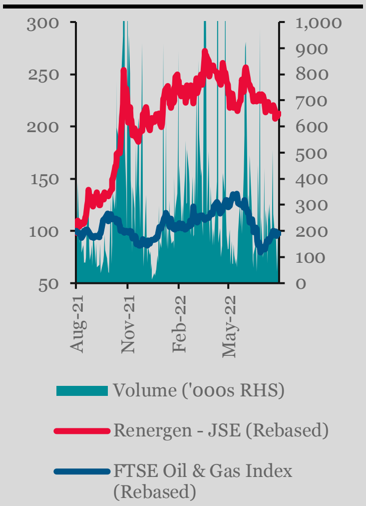
# Renergen Limited

## Central Energy Fund Due Diligence Completed Paving Way for ZAR 1bn Investment

| GICS Sector | Energy |
|---|---|
| Ticker | ASX:RLT; JSE:REN |
| Market cap 10-Aug-22 (US$mm) | 260 |
| Share price 10-Aug-22 (AUD) | 2.76 |

**NAV summary (AUD $/sh)**

| Asset | Unrisked | Risked |
|---|---|---|
| Core NAV | 1.3 | 1.2 |
| Development | 6.8 | 4.1 |
| Exploration | 2.6 | 0.5 |
| **Total** | **10.6** | **5.8** |

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### Due diligence completed for sale of 10% of Tetra4 to Central Energy Fund

Renergen announced today that the the South African Central Energy Fund (CEF) has successfully completed its due diligence on its agreement to invest ZAR 1bn into its gas assets. On 28th March, Renergen announced the sale of 10% of fully owned subsidary, Tetra4 (which is a 100% owner of its flagship Virginia Gas Project), for ~US$69mm to the CEF. The funds will be used to progress the development of Phase 2 of the Virginia Gas Project. A non-binding term sheet was signed following long-term discussions given that Renergen's reserves have reached critical mass to allow CEF's involvement. The parties have until mid-August to execute binding agreements, after which Renergen has the right to renegotiate price. The transaction is subject to completion of conditions precedent including due diligence, Department of Minerals and Energy ministerial approval and National Treasury approval.

### Central Energy Fund investment positive in many ways for Renergen

We see this as positive for several reasons. Firstly, the completion of external due diligence provides further comfort in the project; secondly, the price implies a value for Renergen of ~US$700mm; and thirdly, it provides Renergen with further equity funding for the Phase 2 project, reduces Renergen's own capex by 10% and gives confidence to the potential debt providers. CEF is a State-owned diversified energy company with an investment mandate focused on contributing to the energy security of South Africa. The investment by CEF will provide exposure to economic participation in South Africa's first and only onshore petroleum production right.

### Ivanhoe did not receive Government approvals in time to increase its stake

Ivanhoe did not receive the Government approvals required to meet the deadline of 120 days from the announcement of its plans to purchase up to a 55% stake in Renergen. Ivanhoe remains a 4.35% shareholder of Renergen. The failure to receive approvals in time does not preclude it from further investments in Renergen and we believe that Ivanhoe is interested in the gas production for its mining assets. Therefore, although this means that Renergen will have to look to other means of equity financing for Phase 2, it removes the overhang of the equity raise at a discount to the market price. Furthermore, with CEF investing at a premium to the current market price and the recent LOIs on the debt it should mean that Renergen could raise equity at a higher price, especially once Phase 1 is up and running. Since the Ivanhoe deal was announced, Renergen has signed a Retainer Letter with the US International Development Finance Corporation ("DFC"), to evaluate making a loan of up to US$500 million to finance the development of Phase 2, which will cost ~US$900mm.

### Start-up of Phase 1 production expected shortly

On 8th July Renergen achieved first gas into its plant. This has allowed plant safety systems to be verified and full commissioning and operational testing of the flare systems. Final commissioning workstreams will be completed over the coming weeks with commercial operations expected shortly when customers are ready to take the gas. Although there has been a further delay to first helium production from April, this is not unusual for a pilot plant and more importantly there have been no significant issues identified through the commissioning process with the remaining steps purely mechanical. The plant should quickly ramp up to 60% of capacity and reach full capacity by year-end.

### Valuation: risked NAV of A$5.8/sh or R63/sh

Our unchanged risked NAV is A$5.8/sh, which implies 110% upside from the current share price. Taking just the 2P value (excluding contingent resources and exploration upside) gives a risked value of A$5.2/sh or R57/sh, still implying almost 90% upside. On a fully unrisked basis we see ~280% upside to the current share price.

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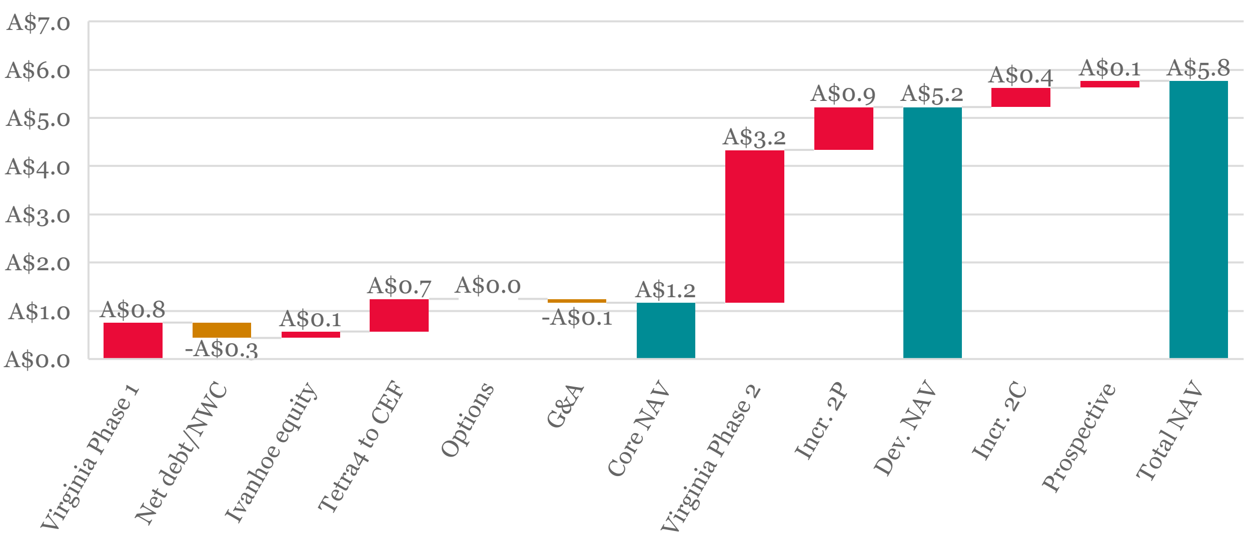
# Valuation

## 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$32 | -R3.5 | -A$0.3 | | -U$32 | -R3.5 | -A$0.3 |
| Equity raise | | | U$13.3 | R1.4 | A$0.1 | | U$13.3 | R1.4 | A$0.1 |
| Tetra4 sale to CEF | | | U$69.0 | R7.4 | A$0.7 | € 0.90 | U$69.0 | R7.4 | A$0.7 |
| Options and warrants | | | U$0.4 | R0.0 | A$0.0 | | U$0.4 | R0.0 | A$0.0 |
| G&A @ 3x | | | -U$8.3 | -R0.9 | -A$0.1 | | -U$8.3 | -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 | $4.3 | U$85 | R9.1 | A$0.8 | 90% | U$76 | R8.2 | A$0.8 |
| **Core NAV** | **20** | **$6.5** | **U$127** | **R14** | **A$1.3** | **93%** | **U$118** | **R13** | **A$1.2** |
| Virginia Phase 2 | 309 | $1.7 | U$536 | R57.6 | A$5.3 | 60% | U$321 | R34.6 | A$3.2 |
| Incremental 2P reserves | 50 | $3.0 | U$151 | R16.2 | A$1.5 | 60% | U$91 | R9.7 | A$0.9 |
| **Development NAV** | **359** | **$1.9** | **U$687** | **R74** | **A$6.8** | **60%** | **U$412** | **R44** | **A$4.1** |
| Incremental 2C reserves | 224 | $0.5 | U$112 | R12.1 | A$1.1 | 35% | U$39 | R4.2 | A$0.4 |
| Prospective resource | 299 | $0.5 | U$149 | R16.1 | A$1.5 | 10% | U$15 | R1.6 | A$0.1 |
| **Contingent / Exploration** | **523** | **$0.5** | **U$261** | **R28** | **A$2.6** | **21%** | **U$54** | **R6** | **A$0.5** |
| **Total NAV** | **523** | **$2.1** | **U$1,075** | **R116** | **A$10.6** | **54%** | **U$585** | **R63** | **A$5.8** |

Source: H&P estimates

## Risked NAV build up for Renergen (AUD/sh)




Source: H&P estimates

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

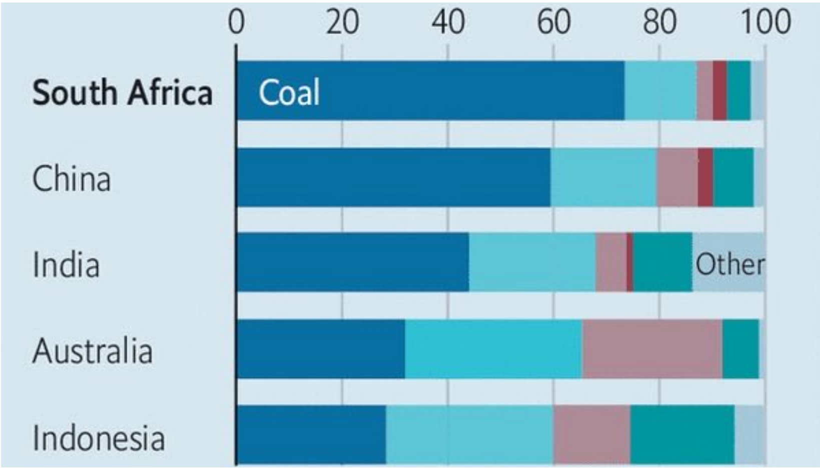
| | | Helium Price ($/mcf) | | | | |
|---|---|---|---|---|---|---|
| | | **$150** | **$200** | **$250** | **$300** | **$350** |
| | **$11.5** | A$3.4 | A$3.8 | A$4.3 | A$4.7 | A$5.1 |
| **LNG** | **$14.0** | A$4.2 | A$4.6 | A$5.0 | A$5.4 | A$5.9 |
| **price** | **$16.5** | A$4.9 | A$5.3 | A$5.8 | A$6.2 | A$6.6 |
| **$/mcf** | **$19.0** | A$5.7 | A$6.1 | A$6.5 | A$6.9 | A$7.4 |
| | **$21.5** | A$6.4 | A$6.8 | A$7.3 | A$7.7 | A$8.1 |

Source: H&P estimates

# 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.

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