a negative carbon impact, which again we believe sets it apart from its peer group.

Financial Summary (USD)

Operational data	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Methane Production (mcf/d)			2,300	2,622	21,176	41,195
Helium Production (mcf/d)			63	71	380	714
Methane Production (mmcf)			840	960	7,729	15,036
Helium Production (mmcf)			23	26	139	261
Methane Production Growth				14%	705%	95%
Helium Production Growth				14%	433%	88%

Income statement (USD mm)	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Methane Revenue	0.1	0.2	13.9	16	134	268
Helium Revenue	0.0	0.0	5	6	36	69
Revenue	**0.1**	**0.2**	**19**	**22**	**170**	**337**
Cost of Sales	-0.2	-0.2	-4	-4	-33	-54
Gross Profit	**-0.1**	**0.0**	**15**	**18**	**137**	**283**
Other Operating income	0.1	0.0	0	0	0	0
Other operating expenses	-2.6	-2.5	-2	-2	-2	-2
EBITDA	**-2.6**	**-2.5**	**13**	**16**	**135**	**281**
Depreciation	-0.3	-0.3	-3	-3	-24	-46
Operating Profit	**-2.8**	**-2.9**	**10**	**13**	**111**	**235**
Net Financial Charges	-0.2	-0.2	-4	-14	-24	-29
Profit before tax	**-3.1**	**-3.1**	**6**	**-2**	**86**	**205**
Taxation	0.5	0.1	-2	0	-24	-57
Tax Rate	0.2	0.0	28%	28%	28%	28%
Profit for the period	**-2.6**	**-3.0**	**4**	**-1**	**62**	**148**

Cashflow (USD mm)	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Net Income (pre-tax)	**-3**	**-3**	**6**	**-2**	**86**	**205**
Cash Adjustments	0	0	0	0	0	0
DDA and Impairments	0	0	3	3	24	46
Non-cash Financial Charges	0	0	0	0	0	0
Net Interest	0	0	0	0	0	0
Other	0	0	0	0	0	0
CFFO (pre w/c)	**-2**	**-3**	**8**	**1**	**110**	**251**
Change in working capital	1	-1	0	0	0	0
Cashflow from operations	**-2**	**-4**	**8**	**1**	**110**	**251**
Capex	-11	-8	-200	-400	-300	-15
Free Cashflow	**-13**	**-12**	**-192**	**-399**	**-190**	**236**
Share buybacks/issuance	0	7	0	0	0	0
Other	0	0	0	0	0	0
Decrease in Net Debt	**-12**	**-4**	**-192**	**-399**	**-190**	**236**

Source: H&P estimates

Balance Sheet (USD mm)	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Property plant and equipment	31	38	251	681	980	946
Intangible assets	7	9	9	9	9	9
Investment in subsidiary	0	0	0	0	0	0
Loan to subsidiary	0	0	0	0	0	0
Deferred taxation	2	2	1	1	-25	-87
Restricted cash	0	0	0	0	0	0
NON-CURRENT ASSETS	**41**	**49**	**261**	**691**	**964**	**868**
Trade and other receivables	1	3	3	3	3	3
Inventories	0	0	0	0	0	0
Financial assets	0	0	0	0	0	0
Restricted cash	1	1	1	1	1	1
Cash and cash equivalents	9	10	19	-196	-185	-145
CURRENT ASSETS	**10**	**14**	**23**	**-192**	**-181**	**-142**
TOTAL ASSETS	**51**	**63**	**284**	**499**	**783**	**726**
Stated Capital	30	37	37	37	37	37
Share-based payments reserve	1	1	1	1	1	1
Revaluation reserve	0	0	0	0	0	0
Accumulated loss	-17	-20	-15	-17	50	210
Equity Attributable to Parent	0	0	0	0	0	0
Non-controlling interest	0	0	0	0	0	0
TOTAL EQUITY	**14**	**18**	**22**	**21**	**88**	**248**
LIABILITIES	**0**	**0**	**0**	**0**	**0**	**0**
Borrowings	35	41	258	474	690	474
Lease liabilities	0	0	0	0	0	0
Provisions	0	0	0	0	0	0
NON-CURRENT LIABILITIES	**36**	**42**	**258**	**474**	**691**	**474**
Borrowings	0	1	1	1	1	1
Trade and other payables	2	3	3	3	3	3
Lease liabilities	0	0	0	0	0	0
Provisions	0	0	0	0	0	0
CURRENT LIABILITIES	**2**	**4**	**4**	**4**	**4**	**4**
TOTAL LIABILITIES	**38**	**46**	**262**	**478**	**695**	**478**
EQUITY AND LIABILITIES	**51**	**63**	**284**	**499**	**783**	**726**

Source: H&P estimate

Financial Summary (ZAR)

Operational data	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Methane Production (mcf/d)			2,300	2,622	21,176	41,195
Helium Production (mcf/d)			63	71	380	714
Methane Production (mmcf)			840	960	7,729	15,036
Helium Production (mmcf)			23	26	139	261
Methane Production Growth				14%	705%	95%
Helium Production Growth				14%	433%	88%

Income statement (ZAR mm)	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Methane Revenue	1.9	2.5	227	265	2,205	4,403
Helium Revenue	0	0	89	104	587	1,129
Revenue	**1.9**	**2.5**	**316**	**369**	**2,792**	**5,533**
Cost of Sales	-2.8	-3.2	-64	-70	-544	-886
Gross Profit	**-0.9**	**-0.7**	**253**	**299**	**2,248**	**4,646**
Other Operating income	0.9	0.1	0	0	0	0
Other operating expenses	-42.0	-40.9	-40	-40	-40	-40
EBITDA	**-42.0**	**-41.5**	**213**	**258**	**2,208**	**4,606**
Depreciation	-4.7	-5.7	-43	-49	-389	-756
Operating Profit	**-46.8**	**-47.2**	**170**	**210**	**1,819**	**3,850**
Net Financial Charges	-4.0	-3.8	-73	-237	-401	-484
Profit before tax	**-50.8**	**-51.0**	**97**	**-28**	**1,418**	**3,366**
Taxation	8.2	2.2	-27	8	-397	-943
Tax Rate	0.2	0.0	28%	28%	28%	28%
Profit for the period	**-42.6**	**-48.8**	**70**	**-20**	**1,021**	**2,424**

Cashflow (ZAR mm)	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Net Income (pre-tax)	**-51**	**-51**	**97**	**-28**	**1,418**	**3,366**
Cash Adjustments	-6	0	0	0	0	0
DDA and Impairments	5	6	43	49	389	756
Non-cash Financial Charges	7	-3	0	0	0	0
Net Interest	4	2	0	0	0	0
Other	1	1	0	0	0	0
CFFO (pre w/c)	**-40**	**-47**	**139**	**21**	**1,806**	**4,122**
Change in working capital	12	-17	0	0	0	0
Cashflow from operations	**-28**	**-63**	**139**	**21**	**1,806**	**4,122**
Capex	-186	-129	-3,283	-6,566	-4,925	-240
Free Cashflow	**-214**	**-193**	**-3,144**	**-6,545**	**-3,118**	**3,882**
Share buybacks/issuance	0	107	0	0	0	0
Other	0	0	0	0	0	0
Decrease in Net Debt	**-193**	**-70**	**-3,144**	**-6,545**	**-3,118**	**3,882**

Source: H&P estimates

Balance Sheet (ZAR mm)	FY2021	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
Property plant and equipment	476	573	3,813	10,331	14,867	14,351
Intangible assets	112	136	136	136	136	136
Investment in subsidiary	0	0	0	0	0	0
Loan to subsidiary	0	0	0	0	0	0
Deferred taxation	35	37	10	18	-379	-1,322
Restricted cash	3	3	3	3	3	3
NON-CURRENT ASSETS	**626**	**749**	**3,962**	**10,487**	**14,626**	**13,168**
Trade and other receivables	8	40	40	40	40	40
Inventories	0	1	1	1	1	1
Financial assets	0	0	0	0	0	0
Restricted cash	16	16	16	16	16	16
Cash and cash equivalents	131	153	293	-2,969	-2,804	-2,205
CURRENT ASSETS	**155**	**211**	**350**	**-2,912**	**-2,747**	**-2,148**
TOTAL ASSETS	**780**	**959**	**4,312**	**7,575**	**11,879**	**11,020**
Stated Capital	453	561	561	561	561	561
Share-based payments reserve	9	9	9	9	9	9
Revaluation reserve	1	1	1	1	1	1
Accumulated loss	-256	-305	-235	-255	766	3,190
Equity Attributable to Parent	0	0	0	0	0	0
Non-controlling interest	0	0	0	0	0	0
TOTAL EQUITY	**206**	**266**	**335**	**315**	**1,336**	**3,760**
LIABILITIES	**0**	**0**	**0**	**0**	**0**	**0**
Borrowings	534	627	3,910	7,193	10,476	7,193
Lease liabilities	3	2	2	2	2	2
Provisions	4	4	4	4	4	4
NON-CURRENT LIABILITIES	**541**	**633**	**3,916**	**7,199**	**10,482**	**7,199**
Borrowings	0	16	16	16	16	16
Trade and other payables	27	40	40	40	40	40
Lease liabilities	3	3	3	3	3	3
Provisions	2	2	2	2	2	2
CURRENT LIABILITIES	**32**	**61**	**61**	**61**	**61**	**61**
TOTAL LIABILITIES	**574**	**694**	**3,977**	**7,260**	**10,543**	**7,260**
EQUITY AND LIABILITIES	**780**	**959**	**4,312**	**7,575**	**11,879**	**11,020**

Source: H&P estimate

Balance Sheet and Funding

To date, Renergen has been successful at tapping the capital markets for debt and equity. It has been able to secure attractive US Government funding for its initial project and it is looking to secure the majority of funds required for the Phase 2 development from this source also. It previously secured funding from the Industrial Development Corporation of South Africa. It has also successfully raised equity on several occasions, including a secondary listing in Australia in 2019 when it raised A$10mm and it raised the same amount again in 2021. It has also been innovative in the launch of a "token" that will act as a prepayment facility for its helium.

Renergen is looking to embark on the large scale development of its Virginia Gas project on which it is looking to take FID in calendar year 2022. We estimate this project will require US$900mm in funding. We estimate that Renergen will be able to raise the majority through the US Government DFC. There will likely be bank financing for ~US$100-250mm. US$25mm will come from the issuance of the Argy tokens and we think the remainder will come from the issuance of equity, which we estimate will be ~US$250mm. If issued at the current share price, this will lead to a ~90% increase in the share count. We factor in the potential dilution through the risking of the Virginia Phase 2 project.

Existing debt facilities

In February 2019 the US Government agency, Overseas Private Investment Corporation (OPIC), which is now known as the US International Development Finance Corporation (DFC) approved a US$40mm loan facility in favour of the Renergen subsidiary Tetra4's Virginia gas field project. The funds have a 12-year term and 30 months' grace period. The first draw down of US$20mm was in September 2019, the second of US$12.5mm was in June 2020 and the final US$7.5mm was taken in September 2021. The first drawdown attracts a 2.11% interest rate, the second 1.49% and the third 1.24%. A guaranty fee of 4% per annum is payable on any outstanding loan balance. Repayments will start 1st August 2022 in quarterly instalments of US$0.9mm running until 2031.

The following debt covenants apply to the DFC loan - Tetra4 is required to maintain at all times:

i) a ratio of all interest bearing Debt to EBITDA of not more than 3.0 to 1;

(ii) a ratio of Current Assets to Current Liabilities of not less than 1 to 1; and

(iii) a Reserve Tail Ratio of not less than 25%.

(iv) a ratio of Cash Flow for the most recent four fiscal quarters, taken as a single accounting period, to Debt Service for the most recently completed four quarters, taken as a single accounting period, of not less than 1.30 to 1; and

(v) a ratio of Cash Flow for the most recently completed four fiscal quarters, taken as a single accounting period, to Debt Service for the next succeeding four fiscal quarters of not less than 1.3 to 1.

Also, Tetra4 is required to ensure that the debt service reserve account (classified as restricted cash) is funded in the aggregate of all amounts due to the DFC within the next 6 months. The covenants will apply 18 months after the completion of the construction of the Virginia Gas Plant.

Tetra has a R50mm (US$3mm) loan stemming from the acquisition of the Molopo assets. The loan was issued on 1 May 2013 and remains unsecured and interest free until 31st December 2023. The loan is only repayable after Tetra4 declares a dividend and utilising a maximum of 36% of distributable profits to pay the dividend. If the loan has not been repaid by the end of the year it will incur an interest rate of prime overdraft plus 2% (estimated to be ~9%) and it will have no repayment terms.

Convertible notes with a face value of AUD0.5mm issued in December 2018 were repaid in cash. The notes had an interest rate of 15% *p.a.*, reducing expensive debt from the balance sheet.

Listing and shareholders

Renergen is dual-listed on the JSE and the ASX. The size of the ASX and JSE are relatively similar on a global basis with the ASX dominated by energy and mining companies and also the average size of companies on the ASX is much smaller.

The JSE benefits from being a very well regulated and large exchange but it's particularly well-suited for sectors such as financial services FMCG and for very well-established mining companies. There are not however that many junior miners listed on the JSE and in fact when it comes to oil and gas, Renergen is the only one, meaning that the investor base on this side is a little less *au fait* with oil and gas as opposed to other exchanges.

By contrast the ASX is a very fertile home for junior miners, E&Ps and for small companies and so it made sense for a secondary listing there. The stock is fungible between both exchanges. South African retail investors cannot trade on the ASX due to exchange controls. Australian shareholders have added specific value to the company due to their deep understanding of commodities and development projects; Australian investors are supportive of start-up projects such as those Renergen is pursing and have more capital available and a greater willingness to invest.

The Otto Family were the original financial backers of the CEO and CFO who founded the business. The founders own around 15% of the company. It is 20% owned of Mazi Capital (~A$4bn of AUM). Notable Pioneer is a strategic investor out of Australia.

ArgHe: Helium blockchain tokens

Renergen has sold forward 100mmcf of liquid helium over a period of 19 years to Argonon Helium US Inc ("Argonon") in a unique and innovative deal. The aim of this was to provide up to US$25mm of pre-funding for Phase 2 of the plant and to facilitate the creation of a spot market for the currently opaque helium market. End users could use the tokens to hedge their exposure to helium pricing and there has already been interest on that front. Also, electronic storage of the commodity is significantly cheaper than actually extracting it out of the ground and trying to keep it at minus 269 degrees Celsius; forward sales contracts with storage in the crypto space makes more sense. The funds could be used to accelerate Phase II drilling at Virginia Gas Project without need for equity issue.

Argonon was established specifically to procure helium from Renergen and to create a tradeable market in the commodity. Currently it is very difficult to observe any pricing data on the helium market: there is no spot market or other visible prices. Argonon sees this transaction as a ground-breaking step in bringing helium to the financial markets and will pave the way for its inclusion into more mainstream commodities funds and indices. Argonon has developed an innovative product which will provide an accessible platform and market for any interested helium investor to gain direct exposure to the underlying commodity. This path is not dissimilar to other commodities for example lithium was in a similar position a decade ago.

As a frame of reference, 1 unit weighs 4.7kg and comprises 37.5 litres when in liquid form. The helium will be sold at the following prices with each unit or token representing a thousand standard cubic feet ("**mcf**") of helium at 99.999% purity:

- US$230 per unit for helium paid for before 29 October 2021
- US$245 per unit for helium paid for before 30 November 2021
- US$270 per unit for helium paid for thereafter until 100,000

This will also allow Renergen to sell further volumes of helium at later dates which are planned to be priced according to the spot market of helium, less Argonon's trading margin, and will be available to Argonon until the expiry of the Virginia Gas Project's license in September 2042.

The coin is called an "ArgHe". These tokens are backed by a smart contract, which enables the holder to either store the token in their wallet on an exchange (which is in the process of being established) that the holder will then either be able to trade that token: buy, sell or use as a store of wealth if they believe that the longer term prospects for helium are strong. This allows bulls on the long-term outlook for helium to gain exposure without necessarily having to incur the storage costs of keeping helium.

A token holder will eventually decide that either they are going to sell it in the spot market because the price is right, or that they want to take delivery of the underlying helium. If they want the underlying helium they notify Argonon, who inform Renergen one quarter before delivery takes place, which is in-line with the way the entire helium market currently trades. Renergen will send back a delivery schedule, mutually agree with the end user when the helium trailer needs to arrive; the token will then be delivered to Renergen and "burned" (i.e. cancelled) and Renergen will issue a delivery certificate. When the container comes in, the delivery certificate will be handed over at the plant, the tank will be filled and the helium taken away, and there are a few less helium tokens in the world.

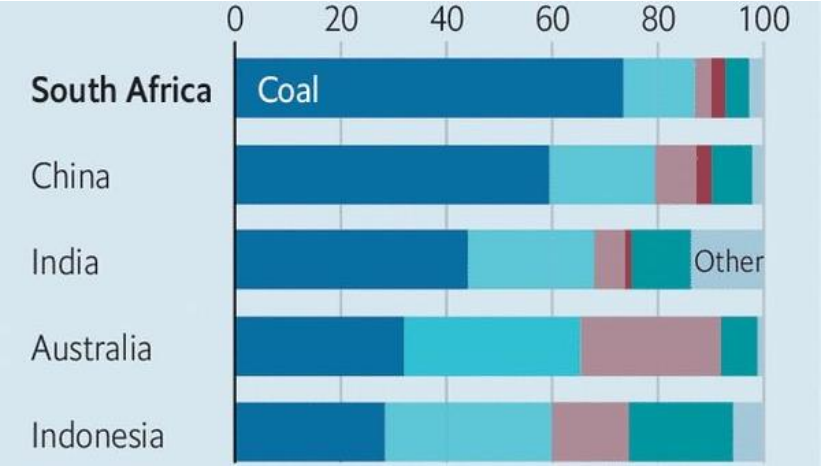
This structure is a variant of the concept in the commodities world known as streaming where big commodity houses offer cash up front to be able to take the commodity in the future at a discounted price. This type of funding is positive for Renergen as it can raise the capital now without having to dilute the equity holders. Also setting up this mechanism now prior to announcing Phase 2 and base use capital needs means that Renergen is showing it has the ability and is setting up the mechanism to be able to raise a certain portion of the capital to construct Phase 2 without necessarily having to dilute shareholders. Previously this type of deal would have had to have been done with a large commodity house. However, with blockchain technology the average person in the street now has the ability to participate in these streaming transactions, democratising the investment process.

We view the creation of ArgHe as a pioneering move to make helium an investible financial asset akin to more mainstream commodities. As with many other commodities (and novel financial products in general), the paper helium market is likely to start small and to be traded by those who have researched and understand the future potential of the gas to be used in emerging technologies such as quantum computing.

South African Natural Gas Market

South Africa is in the midst of an energy crisis as it has a significant fuel deficit and a reliance on coal. South Africa's economy is one of the most carbon-intensive in the world, with a fleet of 15 coal-fired power plants providing more than three-quarters of the nation's electricity. The country is already seeing rolling blackouts due to failing electricity infrastructure, which makes rewiring it a more urgent priority. The national power generation company Eskom is struggling with load shedding and with generation capacity. The country is already short of gas and in addition there are significant barriers to importing any other form of energy. Most of South Africa's gas comes through a pipeline from Mozambique (where production is in decline) all the way to Johannesburg and Sasol sells it at a significant premium to what the international market is paying, under normal market conditions.

Top-5 coal-intensive G20 countries, 2020 by primary energy supply (%)



Source: Climate Transparency

The governments of South Africa, France, Germany, the UK and the US, along with the EU, in 2021 announced a Partnership to support South Africa's decarbonisation efforts, with a focus on the electricity system. It will mobilise an initial commitment of US$8.5bn for the first phase of financing, through various mechanisms including grants, concessional loans and investments and risk sharing instruments, including to mobilise the private sector. It aims to prevent 1-1.5 gigatonnes of emissions over the next 20 years, to move away from coal and to accelerate its transition to a low emission, climate resilient economy.

There is a >200mmcf/d gas shortfall in Johannesburg with a further 60mmcfe/d of LPG demand and potential for LNG for trucking. Therefore, there are ample opportunities for Renergen to tap with its initial Phase 2 production plans of ~40mmcf/d of natural gas with confidence that it could further grow the business in the longer-term. A new Gas Master Plan is being developed to increase the share of gas in the power mix. There are environmental benefits of switching from coal to gas and plans to add >8GW of new gas/diesel generation capacity by 2030. Significant offshore gas discoveries could stimulate the creation of a much larger domestic gas market but these will take time to develop.

Renergen is looking to build a vertically integrated business from wellhead to tank. Around the Virginia Gas project there is access to existing infrastructure for

transport and consumption of natural gas (power stations, liquefaction plants, rail networks, etc.). Renergen is South Africa's first LNG producer and has access to a supply constrained market providing reliable long term offtake agreements.

Why LNG is the most environmentally friendly solution in South Africa

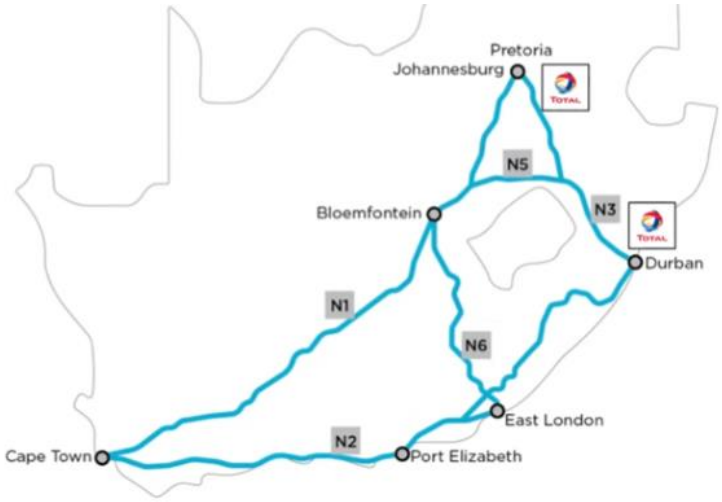
In South Africa, LNG is both a cleaner source of fuel and more cost competitive than diesel, without the need for any legislative involvement or changes, making it a more obvious, immediate solution than battery-electric vehicles (BEVs) or hydrogen. An LNG heavy vehicle (such as a bus or truck) is 25% cheaper and 8% more fuel efficient than diesel, and the carbon emissions are around 30% less.

Converting to running trucks off electric batteries is not feasible in South Africa, in our view. The energy density in a battery is not sufficient to be able to run trucks on the road under South African conditions where they would run for 10-14 hours a day carrying combination payloads of 50 tons. This cannot be achieved with a BEV and furthermore the electricity grid is too constrained and unreliable. The only other clean option is hydrogen, but this will require large quantities of platinum per truck for South Africa's payloads, which would be cost prohibitive, as would be the cost of producing the green hydrogen, again given the lack of low-cost reliable power.

Utilising LNG has further enhanced benefits for vehicles with refrigeration. Renergen has developed a zero-emission solution for the cold chain logistics industry deploying LNG. The innovative concept utilises the fact that LNG is stored at ultra-low temperatures in the truck's tank and must be brought to room temperature before being consumed in the engine. In heating the gas, the cold energy of the gas is transferred to the refrigeration compartment of the trailer, providing free cooling and reducing combined greenhouse gas emissions by up to 96t p.a. per truck. The added benefit is reducing running costs by up to 23% compared to the total fuel bill for a truck using standard refrigeration technology.

There is a substantial South African truck fuel market that Renergen is seeking to tap consisting of 400k heavy duty trucks. Renergen's own trials in 2017 on dual fuel trucks (diesel-CNG) showed a 13-14% improvement in consumption and 25-26% reduction in direct fuel costs over diesel-only vehicles. Market estimates suggest ~50,000 trucks could potentially convert to LNG over the next 10 years. 1mmcf/d of gas produced supplies ~250 trucks. Phase 1 will see the supply of fuel for ~450 trucks, which means that supply is unlikely to outstrip demand.

LNG routes planned for trucks



Source: Renergen

The picture above shows the road network Renergen is targeting. Phase One will only have sufficient fuel for Renergen to be able to supply the N3 route, which joins Johannesburg (the main economic hub) and Durban (the country's largest port). Data indicate that there are ~11,000 trucks each day in each direction so Renergen will start with filling stations in Johannesburg and Durban. Renergen has an agreement for the joint marketing of LNG with one of the world's largest LNG companies, TOTAL Energies. Renergen will distribute its LNG at two major TOTAL sites along the N3 highway between Johannesburg and Durban. Renergen will retain its branding on the pumps and vertical storage columns

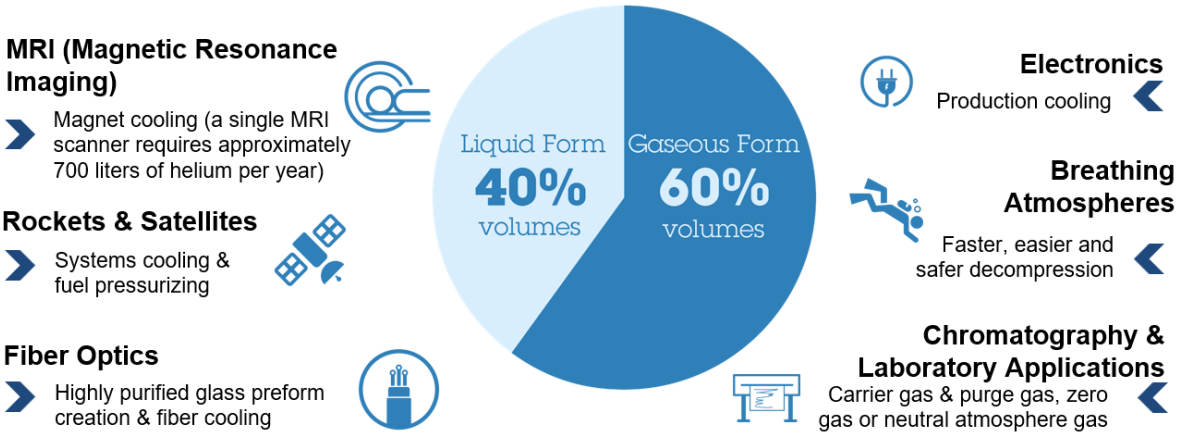
In Phase 2 when Renergen has sufficient capacity it will then look to put additional filling stations to service the N1, N5, N6 and N2 highways serving all of the intercity routes, where LNG is ideal.

Helium market overview

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 the US, 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 and semiconductor chip manufacturing. More recent uses include hybrid air vehicles, helium filled hard drives, nuclear fusion technology and Renergen's Cryo-Vacc transportation solution.

Uses of gaseous versus liquid helium



NB: there are several other sectors for which Helium is a key molecule: leisure (balloons), airbags, welding…

Source: Air Liquide

Helium market size and opportunities? The helium market is around 6bcf/y. Based on our upstream price assumption of US$250/mcf it is worth around US$1.5bn pa 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 MRI/NMR machines at 20% of demand; around 15% each for the lifting, scientific and semiconductors categories; around 8-9% for both welding and fibre optics; and 5% or less for leak detection, space and diving.

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). Our base case price estimate of US$250/mcf is the equivalent of US$7/l or US$53/kg.

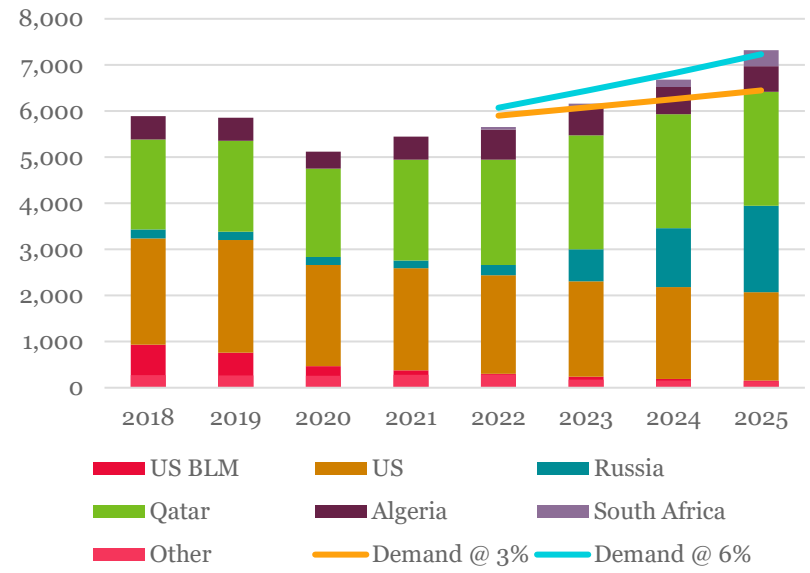
Who are the main players? There are numerous players involved in the helium market but just a handful of companies control the majority of supply and distribution. For example, on the supply side, Qatargas, the US Government (through its strategic storage), Sonatrach in Algeria and Exxon produce the majority of supply and will be joined by Gazprom as 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 now around 20 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. Renergen stands out from the peer group as having started looking for helium many years earlier and is the only listed company we believe to have certified 2P helium reserves.

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%. Globally, South Africa has emerged as 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? We expect that helium supply will grow at a CAGR of around 7% over the next five years 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 operational/geopolitical disruptions from existing projects. The biggest increment to supply from Russia (adding 2bcf/d) appears to be severely delayed given two separate fires, meaning that the market will remain tight and undersupplied in 2022. Furthermore, a significant amount of the Russian volumes may be designated for storage once the facility comes on line.

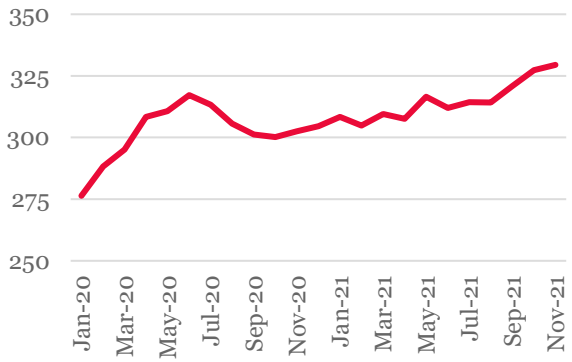
We expect that helium demand will grow in a range of 3-6% *p.a.*, which suggests that some of the current tightness may be eased if supply growth meets expectations. However in 2022, demand will likely be determined by the supply availability given the lack of the expected Russian volumes. If there is 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.

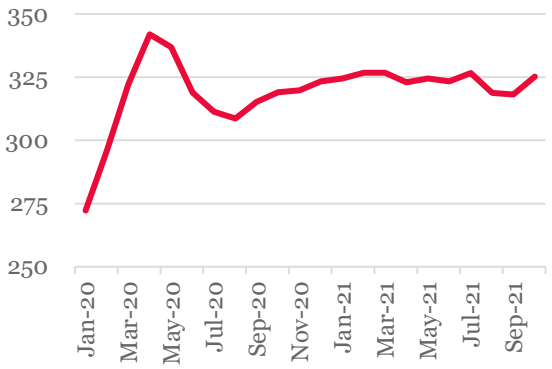
What is current helium pricing? We see recent pricing at around US$250-300/mcf for producers. For example, imports from the biggest exporter Qatar are priced on average at around US$300-325/mcf, which implies that Qatar is

exporting at around US$250/mcf when transportation costs are removed. To put these prices in context, some end users such as universities have been paying >$1,000/mcf.

3-month rolling average helium pricing based on importers data from Qatar, $/mcf



3-month rolling average helium pricing based on importers data from Australia, $/mcf



Source: AKAP Energy estimates

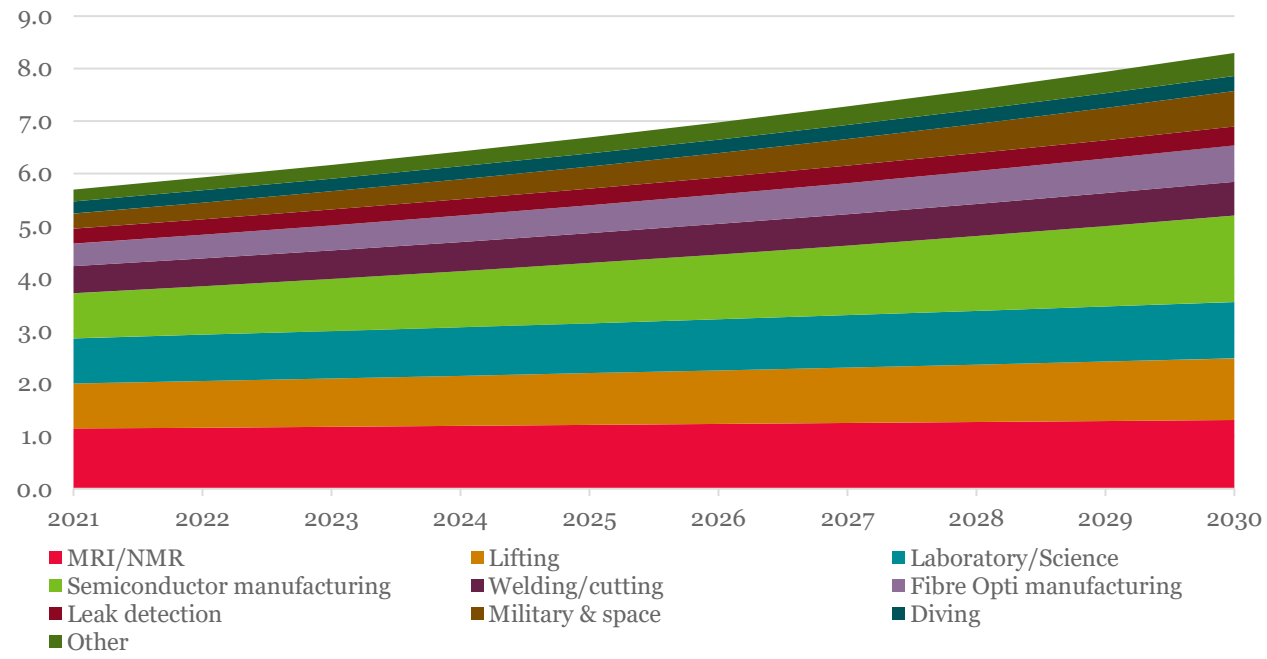
What is the outlook for helium prices? Our base case helium price forecast on an ex-plant basis for Grade A liquid helium is US$250/mcf. While this is significantly lower than some of the prices seen over the last few years, we believe this to be a suitably conservative price to factor in the potential oversupply situation for a couple of years from 2024 until this is digested by the market. We have modelled out various helium developments and see a breakeven helium price of ~US$100-150/mcf required to generate a double-digit IRR. This is based on a relatively high percentage of helium in the gas produced (such as Renergen's) so other projects may have higher break-evens. The cash cost of production is estimated at US$20/mcf.

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. Both are supergiant fields where production can be maintained for decades to come (with further growth in the case of Qatar). 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 still accounted for around 8% of supply in 2020 (~450mmcf/y) but this is expected to fall sharply over the coming years as storage is gradually depleted.

What is the supply outlook for helium? We expect that helium supply will grow at a CAGR of around 7% over the next 5 years 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 2020 helium supply (including production out of storage) was 5.7bcf.

What is the outlook for helium demand? Our bottom-up estimates result in an overall CAGR of 4% over the forecast period, with demand growing from 5.7bcf/y in 2021 to 8.2bcf/y in 2030. We see major growth potential for helium in space travel, near space travel in balloons, semiconductors and other electronics applications. The future growth of helium is expected to be driven by demand from electronics manufacturers in Asia. Semi-conductor, flat-panel display, and optical fibre manufacturing are all significant consumers of helium in Asian markets. 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.

Forecast helium consumption by industry 2021-2030E, bcf/y

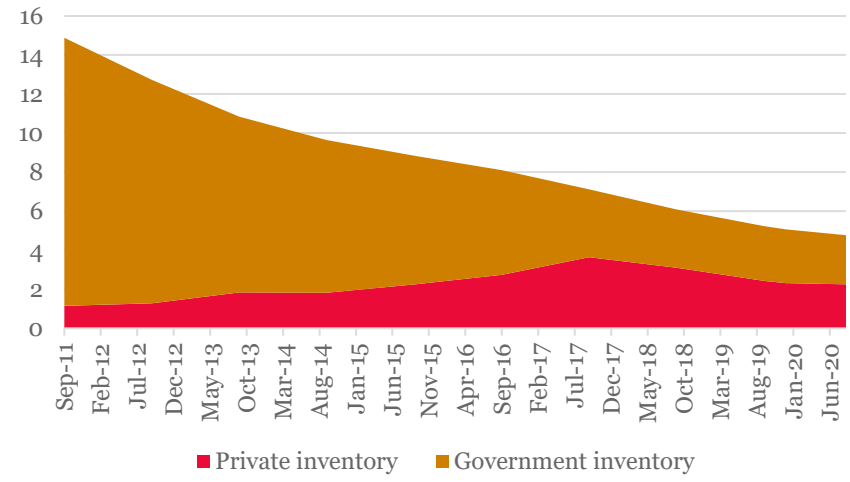


Source: Akap Energy estimates

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 also due to technology growth industries for helium such semi-conductors 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 lack of a domestic helium industry.

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 most 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 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 on to the market, we believe demand would likely come out of the woodwork.

US BLM inventories 2011-2020, bcf



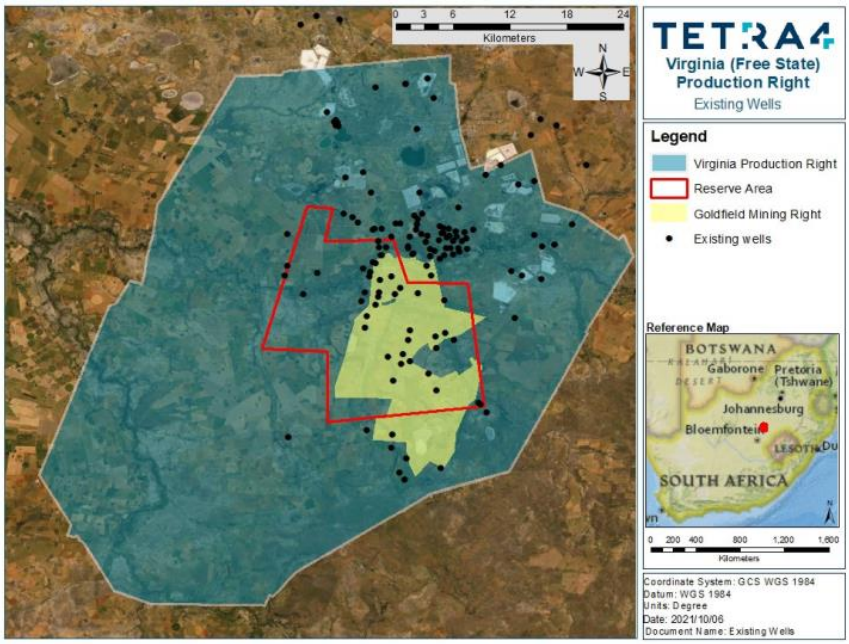
Source: BLM, Akap Energy estimates

What does global storage look like for helium? The main site for storage of helium and the only real buffer for the helium market is the US BLM Government storage facilities. There is minor storage elsewhere (e.g. Air Liquide has a site in Germany) but this is small in the scheme of things and there are plans to add new storage in the US. However, we would not be surprised if some of the large producers (e.g. Russia) or large buyers (e.g. China) would look to build 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. We believe that the dramatic fall in the production capacity and the total reserves in the BLM storage should ensure a structurally higher price for helium in the future. 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, and public markets listed pure-play helium companies have seen strong share price performance, plus there were over 10 helium companies raising equity or IPOing last year. There have been significant asset-based lending transactions (e.g. Nasco raised $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.

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 focused investors. Producing helium as a standalone product rather than as a by-product of natural gas production is another benefit.

Virginia Gas Project



The Virginia Gas Project is located 250km southwest of Johannesburg and consists of 187,000ha of production rights across Welkom, Virginia and Theunissen, in the Free State. It has significant reserves of helium and natural gas. The gas composition is attractive for separating out helium as it contains no H2S, H2 or neon and low levels of CO2. Renergen has a production licence until 2042 with an option to extend this by a further 30 years. The fiscal terms are attractive with a 5% Government royalty and a further 1% royalty on certain wells within the Goldfields mining leases. The tax rate is 28% with favourable accelerated depreciation on inflated capex.

Gas emitting boreholes ("blowers") that lie on the production licence have been identified from mineral exploration activities and several have been flowing at relatively high rates for decades. Currently, there are 12 wells that are production-ready, 18 wells capable of producing gas and 28 that have produced gas in the past and are presently capped.

The expansion of the Virginia Gas Project will occur in stages:

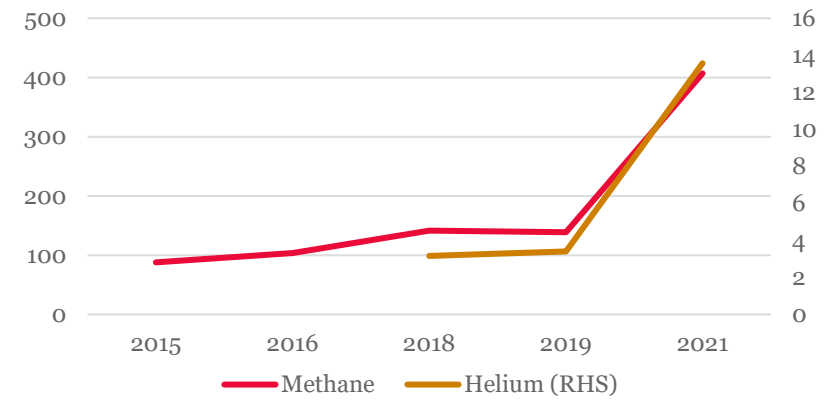
- **Pilot** – The pilot phase was launched in 2018 and has seen Renergen sell CNG from the existing wells to transportation companies. This has proven the viability of production from the wells.

- **Phase 1** – This is fully funded from existing cash reserves and a loan of US$40mm from the Development Finance Corporation of the United States. Phase 1 of the gas project is expected to have initial volumes of nearly 350kg/d (74mcf/d) of helium and 2,500GJ/d (2.5mmcf/d) of LNG. Production is expected to commence in April.

- **Phase 2 and onwards** – The estimated capex for Phase 2 is ~US$900mm and will involve producing ~15x more gas than in Phase 1. Renergen has signed up Saipem, EPCM Holdings and Sproule for the second phase. FID for this phase is to be taken later this year.

Reserves

Reserves movement over time (bcf)

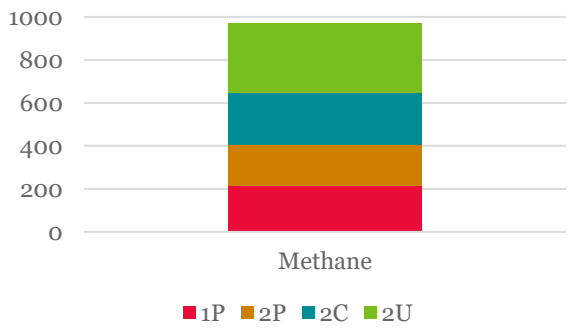


Source: Renergen

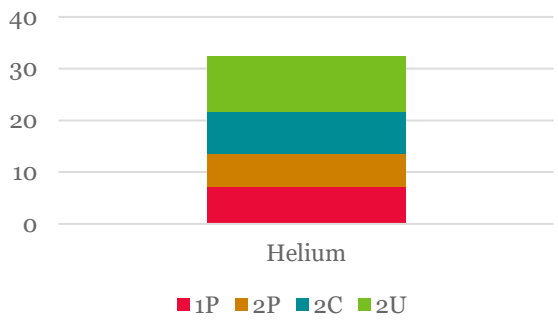
Renergen has 2P methane reserves of 407bcf (68mmboe of oil equivalent) and 2P helium reserves of 13.6bcf (the equivalent of over 2 years of global helium demand). There are further contingent resources (2c) of 241bcf of methane and 8bcf of helium and unrisked prospective resources (2U) of 321bcf of methane and 10.7bcf of helium. With the size of the resource, we do not see any resource constraints but Renergen will likely be constrained by the share of the market it can access, especially for helium.

Since the last reserves report in 2019, the methane reserves grew by ~200% and helium reserves by 300% as a result of including the impact of slant wells and more advanced subsurface modelling to allow estimation of the gas in place. Renergen has demonstrated the ability to drill and complete slant wells, greatly increasing confidence in the gas production volumes anticipated in the current development programme.

Methane reserves and resources (bcf)



Helium reserves and resources (bcf)

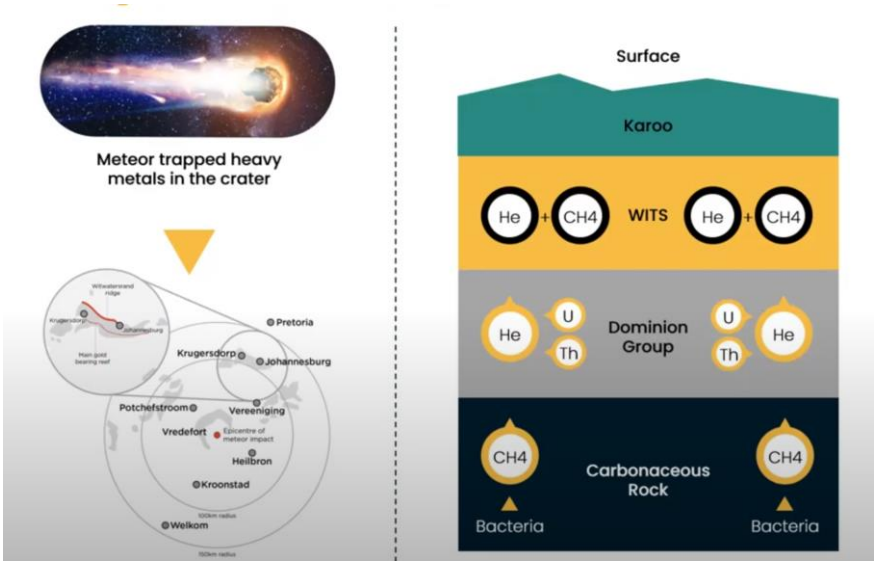


Source: Renergen

Unique geology creates a unique opportunity

This is a unique project as it does not contain a traditional reservoir: *i.e.* there is no shale, nor porous rocks such as sandstones. The gas comes up through faults and fissures originating from deep below. The gas is renewable as the methane is emanating from bacteria digesting carbonaceous rock, which then makes its way to the surface.

History



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. Over a very long period rain caused soil erosion and all of these precious metals were being washed into the sea and would almost completely have disappeared off the Southern African continent.

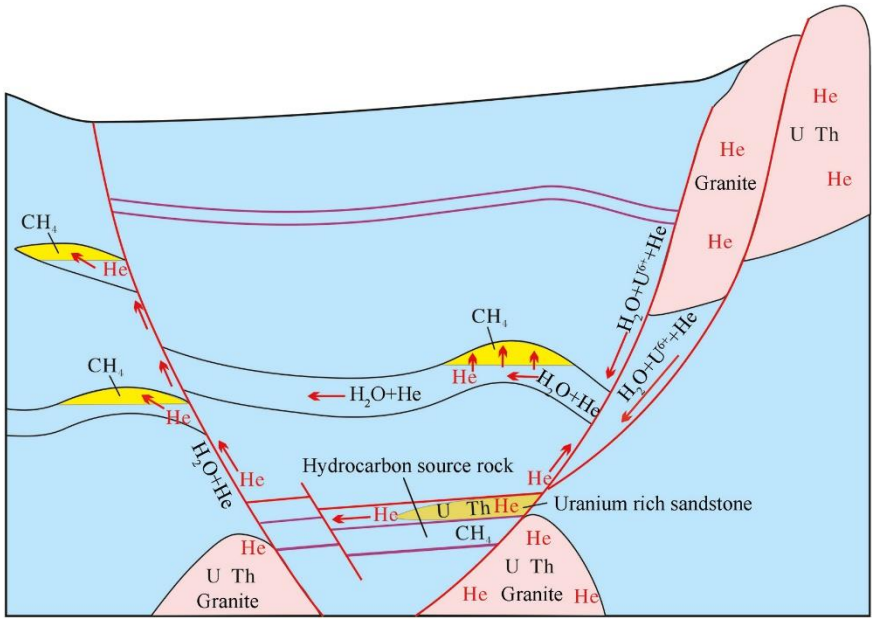
Around 2bn years ago the earth was struck by an enormous asteroid, which has left the Vredefort Crater, the largest known to mankind on the planet and at the same time that cyanobacteria and stromatolites appeared on earth. More importantly, the crater created a structure on the surface like a fruit 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 around Renergen's field 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 where Renergen's acreage lies.

Helium accumulation model



Source: https://www.sciencedirect.com/science/article/pii/S2468256X1830004X

The region in the Virginia area of 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 Virginia Project 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.

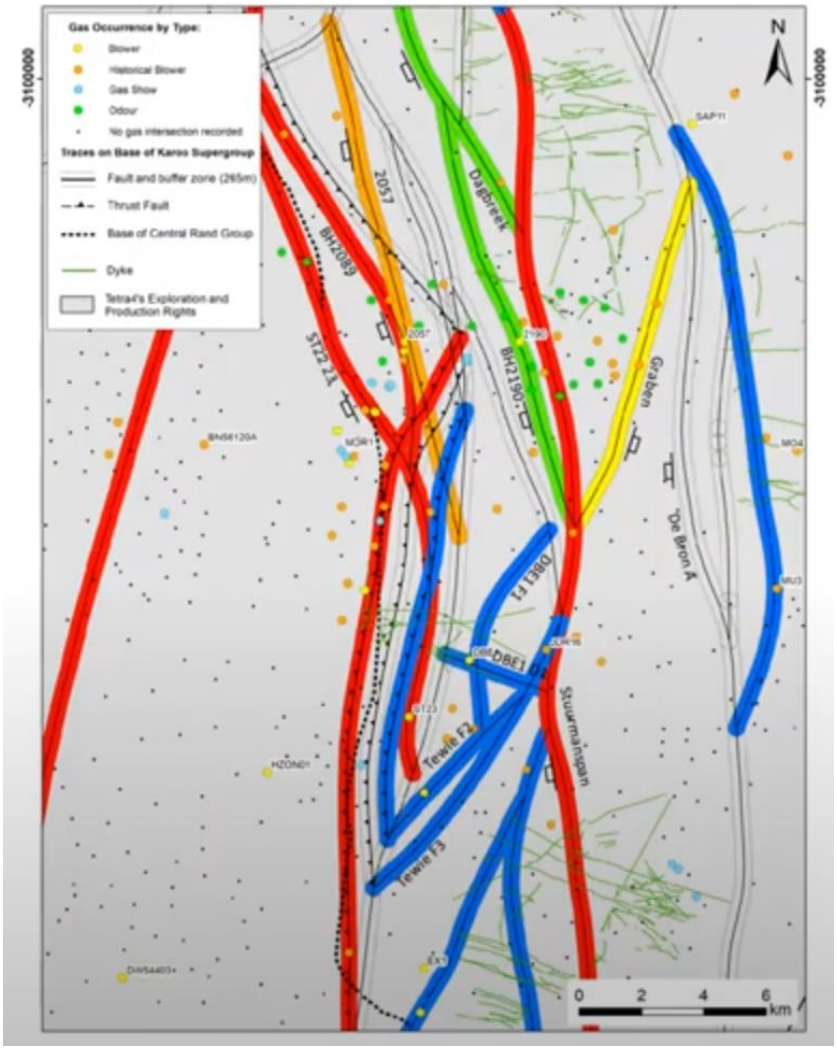
This has been proved by carbon dating the methane, which showed Renergen's gas has a large proportion less than several decades old, compared to conventional gas deposit where the gas would normally would be between 100 and 500 million years old. This in turn implies the gas is regenerating, and was 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 Renergen's 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%. Renergen has between 2-12% helium in its wells meaning it has some of the highest helium concentrations globally.

Helium was first discovered during gold mining operations in the heavy mineral-rich sandstone beds of the Witwatersrand Supergroup strata. The helium is either mantle-derived or from the decay of radioactive minerals within the crust which moves up through large faults and mixes with the methane in the deep subsurface.

There are at least 136 historic wells within the production area and 68 of them produced gas in the past, 18 are currently capable of producing gas (blowers), 29 have odours, and 28 are dormant. Exploration drilling was carried out between 2008 and 2016 and four of these wells produced at good rates (HDR1, HZON1, 2057 and MDR5) of around 200-400mcf/d of gas with another couple of wells producing at low rates (HADV1 and HADV2).

Gas bearing faults and fissures



Source: Renergen

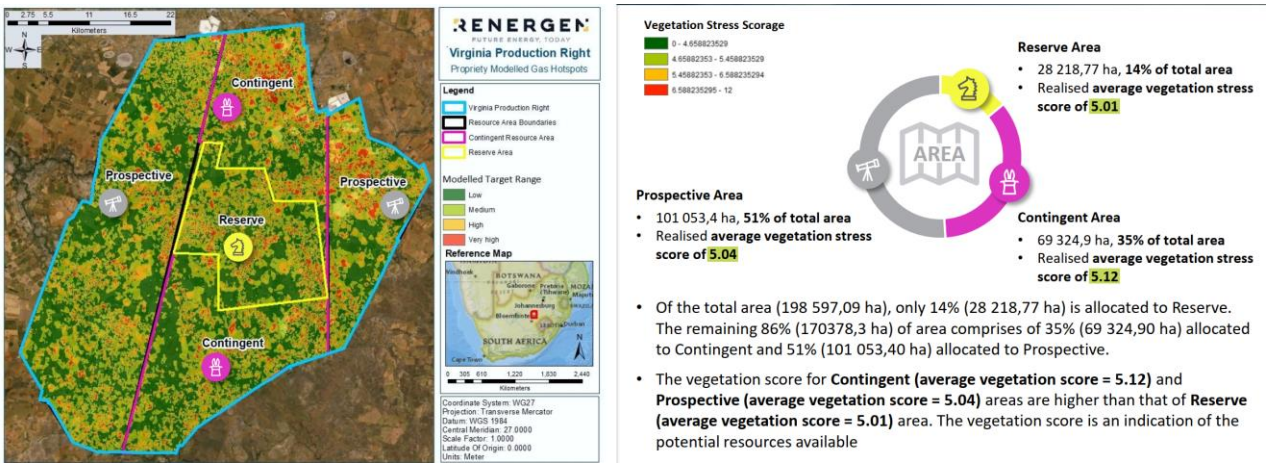
Renergen's geologists have mapped an underground 3D model of all known gas bearing faults and fissures identified thus far, as can be seen in the picture above. The two notable faults are the orange one in the middle 2057 and to the left is BH2089, which between them span~30km in length and both of which contain 12% helium. The rest have a helium content somewhere between 2-4%, which is still very high in a global context.

Renergen has mapped out the total length of these faults and has identified 900km of gas bearing fault lines across the field. The plan is to start drilling at 300m intervals and intersect all of these faults to create a network to bring up gas for Phase two.

There is anecdotal evidence of historic blowers within the Tetra4 license area producing methane gas for over forty years without any discernible pressure drop, however there are no quantified studies to date.

Drilling targets

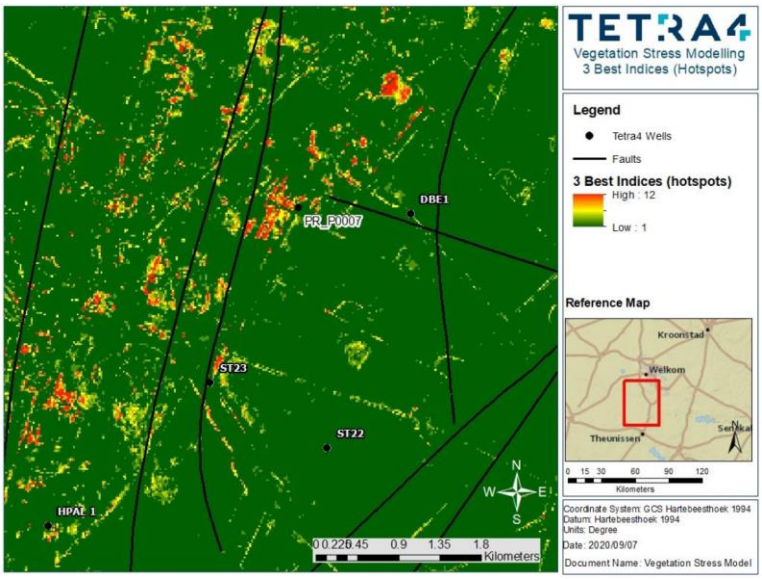
Drilling Target Modelling



Source: Renergen

Renergen's gas modelling suggests that its areas containing the contingent and prospective resources potentially have even higher resources than its area with booked reserves. This is because the vegetation stress score, an indication of the potential resources available is higher for these areas than the reserves area. It has allowed a lot of in-depth analysis in terms of identifying where the structures are, what the size of the reservoir is and delineating exactly what's going on underground, which was important for the reservoir engineers.

Drilling accuracy improved by proprietary algorithm



Source: Renergen

Renergen developed its own in-house proprietary software to help find where to drill, using a methodology of targeting known faults at high vegetation stress points. Renergen has found both producible methane and helium in every targeted location.

In Renergen's most recent drilling campaign, the wells were selected for the first time using a combination of modelled faults and fractures overlaid with a

sophisticated proprietary in-house algorithm. It used the algorithm to pinpoint drilling locations to improve its drilling success ratio, using methane detection combined with several other biological markers. The algorithm uses several non-invasive markers to predict drill targets. The image above is a close-up example of the algorithm: ST23 (drilled in 1982) and PR007 (drilled in 2021) are amongst the 2 best blowers. 007 was selected using the algorithm, with almost no human oversight. Five out of the six well drilling programme were successful, higher than the historical success rate of just over 50%. The one unsuccessful well was not selected using the algorithm.

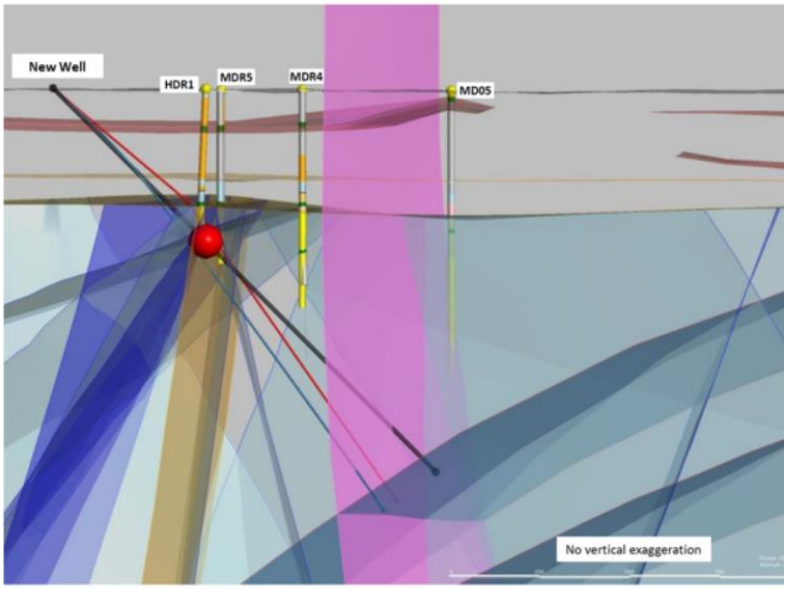
Drilling techniques

The low pressure nature of the Virginia Gas Project has allowed simple drilling techniques such as percussion drilling and diamond coring to a target depth of 400 metres to 750 metres below the surface without the need to stimulate wells further.

Incline wells are planned to be drilled at a 45 degree angle to the vertical. A vertical can be successful if it hits or is close to a fault. However, with an incline well there is the chance to hit multiple faults increasing both the chance of success but also the potential flow rates per well, meaning fewer wells are needed to develop the field.

Renergen has recently begun developing the Virginia Gas Field with “slant wells”. In the 2P case a 260mcf/d production rate is assumed with a two-month plateau and then a 5% annual decline rate. The figure below illustrates the first inclined well as planned, as well as the fractures the well was targeted to intersect. The black diagonal line represents the well, with the red and blue lines showing the simulated worst-case deviations to ensure maximum exposure to the fractures (represented by the 2D planes).

Slant well illustration



Source: Renergen

Wells drilled to date

Molopo originally evaluated 12 wells in 2008 and drilled a further 3 wells in 2009. All Molopo's historic wells were gold mining wells. For example, HDR1 has been supplying gas to the gas plants since 2016. After Renergen took over, 4 wells were drilled in 2016 (MDR1, MDR4, MDR5 and 2057) and in 2017 it reworked an older well (2190) that had resumed flowing gas. In 2018, T4WN01, was drilled to test a shallow conventional sandstone play. A further 12 wells were added to the reserves evaluation in 2019. As of 1st September 2021, there were 2 producing wells and 23 non-producing wells (Proved Developed Non-Producing or PDNP). The well that discovered 12% helium was by accident drilling a horizontal well into a sand trap discovered some time ago.

MDR1 (legacy well) – The MDR1 well is a legacy well ~300m from a known gas-productive fracture and previously cased to the base of the Karoo sediments. It was spudded in August 2020 and re-entered with a directional drilling unit. The well intersected a gas-bearing fault and began producing at 80mcf/d, increased to 230mcf/d and is expected to stabilise at 200mcf/d. The helium concentration is estimated to be 3.4%. It is less than 600m from the plant meaning a quick and easy tie-in. The well is only 300m from another gas-producing well (MDR5), which gives confidence that there is not interference between them affecting individual productivity. MDR1 was tested for 2 weeks from late June 2021 and average gas production was 194mcf/d with no water production.

P007 (exploration well) – This exploration well, was drilled to help RLT assess gas and helium resources and increase flow rates. It intersected a 6m thick gas-bearing fracture in March 2021, and has flowed at 200mcf/d (above 120mcf/d average of previous wells) and the helium concentration is very high at 4.4%. The well is outside of the reserves area, but near the gas-gathering system. The well cost was only ZAR2.7mm (US$170k). P007 was tested for 2 weeks from late June 2021 and average gas production was 136mcf/d with no water production.

R2D2 (legacy well, previously known as P2V2) – The P2V2 well was originally spudded in June 2020 and commenced prior to MDR1. The well had drilling delays, including the loss of bottom hole assembly in-hole in September 2020. RLT decided to drill P2V2 and renamed the well R2D2. Renergen spudded the inclined R2D2 well in May 2021. The C3PO well was subsequently drilled to the base of the Karoo whilst waiting for approvals to complete the R2D2 well and then the rig came back to R2D2 in September and reported results in November. The helium content was 1.9% (in line with expectations) and methane 90.8% with a gas production rate of 111mcf/d. The gas intersection was almost exactly on pre-drill prognosis, reaffirming Renergen's modelling of the predicted gas bearing structures. Since flow testing the well, no impact to HDR1 or MDR5 have been recorded so far, giving a strong indication that wells can be closely spaced without interference.

C3PO (exploration well)– C3PO struck gas, with a helium concentration of 1.7%, slightly above pre-drill expectations. The well, which was waterlogged to allow for the running of wireline logs, began producing over >30mcf/d. The well will be ready to connect to the pipeline by mid-February 2022.

P10 (exploration well) – The company will plug and abandon well P10, as it was non-commercial, although the data from the well will be used to refine drilling targets going forward.

P12 (exploration well) – The P12 well, which RLT had planned to plug and abandon, was observed to commence flowing gas (at low rates) in the days following rig release. The flow rate subsequently continued to increase to a flow rate >30mcf/d in July 2021. The measured helium concentration in the gas stream is 1.9%. Fractures intersected during drilling can drain the drilling fluid, and so it is common practice to use Lost Circulation Material, or LCM, to seal the fractures temporarily and allow water laden with drill cuttings to circulate back to the surface. When drilling is complete the LCM typically dries and shrinks; in the case of P12, it appears that it took the LCM over a week to shrink enough to allow gas to flow to surface. Although initially the flow was at very low rates, the rate had been steadily climbing.

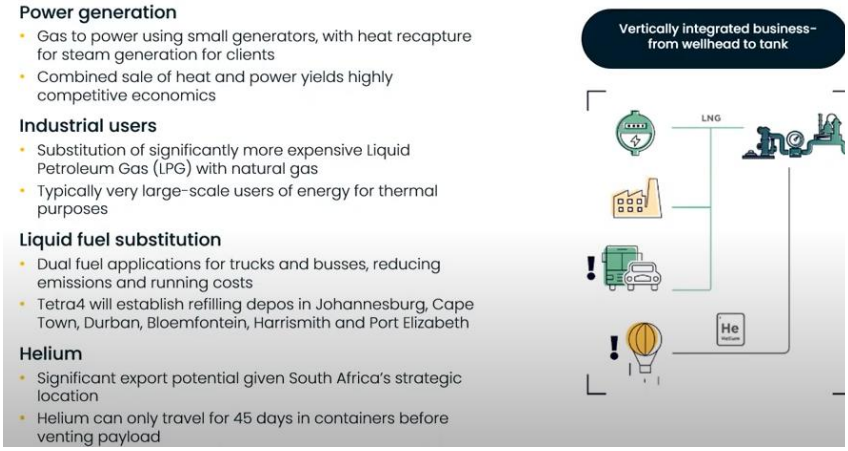
NEAHT4 (exploration well) – Renergen announced in December 2019 a well with 12% helium in the gas versus 3-4% on average in the rest of the field. This was a very significant discovery because unlike elsewhere on the field it represents a sandstone trap. So, there is a portion of the field which does have a reservoir that has been saturated with both helium and methane. Of note, given that the well was drilled horizontally, Renergen discovered there are two faults underneath the sandstone that have been feeding it with this gas. What was particularly interesting was that it discovered that the gas permeating up through the faults contains helium at a concentration of 12%.

Previously Renergen believed that the helium was dissociating from the methane with the sandstone acting as a lens, concentrating the helium because it floats and is lighter, pushing the methane down. That turned out not to be the case and what is critical is that the gas is coming up with a concentration of 12% already. The well in its peak of flow reached up to 0.85mmcf/d in initial testing but subsequently filled up with water requiring dewatering and possibly sealing off the water coming from the coal layer.

This has also given Renergen information for the future on how to drill these wells, where to target and where to case the well to prevent water coming in, meaning this was a successful exploration well on multiple fronts.

Renergen's gas markets

Four market segments for Renergen's gas production



Source: Renergen

On the natural gas side there are three main pillars to Renergen's business: power generation, substitution of LPG for industrial users and liquid fuel substitution for buses and trucks (South Africa has the 11th largest truck fleet in the world despite only the 33rd largest economy given an inefficient rail network).

Renergen's natural gas agreements

Renergen started a pilot project for the use of its gas as a substitute for diesel in buses and trucks. Renergen's initial agreement was to sell compressed natural gas to a bus company (Megabus) at a price indexed to diesel at a 22.5% discount. Renergen's current CNG volumes are priced at ~US$15–20/mcf, which historically has been a large premium to international prices.

Renergen will also target existing South African LPG users. This product is actively used in South African heavy industry and is priced at a significant premium to the expected price for the LNG. Customers can easily switch from LPG to LNG.

In 2018 a CNG and LNG offtake agreement was concluded with Anheuser-Busch InBev subsidiary, South African Breweries. In August 2021, Renergen concluded a 5-year LNG supply agreement with Consol Glass. The supply will start in April 2022 shortly after the commissioning of Phase 1 of the Virginia Gas Project. The supply volumes are expected to reach about 14 t/d or 0.7mmcf/d within three months from commencement, which represents 28% of LNG production from the facility.

LNG will also be sold to domestic consumers, primarily targeting the South African transport industry, in which it has established relationships with customers. Renergen will sell natural gas at a minimum 25% discount to diesel. Normally over 50% of a trucking company's costs are diesel, and, as a result, the saving from using gas instead of diesel could more than double the end user's net profit.

Strategic location for helium

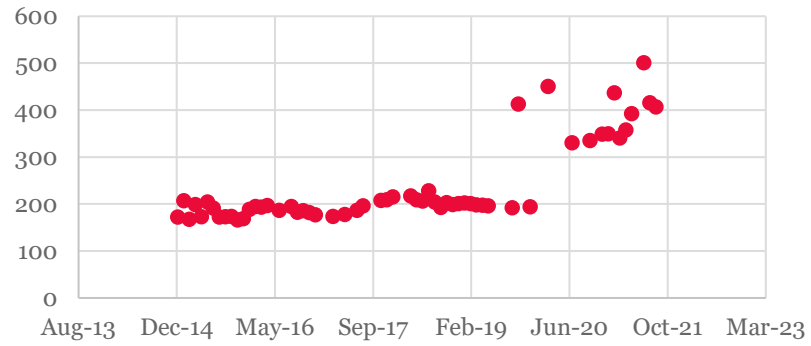
Renergen's location is well placed to access the global helium market demand centres. Every day that a container sits on a ship 1% of the original volume in it converts from liquid to gas. The liquid is more valuable than the gas so if you take a container with a hundred units of it and it arrives in the other side on day 44 then 56% will be liquid and 44% will be gas, which will have to be sold to the welding market or to the breathing gas market. Cape Town can reach all four corners of the globe in a short space of time. It can reach China in ~29 days, Japan in ~34, Europe in ~11, America in ~17 and South America ~14.

Renergen's helium agreements

For Phase 1, Renergen has a 10-year Gas Sales Agreement with Linde Global Helium (Linde) for the purchase of helium for $200/mcf escalating according to the US CPI index, which it entered into in May 2016. This contract was signed well before the last few years' tightness in the helium market and although still high enough to be profitable, we see it as well below current market pricing. The take-or-pay contract covers 80% of the plant's volume of 24mmcf per annum (65mcf/d) which equates to ~50mcf/d. The agreement also gave Linde "first look" rights for the subsequent Phase 2 project. The remainder of ~15mcf/d has been contracted to an undisclosed party at a significantly higher price. The overall blended sale price is >US$240/mcf, which should generate ~US$6mm in annual helium revenue once the plant has reached plateau production for Phase 1.

Renergen has so far completed sales agreements for approximately 65% of the 5t/d or 1mmcf/d planned for Phase 2 helium production. Having long-term off-take agreements in place with tier-one customers provides a strong foundation for Renergen when it enters discussions with lenders to approve project funding. The remainder of the helium will likely be sold on the spot market or exchanged for blockchain tokens.

Estimated Austrian helium import pricing ($/mcf)



Source: Akap Energy estimates

Renergen's first helium offtake agreement for Phase 2 was signed in April 2021 with iSi Automotive (Austrian airbag manufacturer) and was its first agreement to sell helium directly to an end-user. The deal is a 10-year offtake for 20 containers (20mmcf p.a.) or 55mcf/d at a fixed price (undisclosed) that will increase with CPI.

In August 2021, Renergen announce it had secured three take or pay agreements for periods of between 10 and 15 years, with Linde, Messer, and Helium24, for the supply of a further 550mcf/d (~200 ISO containers p.a.) of helium or two thirds of the planned capacity of the second phase of 1mmcf/d. These are fixed price

contracts that will escalate with US CPI. The contracts are expected to commence in Q3'23 and are conditional on completion of various development milestones.

CNG pilot production

Renergen started off with a pilot project in 2016 to compress gas to run a small fleet of buses to prove the concept to the South African logistics companies. This has been very successful to date with >3mm km travelled and has saved >3.5mm kg of CO2. Revenue was negatively impacted by the country-wide hard lockdown imposed by the South African government in financial year H1'21.

A compressed natural gas (CNG) plant was installed and commissioned in 2016, producing 0.2mmcf/d of gas from one well. The successful pilot plant contained compression station, mobile storage units and a dispensing station at the site of Tetra4's customer Megabus.

The gas plant has a very simple layout with water knock-out; low pressure compression, an absorption drying process; addition of an odour agent and then the high-pressure compression, metering and eventually to load the trucks, which then go off to the Megabus facility.

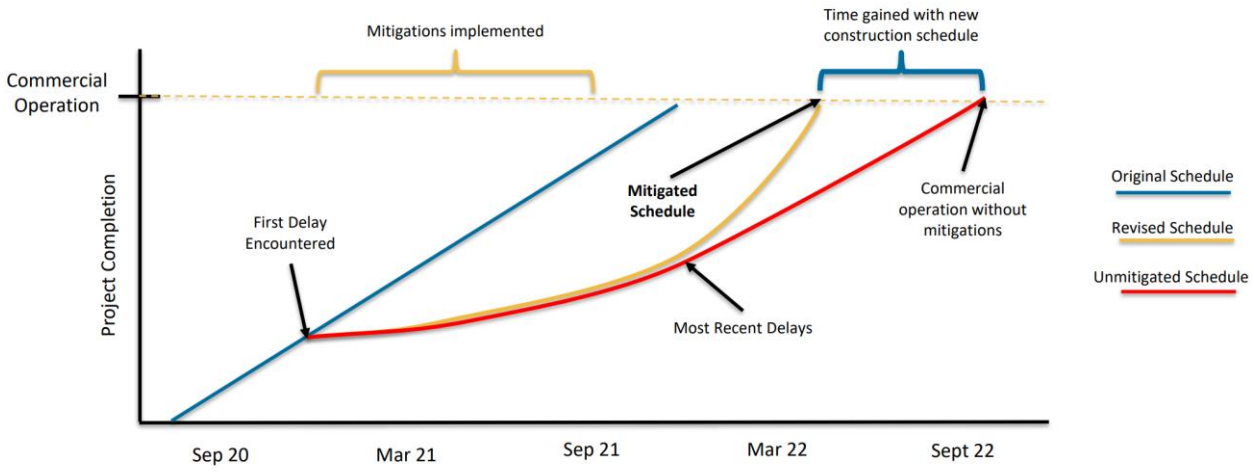
Phase 1: commercial pilot production

Renergen broke ground on the first stage of development of the Virginia gas project facilities in late 2019. The first phase development includes the construction and operation of a 52km gas gathering system and new liquefied natural gas (LNG) and helium liquefaction plants. There are 12 existing wells plus 5 new wells that are being prepared for production, that will be connected to the main gas pipeline on the N3 between Johannesburg and Durban. Renergen has built a low-pressure HDPE pipeline buried 2m underground taking the gas to one centralised point. The facility is designed to produce 2.7mmcf/d (2,700GJ/d or 50t/d) of LNG (which will fuel around 500 trucks) and 75mcf/d (350kg/d) of helium, which implies ~1 ISO container every 2 weeks of 99.999% purity helium. The plant's design is for 2.5% helium in the gas stream.

Renergen will be ramping up operations by building filling stations across the country on the major highways. 30% of Phase 1 LNG is being sold to heavy transport users: Renergen is pricing its LNG at a discount of 25% to the SA wholesale diesel price, which we estimate will be US$16.5/mcf. The other 70% is going to industrial users to replace LPG. It has signed a deal with Consol to sell 0.7mmcf/d of gas linked to the price of LPG. 80% of Phase 1's helium is sold under the Linde contract at US$200/mcf and inflated at 2.5% per annum as per the contract. The remaining 20% is priced at 'market' rates which we have assumed to be US$350/mcf.

The liquefier for phase one is coming from a company called Western Cryogenic, which is a Chinese company owned by an American citizen who was the head of cryogenics for NASA before becoming America's chief scientist at the Brookhaven National Laboratory in New York. He is the world's foremost expert on cryogenics. The estimated cost for the methane plant is US$8mm and US$3mm for the helium plant.

Timeline before and after mitigations



Source: Renergen

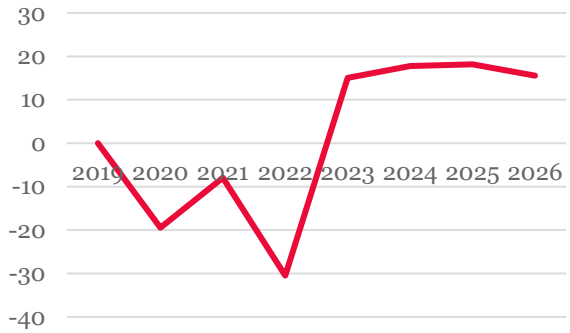
Site establishment for the construction of the pipeline by EPCM Bonisana was achieved in December 2019. Renergen completed the construction of the gas gathering pipeline in Q2'21. Temporary power generators and the permanent substation were installed and connected around the end of August. The facility was originally due to start commissioning by May 2021 and liquid production in August. There was an initial 6 month slippage of hot commissioning to December 2021 due to COVID.

At the end of 2021, given the Omicron wave of COVID, adverse weather and shipping delays, there was a further one month delay. As the chart above shows, Renergen was able to mitigate most of the issues and prevented a much larger delay to start-up.

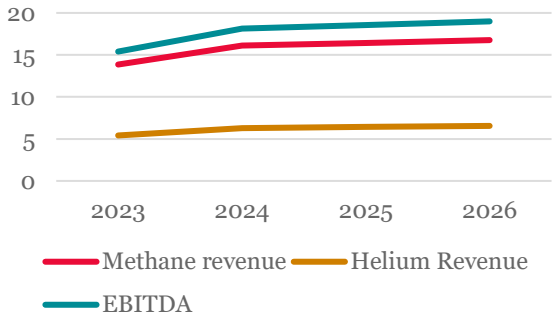
Gas to plant (hot commissioning) commenced in January, the process of cooling down the plant then follows (LNG is very cold and liquid helium is even colder) and in February Renergen will be filling tanks and storage vessels. Commercial operations are expected to start-up in April. The main risks to start-up are COVID and further, worse than expected, weather delays. The plant is likely to start at 50-60% of capacity for the first few months before ramping up to full capacity.

Economics

FCF (US$mm)



Revenue and EBITDA (US$mm)



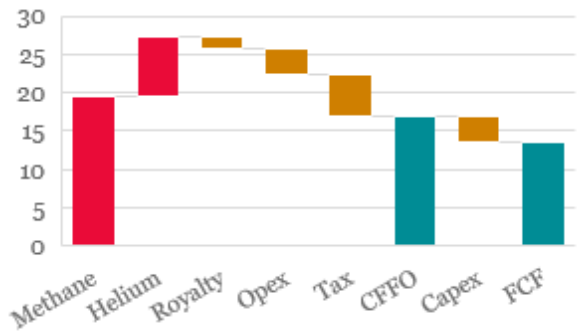
Source: H&P estimates

We estimate that the total cost of the first stage of the project is around ZAR1bn (~US$60mm). If the project produces out to 2042 on a flat basis it should produce ~20bcf of methane and 0.5bcf of helium over the life of the project. We assume that two wells per annum are drilled to keep production flat at an annual cost of around US$0.5mm.

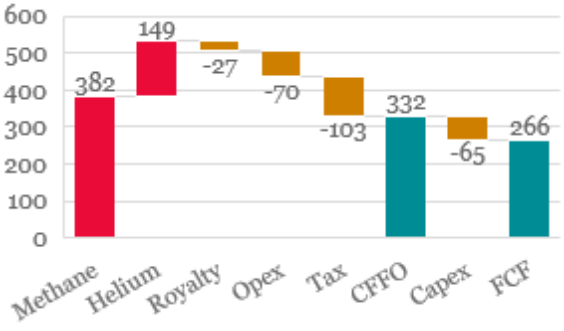
We assume a base natural gas price of R160/mcf or US$16.5/mcf and a helium price of US$237/mcf both of which are inflated at 2% per annum. At plateau production this should generate US$22mm in revenue of which ~70% is coming from methane and the remainder from helium. We estimate EBITDA of US$18mm after royalties and opex. The major operating costs are power (a function of the volumes produced) and personnel. The electricity cost is estimated to be R0.9/KWh or US6c/KWh.

Renergen has a R300mm tax shield for Phase 1. There is also a benefit from accelerated depreciation of 200% on drilling expenditure and 150% on midstream. Although this is only a pilot project, we estimate an IRR of 20%. On a point forward basis we see an NPV12 of US$122mm.

Cash flow build up ($/mcf of total gas)



Cash flow build up (US$mm)



Source: H&P estimates

Phase 2

Phase 2 was initially planned to be 3x larger than Phase 1 but given the strong drilling performance and reserves upgrades, it is now looking to produce ~15x more gas. Phase 2 will entail a total of 297 wells being drilled along the main faults and dykes throughout the production licence. It is anticipated that Renergen will build up to 44mmcf/d of total gas production at full capacity. Renergen is planning to bring Phase 2 online in 2024 and we estimate total capex to be US$900mm. This is significantly more expensive than the pilot project but it comes with large economies of scale. The pipeline cost is estimated at US$160mm and the processing facilities at US$350mm plus a further US$120mm for drilling and completion of the wells. Renergen is actively engaging with lenders to finance the project. FID was originally planned for 2021 and first production for end-2023, however FID has slipped into 2022 with first production now expected in 2024/25 financial year.

The liquefiers (a single package with both LNG and helium liquefiers) selected by Tetra4 have an inlet capacity of 44mmcf/d. It is anticipated that there will be methane production of 40mmcf/d of which 2mmcf/d will be used up and this will leave 38mmcf/d of raw methane for sale. The target for Phase 2 is to ramp up helium production to 5t/d or 1mmcf/d or potentially around 10% of global demand assuming that 1.5% of the gas is helium with the possibility of 10t/d or 2mmcf/d at higher helium concentrations. Renergen expects that 26mmcf/d of LNG will be produced and 14mmcf/d will go towards power generation: Renergen will lease 60MW power generation facilities and sell 36MW of power and retain 24MW for its own use.

Eskom (South Africa's state electricity company) needs to continue to push through price hikes to support its weak balance sheet (electricity prices have more than doubled in real terms over the five-year period between 2008 and 2013). Renergen management has indicated that at current electricity prices plus increases of around CPI +4%, the Company could get a better return from the power sector in as little as three to four years' time as it could get from the truck market.

Renergen has already signed up Saipem, EPCM Holdings and Sproule for the design stage of Phase 2.

- Saipem was awarded the front-end engineering design (FEED) study for LNG/LHE and Balance of plant which was completed on 30th September.
- EPCM Holding has carried out a FEED study for gas gathering.
- Sproule (formerly MHA) has completed an updated reserves report. Since the last reserves report in 2019, the methane reserves grew by ~200% and helium reserves by 300% firmly supporting the Phase 2 project.

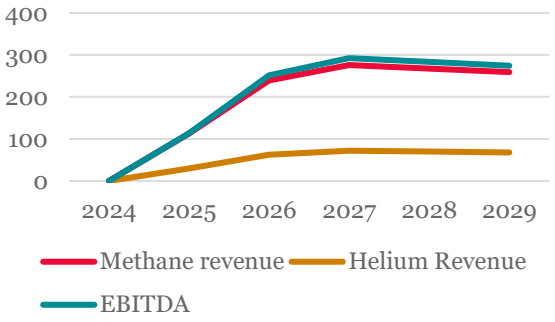
It has already contracted 65% of the plant's original capacity of 1mmcf/d of helium to a combination of the large industrial gas companies Linde and Messer as well as selling to a smaller distributor in Russia, Helium 24 and also doing a deal with an end-user of helium in Austria, which is an airbag manufacturer called ISI Austria. The remaining is left open for token sales and spot market sales.

Economics

FCF (US$mm)

Source: H&P estimates

Revenue and EBITDA (US$mm)

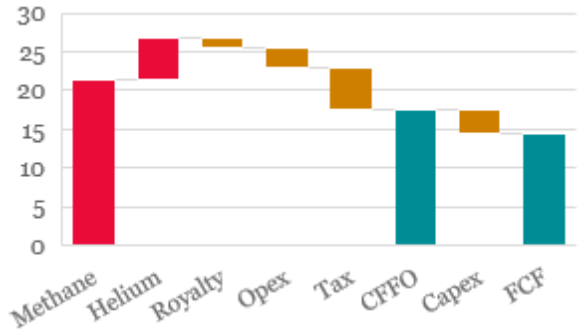


We have modelled out Phase 2, assuming FID is taken later this year. Total capex works out to around US$3/mcf of total gas recovered. We assume that production will start in 2024 and ramping up to around full capacity by 2026. At plateau we see the field generating around US$300mm of EBITDA.

On a unit basis we see Renergen generating in total >US$25/mcf of gas produced with low operating costs and taxes meaning that the life of field cash flow from operations is over US$15/mcf.

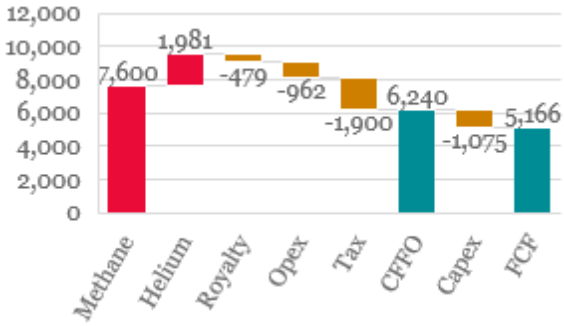
In absolute terms we see the project generating close to US$10bn in revenue with total free cash flow generated of >US$5bn. This is with Renergen contributing >US$2bn in taxes and royalties to the SA Government.

Cash flow build up ($/mcf of total gas)



Source: H&P estimates

Cash flow build up (US$mm)



Sensitivities

The tables below show the sensitivity of our unrisked value of Phase 2 to helium prices, LNG prices, discount rates and the helium concentration in the gas. Our base case NPV10 is US$563mm with an IRR of >25%.

		Helium Price ($/mcf)				
		$150	$200	$250	$300	$350
Discount rate	8%	987	1,070	1,153	1,235	1,317
	10%	646	711	775	839	904
	12%	402	454	505	555	606
	14%	225	267	308	349	390
	16%	96	130	163	197	230

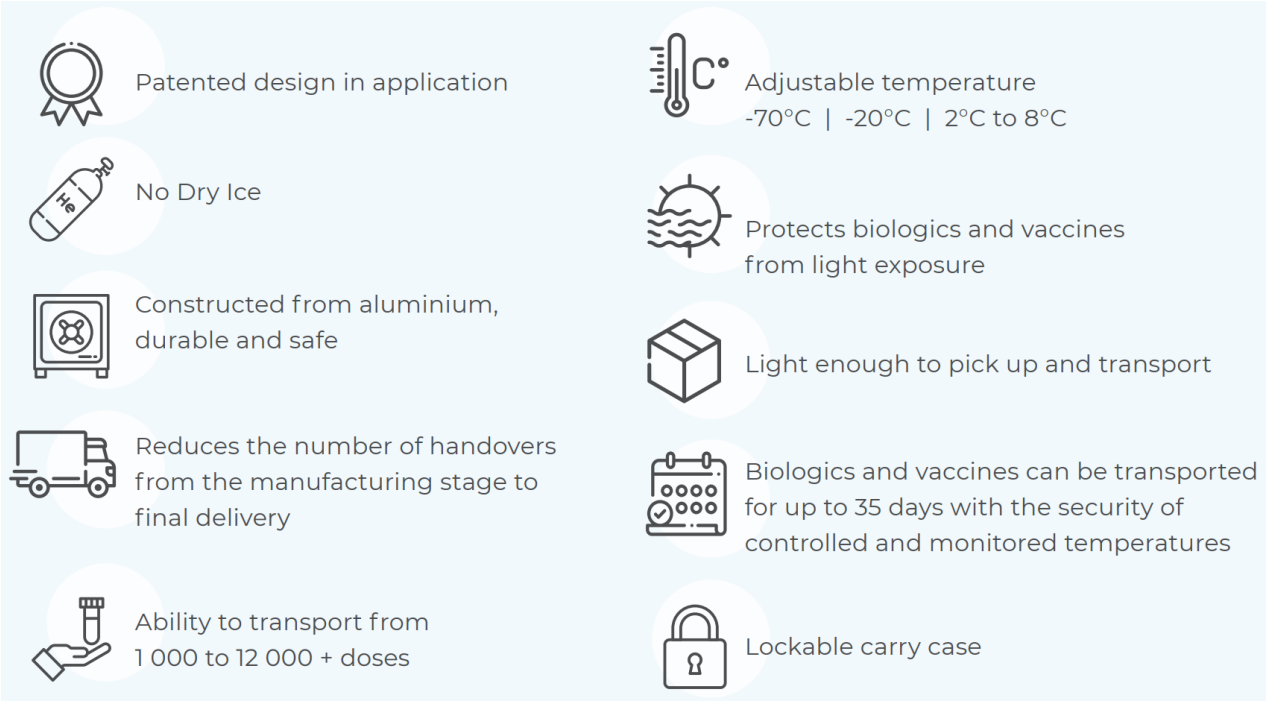
		LNG price ($/mcf)				
		$11.5	$14.0	$16.5	$19.0	$21.5
Discount rate	8%	669	912	1,153	1,392	1,631
	10%	398	587	775	962	1,148
	12%	204	355	505	652	800
	14%	65	187	308	427	545
	16%	-36	65	163	260	357

		Helium Price ($/mcf)				
		$150	$200	$250	$300	$350
Helium %	0.5%	299	316	333	350	368
	1.0%	350	385	419	454	488
	1.5%	402	454	505	555	606
	2.5%	505	589	674	759	842
	3.5%	606	725	842	959	1,076

Source: H&P estimates

Cryo-Vacc

The advantages of the Cryo-Vacc solution



Source: Renergen

Along with upstream energy operations, at the end of 2020, Renergen designed and patented a vaccine storage solution which simplifies the process of transport and storage of ultracold biologics such as immunisations. Cryo-Vacc™ is a case that keeps vaccines ultra-low temperatures for significantly longer than existing technology, without the need for a power supply during transportation, allowing them to travel for longer and reach more remote areas. The COVID-19 vaccine amongst others requires strict and consistent temperature-controlled packaging during transportation.

The zero-emission solution does not need electrical power, instead using helium or nitrogen. It has 2.4x more cooling power than dry-ice with temperature control from -70°C to +8°C. Nitrogen and helium can be transported by road, air and sea. Where air transport is required, helium is used due to weight advantages. Liquid helium can be boiled and released consistently for a month, providing the cold temperature.

Renergen has already filed for the patent rights to its design and is now calling on collaborators to use the solution, such as for Pfizer's COVID-19 jab. From developing the concept on 4th of December 2020, Renergen had a working prototype entering clinical validation just after mid-March 2021, delivering significant progress in a very short space of time. The completion and successful operation of the company's first prototype were announced on 21st February 2021. Renergen announced it has entered into an agreement for the manufacturing sale of the 1st 110 Cryo-Vacc™ cases to DPD Laser. This agreement signifies that the technology works and it demonstrates Renergen's ability to think out of the box, innovate and build-out scalable solutions that will ultimately complement its core business offering.

The Cryo-Vacc has two versions specifically created for Pfizer and J&J vaccines and hold 14,000 doses. The current set-up will allow production of up to 500 to 1,000 units per month. Depending on where the helium is sourced from, the operating cost of the device should be under US$0.07 per dose per day for the smallest device.

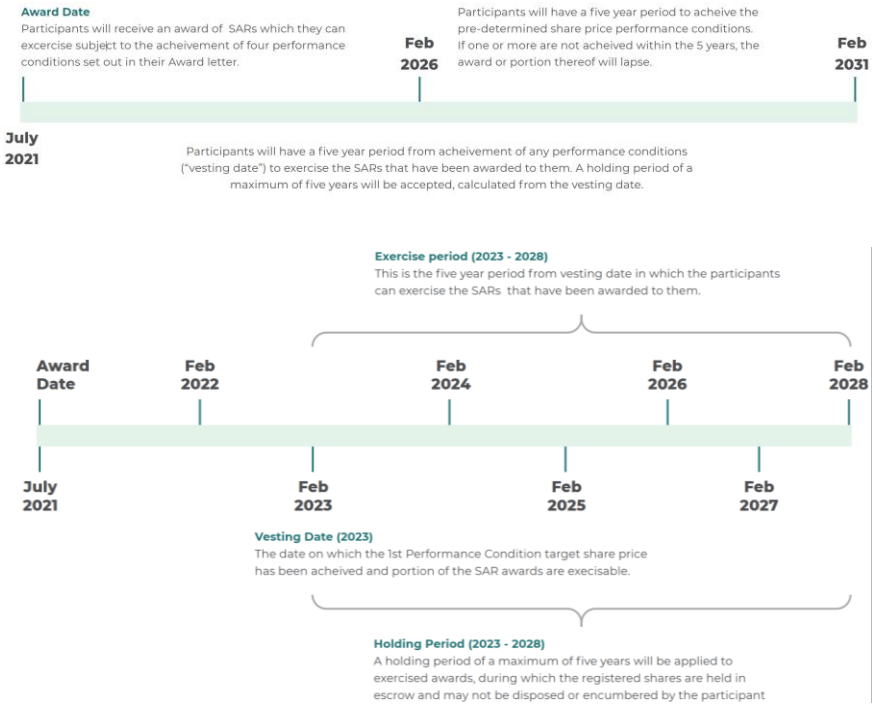
Renergen invested ~R6mm in H1'22 of the fiscal year into the research and development of vaccine storage units. It has now commenced the manufacture of these units which will soon be brought to market after having undergone both laboratory testing and successful field testing. To date it has moved in excess of 750,000 doses of vaccines through field testing, and anticipates this will increase in the near term.

Management Profiles

Renergen has an innovative management team in our view, with inside ownership of ~15%, that has shown its ability to spot unique market opportunities. The team has been very transparent with the market with regards to progress on the development of its Virginia Gas project, demonstrated by the sharing and updating of its critical milestones explicitly on its website. The team has achieved a large amount, operating through a complicated and complex period, as it has transitioned from its start-up phase to a more mature company. The board is diverse in demographics, skills and experience and consists of five non-executive directors the majority of whom are independent. David King brings a wealth of knowledge on the exploration side and up until recently Brett Kimber who ran Linde's Far East business provided direction. Its recently appointed CFO has a technical background in engineering and was previously CFO at a dual-listed company on both the ASX and JSE.

Executives and senior management employees participate in the long-term incentive (BSP), and the scheme is explicitly designed to reward performance and retain talent within the Group. The incentive is awarded based on KPI performance and is reviewed annually. The shares vest after three years. Renergen's Share Appreciation Rights ("SAR") Plan is aimed at driving exceptional performance based on Renergen's business strategy and the growth of Renergen's share price for a sustained period of time, demonstrating real value creation for its shareholders.

Renergen's Share Appreciation Rights



Source: Renergen 2021 annual report

Board of Directors & Key Management	
Name	**Profile**
Mr. Stefano Marani, Managing Director, Chief Executive Officer, November 2014	• Mr. Marani was part of the team which acquired the Tetra4 from Molopo Energy Limited in April 2013 and was instrumental in taking these Gas Fields from a stranded gas asset into production with funding from the US government and an IPO on the ASX. • Along with his team, he pioneered the use of natural gas in heavy duty vehicles in South Africa to help decarbonise the South African economy which ultimately lead to a joint-venture with Total South Africa Proprietary Limited. • He invented Cryo-Vacc to help in the global rollout of vaccines in the fight against COVID-19. • Stefano has significant experience in the areas of structured finance and advisory. • After completing his formative training with Deutsche Bank, Stefano was recruited by Morgan Stanley in London, where he was ultimately charged with building their sub-Saharan African fixed income capital markets business before leaving banking to start his own financial services firm, Kigeni Holding for 10 years. • He completed his BSc Actuarial Science, BSc Hons in Advanced Mathematics of Finance from the University of the Witwatersrand.
Mr. David King, Non-Executive Chairman, February 2015	• David is a professional geoscientist and has over 40 years' experience in oil and gas and other natural resources industries. • David has held various Board positions with ASX natural resources companies, and was a founder of oil and gas companies Eastern Star Gas Ltd and Sapex Ltd. • He has also served as Managing Director of ASX listed gold producer North Flinders Mines, CEO and Managing Director of oil & gas producers Beach Petroleum and Claremont Petroleum, and Chairman of Robust Resources Ltd. • David is currently Non- Executive Director of ASX listed Galilee Energy Limited and AIM listed Litigation Capital Management Limited. • David is a Fellow at the Australian Institute of Company Directors, the Australian Institute of Geoscientists, and Australasian Institute of Mining & Metallurgy. • He holds an MSc in Geophysics from Imperial College, London, and a PhD in Seismology from the Australian National University, Canberra.
Mr. Brian Harvey, Executive Director, Chief Financial Officer, May 2021	• Brian is the Chief Financial Officer of Renergen Limited with over 15 years' experience in senior finance roles after having initially qualified and worked as a mechanical engineer for De Beers. • He has worked for multinational, foreign listed and JSE listed companies, principally in the resources sector, including Weir Minerals Africa and Middle East, Royal Bafokeng Holdings Pty Ltd and Anglo-American plc. • He has both strategic and operational level experience in the finance area and been involved with the project finance and oversight of the delivery of several capital projects. • Currently, he is also the Chief Financial Officer at Resource Generation Limited. • He graduated from the University of Johannesburg with a Bachelor of Technology, Mechanical Engineering and a BCom Honours in Accounting. He also holds a bachelor's degree in accounting from the University of Cape Town.

Board of Directors & Key Management	
Name	**Profile**
Mr. Nick Mitchell, Executive Director, Chief Operating Officer, November 2015	• Nick is an experienced Director with a demonstrated history of working in the energy industry. Specialising in the South African oil and gas sector and focused on early-stage company development. • He is the current Chief Operating Officer for Renergen, who holds the only onshore Petroleum Production Right in South Africa through their 100% owned subsidiary Tetra4. • Together with his partners, Nick acquired Tetra4 in 2013 and since then have developed the asset from what was once considered a stranded gas asset into a potential world-class helium and natural gas reserve. He is strong in operations, strategy, and risk management. • Nick currently serves as the Chairman of the Onshore Petroleum Association of South Africa (ONPASA) and has done so since March 2017. • In December 2020, he was appointed as a Trustee to the Upstream Training Trust (UTT), established by the Petroleum Agency SA and the companies participating in the South African off and onshore search for oil and gas. The Trust seeks to provide bursaries to eligible students interested in Petroleum (oil and gas) Exploration. • Nick holds a MCSE from New Horizon's Training College and Ambassador Training College. He also has two certifications from the Wits Business School, in Applied Financial Management and Project Management.
Mr. Mbali Swana, Non-Executive Director, September 2009	• Mbali is the chief executive officer of Prop5 Corporation Proprietary Limited, a turnkey-built environment infrastructure and engineered products developer which he founded in 1986. • Mbali has significant experience in implementing large scale projects across Africa and is currently developing Prop5's Africa-wide strategy for the development of infrastructure.
Mr. Luigi Matteucci, Non-Executive Director, May 2016	• Luigi actively consults on strategic and business development initiatives in the mining and engineering field. • He served in senior management positions and as Financial Director of Highveld Steel and Vanadium Corporation Limited for 18 years up to 2007 where he implemented successful cost reduction and efficiency strategies.
Dr. Bane Maleke, Non-Executive Director, December 2016	• He spent 20 years in senior management at the Development Bank of South Africa (DBSA) and held the position of Regional Executive for the SADC and East Africa Regions. • He is the chairman of an MNO in Lesotho and Director of an energy company. • Bane holds an MBA from Dalhousie University (Canada) and a Ph.D. – Strategic Management, from the University of Bath (UK).
Mr. Francois Olivier, Non-Executive Director, November 2018	• Francois Olivier is a portfolio manager and executive committee member at Mazi Asset Management. • He has 19 years of investment research and portfolio management experience, the first seven of which were spent in the USA. • He hold a Bachelor's in Commerce, Honours in the field of Accounting from the University of Pretoria, a Chartered Accountant certification from South African Institute of Chartered Accountants, and is also a CFA charterholder.

Source: Company Website, Report, and LinkedIn

Company History

2005-2010

- Highland Exploration (Pty) Ltd-Established (now known as Tetra4 (Pty) Ltd).
- Desk top analysis of South Africa's gas potential
- Borehole data gathering and acquisition
- Acquisition of Highland Exploration by Molopo Energy
- 5 gas wells drilled

2011-2014

- Highland Exploration renamed to Molopo South Africa Exploration and Production (Pty) Ltd
- Production Right granted September 2012
- Acquisition of Molopo South Africa by Windfall Energy in 2013
- Helium discovered
- Updated proven resource by Deloitte REA and Venmyn Deloitte

2015

- **June**: Listed on the JSE's AltX Exchange as the first primary listed SPAC.

- **November**: Acquired Tetra4 and Windfall's share of Cote d'Ivoire hydroelectric joint venture (Mega Power Renewables). As a result of the acquisition Renergen is no longer classified as a SPAC and is the first renewable energy company listed on AltX.

2016

- **January**: Commenced construction of initial compression facilities for Tetra4.

- **May**: Tetra4 began production, supplying compressed natural gas (CNG) to Megabus, a division of Unitrans Passenger. Helium off-take agreement with Linde Group secured.

- **June**: Commenced front end engineering and design (FEED) for the helium liquefier.

- **October**: Reserve update shows 24% increase in net reserve volumes.

2017

- **March**: Commenced FEED for the reticulation pipeline.

- **April**: Completed and submitted the environmental impact assessment (EIA) related to the gas pipeline reticulation network and construction of the helium facility to the competent authority for a Record of Decision (RoD) with no formal objections.

- **May**: the EIA was submitted to the authority. Renergen concludes R218mm funding with IDC.

- **September**: Received a positive environmental authorisation or RoD on Tetra4's environmental impact assessment by the Petroleum Agency of South Africa. 18 months of CNG production completed. Pipeline FEED completed. LNG and helium liquefier FEED completed.

2018

- **February**: Renergen disposed of Mega Power Renewables.
- **March**: Reserve update showed another 27% increasse in net reserve volume.
- **May**: CNG and LNG offtake agreement concluded with Anheuser-Busch InBev subsidiary, South African Breweries.
- **November**: Renergen completed a rights issue that raised ZAR125mm (A$11.8mm) and committed debt funding of US$40mm (A$56.3mm) from OPIC (now DFC).

2019

- **June**: Renergen lists on the Australian Stock Exchange and raised A$10mm through the issue of 12.5mm shares at a subscription price of A$0.80/sh.
- **September**: Convertible notes with a face value of A$0.5mm issued in December 2018 were converted into shares at A$0.74/sh. The notes had an interest rate of 15% p.a., removing expensive debt from the balance sheet.
- **October**: The company completed the commissioning of its second CNG filling station, in Johannesburg.
- **November**: Renergen completes the consolidation of the Virginia Gas Project and charts out a plan by appointing entities for analysing the wells in Phase 1.
- **December:** Renergen acquired the remaining 10% of Tetra4 on 17th December from CD Sjoberg.
- **December**: Renergen announced that drilling of a horizontal well intersected gas charged sandstones and fractures made up of 12% helium, with methane of >75% based on gas flow samples.
- **December**: The execution of the Balance of Plant construction contract with EPCM Bonisana Proprietary Limited was completed. Site establishment for the construction of the pipeline by EPCM Bonisana was achieved.

2020

- **January**: Renergen planned to spud an appraisal well ahead of schedule on its Virginia Gas Project. The company also declared that the first planned incline well in the Phase 1's development flowed gas to surface at a rate of >0.85mmcf/d.
- **January**: Renergen raised A$6.7mm to progress its gas discovery made in December 2019.
- **February**: Renergen's subsidiary, Tetra4, secured an agreement with Bulk Hauliers International Transport (BHIT) for the supply of LNG.
- **June**: Renergen and TOTAL signed an agreement for the joint marketing and distribution of LNG through TOTAL's service stations.

The first route targeted under the agreement was the N3, between Johannesburg and Durban, followed by the corridors leading to the other major cities once Renergen's Phase 2 project would come into production.

- **June**: EPCM Bonisana remobilised and recommenced construction. Completion of the design of the Virginia Gas plant.
- **July**: The company conducts the first ever LNG auction in South Africa, supplied from the Virginia Gas Project.
- **August**: Spudding of an inclined well targeting the gas productive fracture systems.
- **October**: Renergen signed an agreement with trucking company Logico Logistics to supply LNG at TOTAL's filling stations along the N3 between Johannesburg and Durban.
- **December**: Renergen launched a vaccine storage solution – CryoVacc, which allows vaccines to be stored in extremely cold temperatures for 30 days without the need for a power supply. The company also filed for patent rights on the device.

2021

- **January**: Renergen appointed three companies – Saipem, EPCM Holdings, and Sproule to complete feasibility studies for the second phase of the Virginia Gas Project, following which FID will be taken.
- **March**: The P007 wildcat exploration well outside of Renergen's primary focus area flowed gas at >0.2mmcf/d. There was also a signifcant gas strike with well MDR1, which flowed at 0.16mmcf/d. These wells had exception helium concentrations of 4.4% and 3.2% respectively.
- **April**: Renergen announced its first helium sales agreement with a global, tier-one automotive supplier (iSi Automotive) to diversify its customer base beyond wholesalers. Fulufhedzani Ravelel resigned at CFO to pursue other opportunities. Renergen has commenced construction of the 110 Cryo-VaccTM cases for delivery to DPD Laser, expected to be completed by the end of May 2021.
- **May**: Brian Harvey appointed CFO, an experienced CFO with a technical background in engineering, and experience.
- **June**: A helium discovery was reported at the company's Evander exploration prospect, with a concentration of 1.1% helium identified in the gas. Evander spans about 52,000 hectares, with many abandoned boreholes drilled for coal and gold exploration.
- **June**: Renergen raised AUD$10mm in equity.
- **June**: Renergen's well, C3P0, struck gas, with a helium concentration of 1.7%, slightly above pre-drill expectations.

- **July**: The P12 well which was previously expected to be plugged and abandoned started flowing with 1.9% helium.

- **August**: Renergen signed three take-or-pay conditional helium sales agreements with Linde, Messer and Helium24. These completed sale agreements for approximately 65% of the ~1mmcf/d Phase 2 helium production at the Virginia Gas Project.

- **August**: Renergen signed a deal to supply LNG to glass manufacturer Consol Glass on a five-year contract from Phase 1 of the Virginia Gas Project to replace its use of LPG.

- **September**: Renergen completed a forward sale agreement for 100,000 units of 1mmcf of helium to Argonon. The arrangement is intended to facilitate the creation of a liquid spot market for helium, accessible to all investors through the Argonon platform with potential US$25mm of pre-funding for Renergen of its Phase 2 project.

- **November**: Renergen's inclined well R2D2 confirmed helium of 1.9% and methane of 90.8% and produced at 187mcf/d.

- **November**: 1P helium reserves increased by 620% to 7.2Bcf and 1P methane reserves have increased by 427% to 215.1Bcf following the recent successful drilling campaign.

- **November**: Brett Kimber stepped down from the board with effect from 30th November. Existing Non-Executive Director, Dr David King agreed to serve as incoming Non-Executive Chairman from 1 December 2021.

Investment Risks

Other than the usual risks facing exploration and production companies (e.g. commodity prices, COVID-19, security, geopolitical, geological, ESG and health & safety risks), the main specific risks that we see facing Renergen are:

- **Requirements to Raise Additional Funding:** Renergen requires significant funding for the US$900mm development of Phase 2. There is a risk that there is a general downturn in markets which makes it more difficult or costly for Renergen to raise the required funding or that it will need to raise a larger amount of equity, causing higher dilution to existing shareholders. Presently, we are confident that Renergen is able to raise the majority of the funds for the project in debt with the funding from the US DFC and positive indications from the banks which it has been discussing raising debt with. Furthermore, the equity market for helium-focused companies has been strong and Renergen has been a clear outperformer, which signals that there should be appetite for a significant equity raise

- **Restrictive supply indentures**: Renergen has inked several deals for its Virginia Gas Project; most of the agreements are contingent on production targets. For example, the three conditional agreements with Linde, Messer, and Helium24 depend on the completion of several project development milestones at the Virginia Gas Project and either party has the option to terminate due to delay in the commencement of production date. Also, if Renergen is unable to deliver at least 80% of annual take-or-pay quantities during any consecutive six-month period once the plant is operational, the parties can terminate the contract. Since this single agreement covers a 65% capacity of the plant, a termination of any of these will significantly impact the top line of the firm.

- **South African risk**: South African Energy policy has historically caused bureaucratic delays that has prevented significant hydrocarbon exploration and exploitation. Renergen already has a production licence with agreed fiscal terms and all approvals in place; however, the risk remains that policy and fiscal regime change could detrimentally affect the company. Changes in fuel tax affecting LNG would reduce its competitiveness with diesel and may require a change in strategy.

- **Well performance:** Drilling success depends on intersecting gas-bearing faults. Some historic wells failed to achieve this and subsequent studies indicate that inclined wells will increase the chance of success. There is also ambiguity around the decline rates of the wells and this will require longer-term production history to refine. It is also not clear at what rate Virginia bio-genic gas is recharged. However the success of the most recent exploration drilling campaign and Renergen's proprietary algorithms to predict optimal drilling locations we believe mitigates this risk.

- **Delays / cost overruns for Phase 1 and 2 –** Any further delays in the start-up and first gas from Phase 1 would delay cash flow and could cause further costs. There is the risk with a large capital project such as Phase 2 that there will be unanticipated delays and costs. However, the development is expected to be low complexity, rapid and largely fabricated out of the country, which should reduce this risk. Historically the commissioning of LNG and helium liquefaction plants has been problematic for other companies.

- **Cost inflation:** Related to the above, there is a risk that with higher oil and gas prices and also rising commodity prices (e.g. steel), that cost inflation comes through, especially with regards to higher capital costs. We think that this risk is mitigated by the strong economics at current gas prices and if gas prices do retreat from here, this will likely eliminate any upward pressure on costs.

- **LNG price sensitivity**: Since Renergen only has two major products – LNG and helium, price movements will affect revenue for non-fixed price agreements. Renergen's latest 5-year LNG supply agreement with Consol Glass is susceptible to price changes as the contract is supposed to carry a price linked to the floating LNG price in South Africa, as published by the Department of Mineral Resources and Energy. Although Renergen does have a hedging programme, such floating rate contracts add to the overall investment risk.

- **Helium prices:** A driver of profitability for Renergen will be the helium price. Given that it is a relatively small market, there is the possibility that new capacity causes prices to fall. However, given that Renergen has locked in the majority of its helium supply through fixed price contracts, much of this risk is mitigated.

- **Lack of Diversification:** The company only has two assets in its portfolio – Tetra4 (Virginia Gas Project) and Evander. Most of its supply contracts have been only from the Virginia Project, Phase 2 of which is still to begin production. Evander recently had a small helium discovery. The success of this company, as of today, is hinged on these two prospects only. This lack of diversification leads to concentration risk.

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