

Helium One Global

Initiation of Coverage: Primary Helium Pure Play

Initiating coverage with a risked NAV of 11p/sh (~50% upside)

Helium One Global Ltd (“Helium One”; ticker “HE1”) is a UK AIM-listed pure-play helium exploration company, with a first-mover advantage in developing helium assets in Tanzania. Founded in September 2015, its goal is to become a significant primary supplier of high-grade helium to industry. It owns exploration licences in three locations in Tanzania, where prospective resources have been identified with helium concentrations that are amongst the highest in the world. HE1 is the only listed company in the UK that enables investors to participate in the helium market. Having previously been a private company, HE1 raised an upsized GBP£6mm and amalgamated with Attis Oil and Gas in order to gain a London listing in early December 2020.

Helium market investment dynamics versus oil & gas

Alongside this report, we have also produced a comprehensive macro report on the helium sector. Helium has several unique properties that make it an essential element for many industries, which cannot be synthesised or manufactured, and with no substitutes. There has been a shortage of helium in recent years leading to a significant increase in prices. Helium is an extremely highly-valued commodity with a price around 100x that of natural gas, meaning 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 and much more cost effectively than a conventional greenfield oil and gas discovery that would normally take five-plus years and potentially cost billions of dollars to develop. A concentrated market also confers a competitive advantage to the current participants. HE1 expects to produce helium from resources that do not have associated hydrocarbon accumulations, allowing HE1 to produce carbon emission-free helium, unlike most of the global supply that is a by-product of natural gas operations. Listed helium companies have soared in value over the last year, in stark contrast to oil and gas companies.

Rukwa project has the potential to be a material helium producer

Helium One’s key asset is its Tanzanian licence, Rukwa, which is a globally unique large-scale, high-grade, primary helium project. Most helium is produced as a by-product in large gas developments but Rukwa is one of very few helium projects that could be produced from non-hydrocarbon sources. To put it in context each of the wells is targeting the equivalent of around a year’s global helium demand. The total prospect inventory is 138bcf unrisked (P50), the largest primary helium resource in the world. HE1 has a first mover advantage in Tanzania, with attractive fiscal terms for helium extraction and low exploration drilling costs.

Exploration drilling in Q2 2020 targeting 18bcf worth £1.02/sh unrisked

HE1 intends to drill three exploration wells (on the Kasuku, Itumbula and Mbuni prospects) within the Rukwa licence in Q2’21. Each well should take a month to drill but helium shows in the mudlogs could be reportable prior to hole completion. We carry 34p/sh of unrisked and 3p/sh of risked value on average for each well. A substantial part of the overall risking relates to the “play” risk, which is the same for all prospects. Therefore, if one well is successful, it would derisk HE1’s other targets. We estimate that it could double the overall chance of success for the other prospects.

Valuation: almost 15x upside on an unrisked basis; peers +650% over last year

In our base case scenario, we use a helium price of US\$250/mcf long-term flat from 2021 and a 14% discount rate from 1/1/2021. Our risked NAV is 11p/sh, which implies ~50% upside from the current share price. On an unrisked basis, we have a NAV of £1.04/sh or almost 15x upside. Further to this are the follow-on prospects that are not included in our NAV and its other exploration areas. Helium focused E&P companies, especially those akin to Helium One that focus on primary helium have seen their shares rise by >650% over the last year, demonstrating the market’s interest in the helium sector.

GICS Sector	Energy
Ticker	LN:HE1
Market cap 11-Dec-20 (US\$m)	48
Share price 11-Dec-20 (GBP)	7.2

NAV summary (p/sh)

Asset	Unrisked	Risked
Kasuku	30	3.3
Itumbula	32	2.4
Mbuni	40	3.1
Cash/other	2	2
Total NAV	104	11

Source: H&P estimates

US\$762mm

Unrisked value of the 3 prospects planned to be drilling in H1’21

>650%

Share price performance of the 3 primary helium E&P companies over the last year

H&P Advisory Ltd is a Retained Advisor to Helium One. The cost of producing this material has been covered by Helium One 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 – Helium One Global Ltd (“Helium One”; ticker “HE1”) is a UK AIM-listed pure-play helium exploration company, with a first-mover advantage in developing helium assets in Tanzania. Founded in September 2015, its goal is to become a significant primary supplier of high-grade helium to industry. It owns exploration licences in three locations in Tanzania, a country with helium occurrences that are globally unique. HE1 is the only listed company in the UK that enables investors to participate in the helium market. HE1, which had been private, raised an upsized GBP£6mm and amalgamated with Attis Oil and Gas in order to gain a London listing.

Risked and Unrisked NAV at different helium prices and discount rates

Risked		Helium Price (\$/mcf)					Unrisked		Helium Price (\$/mcf)				
		\$100.00	\$175.00	\$250.00	\$325.00	\$400.00			\$100.00	\$175.00	\$250.00	\$325.00	\$400.00
Discount rate	10%	4.5p	8.8p	13.1p	17.4p	21.7p	10%	30p	83p	135p	187p	239p	
	12%	4.0p	7.9p	11.7p	15.6p	19.4p	12%	25p	72p	118p	165p	211p	
	14%	3.6p	7.1p	10.6p	14.1p	17.5p	14%	20p	62p	104p	146p	188p	
	16%	3.3p	6.5p	9.6p	12.7p	15.8p	16%	16p	54p	92p	130p	168p	
	18%	3.0p	5.9p	8.7p	11.6p	14.4p	18%	12p	47p	82p	116p	150p	

Source: H&P estimates

Valuation: ~50% upside to our risked NAV – In our base case scenario, we use a helium price of US\$250/mcf long-term flat from 2021 and a 14% discount rate from 1/1/2021. Our risked NAV is 11p/sh, which implies ~50% upside from the current share price. On an unrisked basis, we have a NAV of £1.04/sh or almost 15x upside.

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 year in stark contrast to oil and gas companies. Helium is an extremely highly-valued commodity with a price that is around 100x 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.

Helium fundamentals – Alongside this report, we have also produced a comprehensive report on the helium sector providing some unique perspectives and data points on this opaque, niche industry. We have created our own proprietary Helium supply and demand balance as well as sourcing proprietary pricing data. 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. Current pricing is at least triple our estimated break-even for a 6bcf helium development in Tanzania.

Rukwa: one of the highest concentration Helium deposits – Helium One’s key asset is its Tanzanian licence, Rukwa, which is a globally unique large-scale, high-grade, primary helium project (measured surface seeps at 10.6%

helium mixed with nitrogen, the principal component of the atmosphere). Most helium is produced as a by-product in large gas developments at grades ranging from 0.35%He down to 0.05%He. Rukwa is one of very few helium projects that could be produced in significant volume from non-hydrocarbon sources. To put it in context each of the wells is targeting the equivalent of around a year's global helium demand. The total prospect inventory is 138bcf unrisked (P50).

First mover advantage – HE1 was the first company to pick up licences in Tanzania dedicated to helium exploration. As a result, it has been able to get its pick of the prospective areas to license. It is viewed as having the best undeveloped unexplored helium prospectivity in the world and HE1 had the serendipitous first-mover advantage as the founders recognised the potential.

More attractive fiscal terms than for hydrocarbon developments – The fiscal terms for helium extraction are attractive with a low 3% royalty, a 16% free carry available for the Government and the corporate tax rate of 30%. We estimate that HE1 will get around 50% of the FCF from the project over the life.

Low-cost exploration and appraisal – We estimate that the exploration drilling cost for a Rukwa well is just US\$1mm per well versus our base case unrisked NAV of US\$300mm for an average prospect of 6bcf (P50).

Reasonable risk but very low cost for frontier exploration – This is frontier exploration but Helium One has a number of independent shots at goal, there is plenty of encouragement from surface and geological data obtained to date, and the actual exploration cost is very low in comparison to targeting similar-sized value in oil and gas exploration. In aggregate the competent person reports see 10-14% chance of success for the 2021 target prospects, although each prospect has multiple targets. However, HE1 sees around a 20% geological chance of success. Source and migration have been derisked by surface seeps, the reservoir has been proved by previous wells and the trap is data limited by 2D seismic and gravity gradient data. High relief structures are imaged by both geophysical data sets. The biggest risk surrounds seal but sealing units are known in the geology.

Successful well would have a significant derisking impact – As with petroleum, a single discovery is often accompanied by additional accumulations within the same play fairway. A substantial part of the overall risking relates to the “play” risk, which is the same for all prospects. Therefore, if one well is successful, it would derisk all the other prospects. We estimate that it could double the overall chance of success for the other prospects.

Rapid and low-cost development – A development is expected to be straightforward (unlike a traditional oil and gas project), without the need for expensive gas pipeline infrastructure. The production wells are much cheaper than oil and gas wells to drill and complete (estimated cost of US\$3mm per well). The processing plant can be constructed abroad requiring only installation and commissioning – the size of the plant is small at <10,000m². The estimated cost for a plant is US\$50mm.

Tanzania: attractive investment and geological destination – Tanzania has become a more stable investment destination in recent years and has a history of foreign company participation in the extractive industries. Tanzania has shown strong economic growth over the last decade, which in 2020 propelled it into lower-middle income status, having seen the poverty rate decline. Tanzania is predominantly a mining country with both small and large-scale operations and many foreign companies large and small operating successfully. Recent regulatory

reforms and settlements of disputes with foreign companies (e.g. Barrick Gold) and delayed project approvals (Aminex) are positive signals. The President's address to parliament recently mentioned helium as a potential strategic supply source for the country.

From a geological perspective, Tanzania is attractive for helium prospectivity as in the East African Rift Valley, the break-up of the earth's crust from powerful plate tectonic forces creates the environment to release helium from the crust, which can migrate into viable reservoirs. HE1 has good relations at all levels of the mining commission and has paid all its dues on time.

Management: experienced and running a lean operation – We see HE1 as having an effective management team, balancing both the technical and commercial sides of the helium business. Directors have kept salaries to a minimum with a focus on options and share-based remuneration, meaning clear alignment with shareholders. Management owns 3% of the company and with options 8% of the diluted share count. Also, the company has minimal G&A as a result. The management team has experience of developing projects in a range of jurisdictions in Africa. It is technically focused and led, with experience of delivery on the continent. The members of the Company's Board, senior management team and technical team have extensive expertise in resource exploration including geology, geophysics, geochemistry, and drilling execution, development inclusive of engineering, procurement and construction and operations, inclusive of execution and delivery.

Corporate Social Responsibility plan – Environmental, social and corporate governance (ESG) is an increasingly important issue for all investors, especially in the oil and gas industry. HE1 expects to find helium, mixed with nitrogen, that does not have associated hydrocarbon production, allowing HE1 to produce greenhouse gas emission-free helium, unlike most of the global supply that is associated with natural gas production. There will be some carbon footprint involved in the facilities required for development and production of helium. This is something that HE1 could address through the use of renewable energy sources or carbon offsets. Helium One has adopted a proactive land management strategy and strong relationships with local communities, traditional owners and government bodies.

Investment risks – We see the main risks as exploration and appraisal of the existing helium deposit, weaker helium prices, Government approvals and development and financing risk. There are several mitigants to these risks. On pricing, our scoping economics show that a successful development is profitable down to US\$100/mcf, which is 60% lower than our base case scenario. Appraisal risk is real; however, it is not as risky as pure exploration given there is already well data and seismic available. Government approvals have been problematic in Tanzania; however, this is a relatively small project that is not a strategic energy resource for Tanzania and also recently approvals have been forthcoming for other companies in the oil and gas and mining spaces (e.g. Aminex). In terms of the financing risk, Helium One will potentially need to either raise equity finance, forward sell helium production or look to farm out its assets to fund the development; however, based on our scoping economics there should be a large NPV relative to the size of the investment required.

Catalysts

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

- **Q1 2D seismic acquisition** – H1 intends to acquire 125 line kms of 2D seismic over the priority prospects to infill the existing late 1980s era seismic grid. The seismic will improve the subsurface data density with modern acquisition and presumably increase the chance of success in the subsequent exploration and appraisal drilling.
- **Q2'21 exploration and appraisal drilling** – HE1 intends to drill three exploration wells (on the Kasuku, Itumbula and Mbuni prospects) within the Rukwa licence early Q2'21. We expect the first well to be spudded in April, and in terms of results each well should take a month to drill but helium shows in the mudlogs could be available earlier. We carry 34p/sh of unrisks and 3p/sh of risks value on average for each well.
- **Follow-up to a potential discovery** – On success, we would expect an appraisal well to be drilled to establish pressure communication and to obtain further subsurface data. Also, there will likely be a 3D seismic survey carried out to better understand the reservoir geometry. HE1 has seen interest from helium off-takers and these discussions will also become more serious.
- **Further exploration drilling** – Given HE1's strategy to pursue an aggressive exploration and development plan, we would expect further drilling to take place on Rukwa after the initial round of drilling, especially if there are positive indications from the initial three wells.
- **Engineering and environmental studies** – We expect HE1 to start the preliminary engineering studies including a bankable feasibility study, ahead of development planning in 2021, as well as the requisite environmental studies, which should enable development to start in 2022 and first production potentially in early 2023.
- **Eyasi and Balangida prospect maturation** – HE1 currently has not revealed any prospects on these two licences that are at an earlier stage of investigation than Rukwa. We expect HE1 to release further details of the leads it sees on these blocks in 2021 and potentially some of these could be matured to the prospect stage. We see drilling on these prospects occurring in H1'22 at the earliest. Both have exceptional helium gas concentrations at the surface, and ideal geology for source, reservoir, trap and seal.
- **Future funding** – Now that Helium One is listed on the AIM market it has more ready access to capital. In the event of a successful exploration well we see several avenues for Helium One to raise the funds to develop the helium. Helium One currently owns 100% of the asset, so there is plenty of room to farm-down any discovery and gain a carry-on development. It could also raise debt against a potential development. In addition, there may be the possibility of leasing the equipment prior to first cash flows, reducing the funding requirement. Raising further equity is also an option in a success case scenario to fund both the development and expand the exploration programme.
- **Helium near-term supply additions** – There are two major Helium supply projects due online over the next year or so. Gazprom is due to bring

its Amur plant in Russia online, which will add 700mmcf/y of capacity initially (~10% of the current supply) and Qatar is also expected to bring online its 3rd helium plant at Barzan adding 425mmcf/d of supply. Also, there are planned additions in Russia (Yaraktin; 230mmcf/y capacity) and an expansion in Algeria (350mmcf/y capacity).

- **Commentary from industrial gases companies** – There are a few major buyers and distributors of helium, which are the major industrial gases companies: Air Liquide, Air Products, Linde and Messer. Given that the helium market is fairly opaque, commentary from these companies can be useful in getting a sense of the market. Also, commentary from end users (e.g. universities) and large commercial buyers (e.g. Party City) can give a sense of any shortages or pricing trends.
- **Peer group performance** – Although there are no helium focused companies listed in Europe, there are a few other listed helium companies globally. Performance and commentary from these companies are likely to impact sentiment on HE1. Also, we see the potential for several private helium companies to pursue IPOs over the coming year.

Company Overview

Map of Helium One's key asset



Source: Helium One

Helium One was founded in September 2015 to pursue helium exploration in Tanzania, where it has since identified three project areas: Rukwa, Eyasi and Balangida. The company was founded by geologists Josh Bluett (current Technical Director) and Thomas Abraham-James. Helium One was a private company up until 5 November 2020 when the company signed an agreement to enable a stock market listing, through the amalgamation with Attis Oil and Gas, which was a cash shell. Trading on AIM is commenced on 4th Dec. It has spent >US\$8mm on exploration and assessment to date. Since its permits were granted in 2015, the Company has conducted extensive geophysical work to characterise the reservoirs, the subsurface traps, and to understand the geochemical systems within the projects areas.

The Rukwa project leases are in south-western Tanzania while the Eyasi and Balangida projects are in north-eastern Tanzania. Helium One has secured 12 Prospecting Licences (PLs) with a further six held pending renewal, all on a 100% equity basis. The granted PLs cover an area of greater than 4,512 km² and a further 600 km² as PL applications. The Best-Estimate (2U) Unrisked Prospective Recoverable Helium Resource on Rukwa is estimated at 138Bcf. The 2U Risked Prospective Resource on Rukwa is estimated at 14bcf. The Rukwa Rift Basin

possesses unique and ideal characteristics with the potential to host a globally significant helium project. The licences are owned through local subsidiaries called Njozi, Gogota and Stahamili, which are 100% owned by a BVI company called Black Swan Resources Limited, which in turn is a fully owned subsidiary of Helium One. The Company believes it has strong relationships with key stakeholders including Governments and their agencies and the local community.

Valuation

Our favoured valuation methodology is a bottom-up risked NAV, in which we have built a DCF valuation of the main exploration prospects and then risked them for geological and commercialisation risk. There is further upside to our valuation from several exploration prospects that have not been firmed up to drill as yet and the additional licences on which prospects have not been matured. We also look at the valuation relative to some other Helium focused exploration and development companies.

In our base-case scenario, we use a helium price of US\$250/mcf long-term flat from 2021 (the helium price is discussed in detail in our macro note) and a 14% discount rate from 1/1/2021. Our discount rate is in line with our oil and gas coverage in Africa, factoring in emerging market risk. Our risked NAV is 11p/sh, which implies ~50% upside from the current share price. On an unrisked basis we have a NAV of £1.04/sh or almost 15x upside. Exploration success will significantly derisk our unrisked NAV.

NAV

Asset	Gross		Net	NPV	Unrisked	Unrisked	Geo./techn.	Comm.	Well cost	Risked	Risked
	bcf	Interest									
Kasuku (Rukwa)	5	84.0%	4	\$51	\$226	£0.30	14%	75%	\$1	\$25	£0.03
Itumbula (Rukwa)	5	84.0%	5	\$51	\$235	£0.32	10%	75%	\$1	\$18	£0.02
Mbuni (Rukwa)	7	84.0%	6	\$51	\$301	£0.40	10%	75%	\$1	\$23	£0.03
YE'20 net cash					\$8	£0.01				\$8	£0.01
Working capital and other					\$0	£0.00				\$0	£0.00
Options proceeds					\$2	£0.00				\$2	£0.00
G&A	@	2.0x			\$4	£0.01				\$4	£0.01
Total NAV					\$775	£1.04				\$79	£0.11

Source: H&P estimates

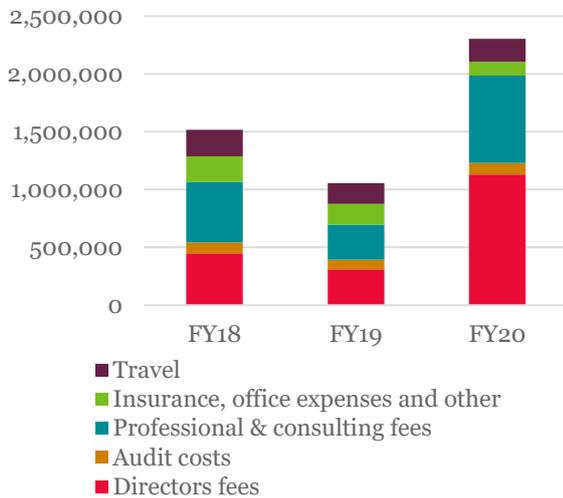
Rukwa – We have built a bottom-up risked valuation of the prospects that HE1 intends to drill on the Rukwa licence. This is described in detail on page 27. Each of the prospects are between 5-7bcf and based on our conceptual development model we have an NPV of US\$51/mcf, which implies an unrisked value of on average \$250mm for each of the prospects, around 5x the current share price. We use the geological risking contained in the recent prospectus of between 10-17% for the prospects; however, we see this as conservative given the company believes that a 20% chance of success is more realistic. We also factor in a further 75% chance of commercialisation to take into account potential development risk, delays and the funding requirement for development. In total on a risked basis, we see 9p/sh of value or \$66mm for the three Rukwa prospects.

Rukwa follow-on – There are several follow-on prospects that would be derisked in the event of positive drilling results (even possibly in the case of a non-commercial well) – we do not currently include any value for these but to give a sense of the scale, there is in total 138bcf of unrisked resource on a P50 basis; on a risked basis this equates to ~14bcf, which at US\$50/mcf NPV would be worth US\$700mm.

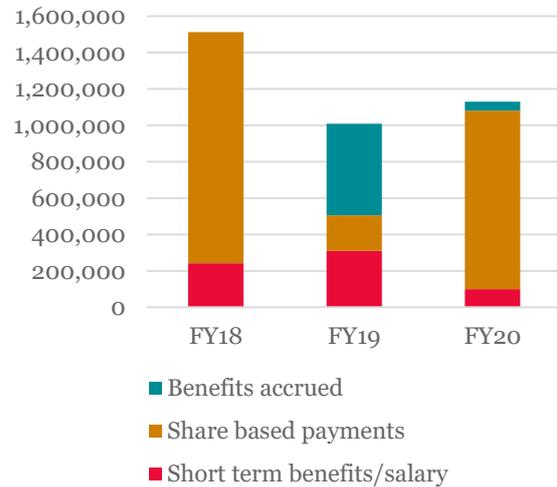
Cash and debt – Based on the proforma accounts, at end H1'20, HE1 had US\$0.2mm of cash, Attis had US\$0.5mm and US\$7mm of cash was raised after transaction costs. Therefore, in our NAV, we assume a net cash position of US\$7.7mm (around 15% of the market capitalisation). This is worth 1p/sh on the NAV.

Working capital and other assets and liabilities – Based on the proforma accounts there was US\$0.2mm of receivables and US\$0.7mm of payables. This has a negligible impact on our NAV.

Estimated cash G&A expenses by type (\$)



Directors/staff remuneration by type (\$)



Source: Company data, H&P estimates

G&A – HE1 has historically operated with a low level of G&A and even though being listed and starting a drilling campaign will increase costs somewhat, we expect G&A to stay low. We expect 2021 cash G&A of US\$2mm, which we capitalise at 2x and leads to a negative value of 1p/sh.

Warrants and options – Our NAV is calculated on a fully diluted basis. Helium One has 64mm options and warrants outstanding at an average exercise price of 16c/sh (70% premium to the current share price) in a range of 0-40c/sh. We exclude the options and warrants that are significantly out of the money; this leaves 54mm at an average exercise price of 3.6c/sh. If all these options and warrants are exercised it would raise US\$2mm and increase the share count by 11%.

Other – We do not include any value for Helium One’s Eyasi and Balangida licences with totalling >1,000km². However, success on Rukwa and further exploration work on these licences will derisk the value.

NAV sensitivity to helium price and discount rate

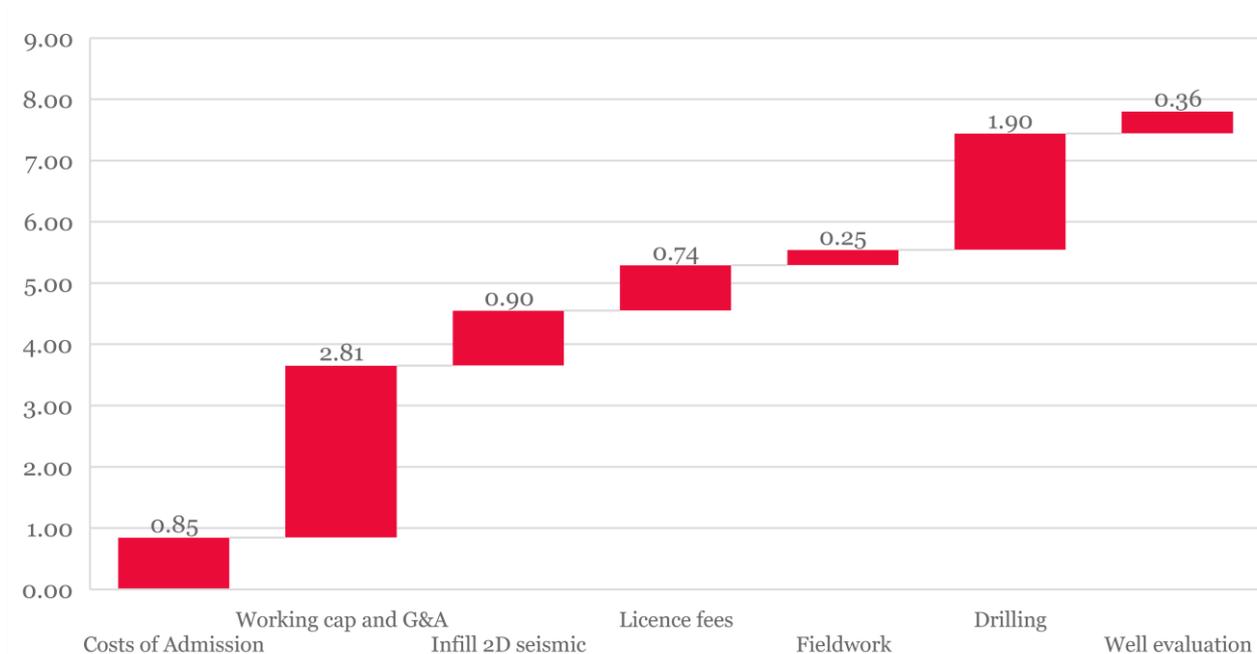
Risked	Discount rate	Helium Price (\$/mcf)				
		\$100.00	\$175.00	\$250.00	\$325.00	\$400.00
10%	10%	4.5p	8.8p	13.1p	17.4p	21.7p
12%	12%	4.0p	7.9p	11.7p	15.6p	19.4p
14%	14%	3.6p	7.1p	10.6p	14.1p	17.5p
16%	16%	3.3p	6.5p	9.6p	12.7p	15.8p
18%	18%	3.0p	5.9p	8.7p	11.6p	14.4p

Unrisked	Discount rate	Helium Price (\$/mcf)				
		\$100.00	\$175.00	\$250.00	\$325.00	\$400.00
10%	10%	30p	83p	135p	187p	239p
12%	12%	25p	72p	118p	165p	211p
14%	14%	20p	62p	104p	146p	188p
16%	16%	16p	54p	92p	130p	168p
18%	18%	12p	47p	82p	116p	150p

Source: H&P estimates

Balance Sheet and Funding

Estimated 2021 cash flow and uses (US\$mm)



Source: H&P estimates; HE1 prospectus

We think the detailed financial statements are currently somewhat meaningless for Helium One given it is not generating any revenue at present. We believe that it is more important to look at the cash flow elements and liquidity of the company based on our current expectations.

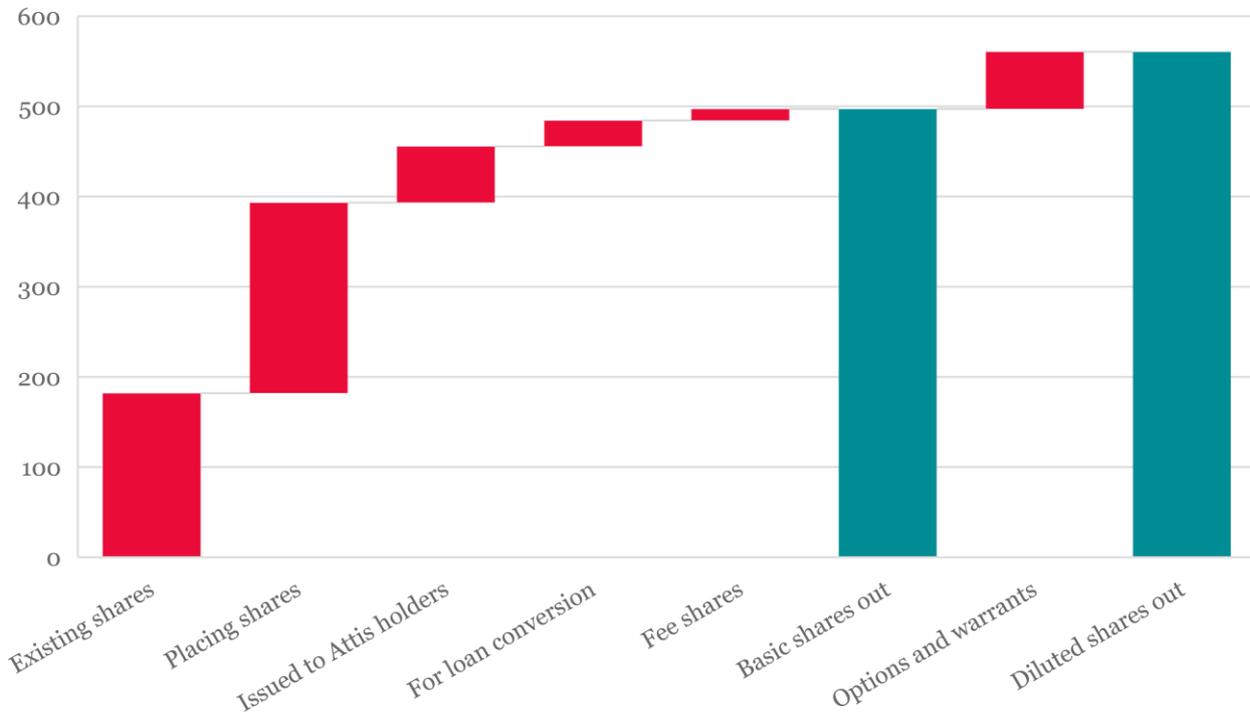
Following the agreement to merge with Attis Oil and Gas, HE1 planned to raise £5mm. This is that amount of capital required to take the company through the drilling campaign. Investor interest far exceeded expectations with £8.5mm of firm orders taken in rapid fashion. As a result, HE1 increased the size of the raise by 20% to £6mm and this has provided additional capital for HE1 to shoot infill seismic.

HE1 should be fully funded to drill and test three wells on its Rukwa block to give it vital and valuable information on the subsurface and hopefully confirm a likely commercial discovery. It will require further funding after the drilling campaign to undertake further exploration and appraisal activity. It has committed minimum spend and licence fees of US\$5.6mm within the next 5 years.

Now that Helium One is listed on the AIM market it has more ready access to capital. In the event of a successful exploration well we see several avenues for Helium One to raise the funds to develop the helium. Helium One currently owns 100% of the asset, so there is plenty of room to farm-down any discovery and gain a carry-on development. It could also raise debt against a potential development, and there may be the possibility of leasing the equipment prior to first cash flows, reducing the funding requirement. Raising further equity is clearly another option in a success case scenario to fund both the development and expand the exploration programme.

Shares and shareholder structure

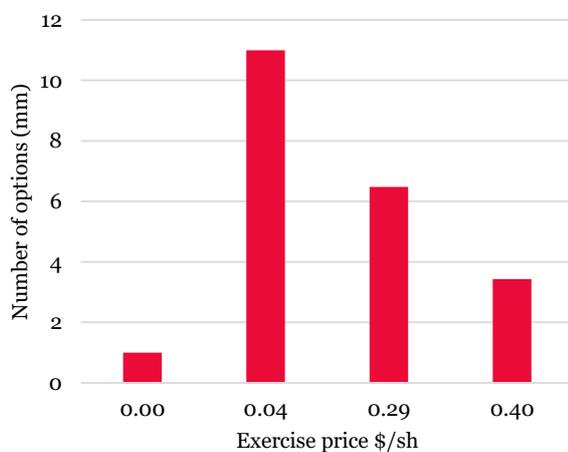
Build-up of shares and options



Source: S&P Capital IQ

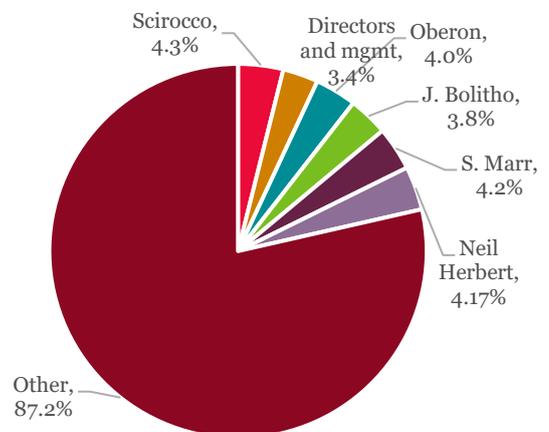
There are 497mm basic shares outstanding and a further 54mm options and warrants that are in or close to being in the money. There are another 10mm options significantly out of the money. The largest shareholder in HE1 is Scirocco Energy (SCIR:LN). Management and the board own 3% of the company plus they have a combined 30mm options taking the total ownership as a percentage of the diluted shares of 8%.

Options outstanding by exercise price



Source: Company data, H&P estimates

HE1's significant shareholders



Loan conversion

HE1 issued 29mm Loan Conversion Shares to Convertible Loan Noteholders on admission. Helium One completed a pre-IPO round of financing in July and October 2020 to raise US\$750,000 to fund working capital and the payments in respect of the extension of the Company's licences in Tanzania. Additionally, the Company issued a convertible loan note in March 2020 for US\$50,000. These converted to equity at a 30% discount to the placing price.

Amalgamation with Attis

Helium One was a private company between 2015 and 2020 when it decided to find a shell company with which to combine to gain a UK listing. On 5th November 2020 Attis Oil and Gas Limited (AIM:AUGL) announced it had entered into a binding Implementation Agreement with Helium One Treasury Ltd, a wholly-owned subsidiary of Helium One Global Limited. The agreement set out the commercial terms of a proposed merger by way of an amalgamation under BVI law. The Attis share price rose >100% on the announcement.

- The amalgamation valued Attis at £1.76m, representing approx. 0.012p for each Attis Ordinary Share of no par value.
- Helium One was valued at £6.0m, representing 2.84p for each Helium One share.
- Attis shareholders were issued 1 Helium One share for every 236 Attis shares. Attis shareholders held approximately 13% of the enlarged Helium One Group on Admission.
- £6mm was raised (before expenses) by the conditional Placing of 211,267,597 ordinary shares at 2.84p/sh. The Placing attracted strong support from institutional and other investors and was significantly oversubscribed (investor demand of over £8.5mm). The percentage of the Enlarged Issued Share Capital represented by the Placing Shares and Subscription Shares was 42.54%.
- Paolo Amoruso, Attis' Chairman, stepped down as an executive and board member effective from the date of Helium One's Admission.
- The Amalgamation became effective on 3 December 2020.
- Cancellation became effective on 4 December 2020.
- Admission of the Helium One Global Shares to trading on AIM became effective on 4 December 2020.

Peer group comparison

	Country	Market Cap \$mm	Net Debt \$mm	YTD	1 month	6 month	1 year	2 year
% performance (TSR)								
Desert Mountain Energy*	Canada	81	-1	678%	-3%	434%	726%	819%
Royal Helium*	Canada	12	0	781%	0%	191%	795%	262%
Blue Star Helium*	Australia	35	-1	421%	-2%	210%	431%	343%
Reenergy**	South Africa	101	20	-14%	16%	22%	24%	45%
PetroSun**	United States	24	1	17%	17%	39%	1%	-36%
Helium One Global	Tanzania	47	0	n/a	n/a	n/a	n/a	n/a

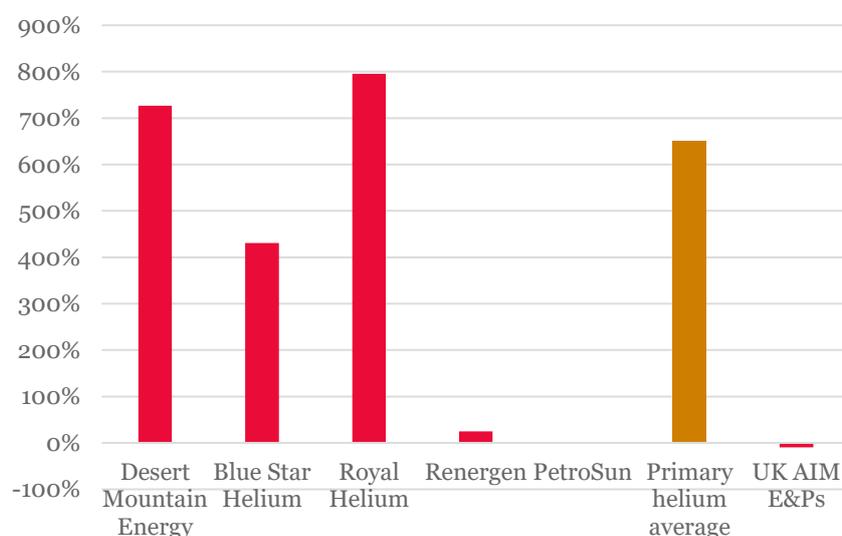
Source: H&P estimates: *Primary helium exploration company; ** Hydrocarbon exploration companies with helium by-product exposure

There are no listed helium focused exploration and production companies in Europe, so it is difficult to find a universe with which to compare HE1. There are a few other listed helium companies globally. Performance and commentary from these companies are likely to impact sentiment on HE1. Also, we see the potential for several private helium companies to pursue IPOs over the coming year.

Besides HE1, there are five listed helium focused upstream companies with an aggregate market capitalisation of US\$250mm. These companies have been extremely strong performers over the last year, with an average total shareholder return of 395%, demonstrating the market's increased interest in the helium space. More pertinently, the 3 primary helium companies, are up >650%. Some of this has been to the detriment of the oil and gas exploration space as this sector is down sharply over the last year (UK AIM E&Ps have fallen by 10% on average).

Given that the listed peers are all early stage, it is difficult to perform any meaningful comparative analysis. However, Desert Mountain helium, which has successfully flowed a couple of wells and is planning production in 2021, already has a market cap of US\$80mm, >1.7x that of HE1. We provide a detailed list of the private and public helium companies in our helium macro note, also published today.

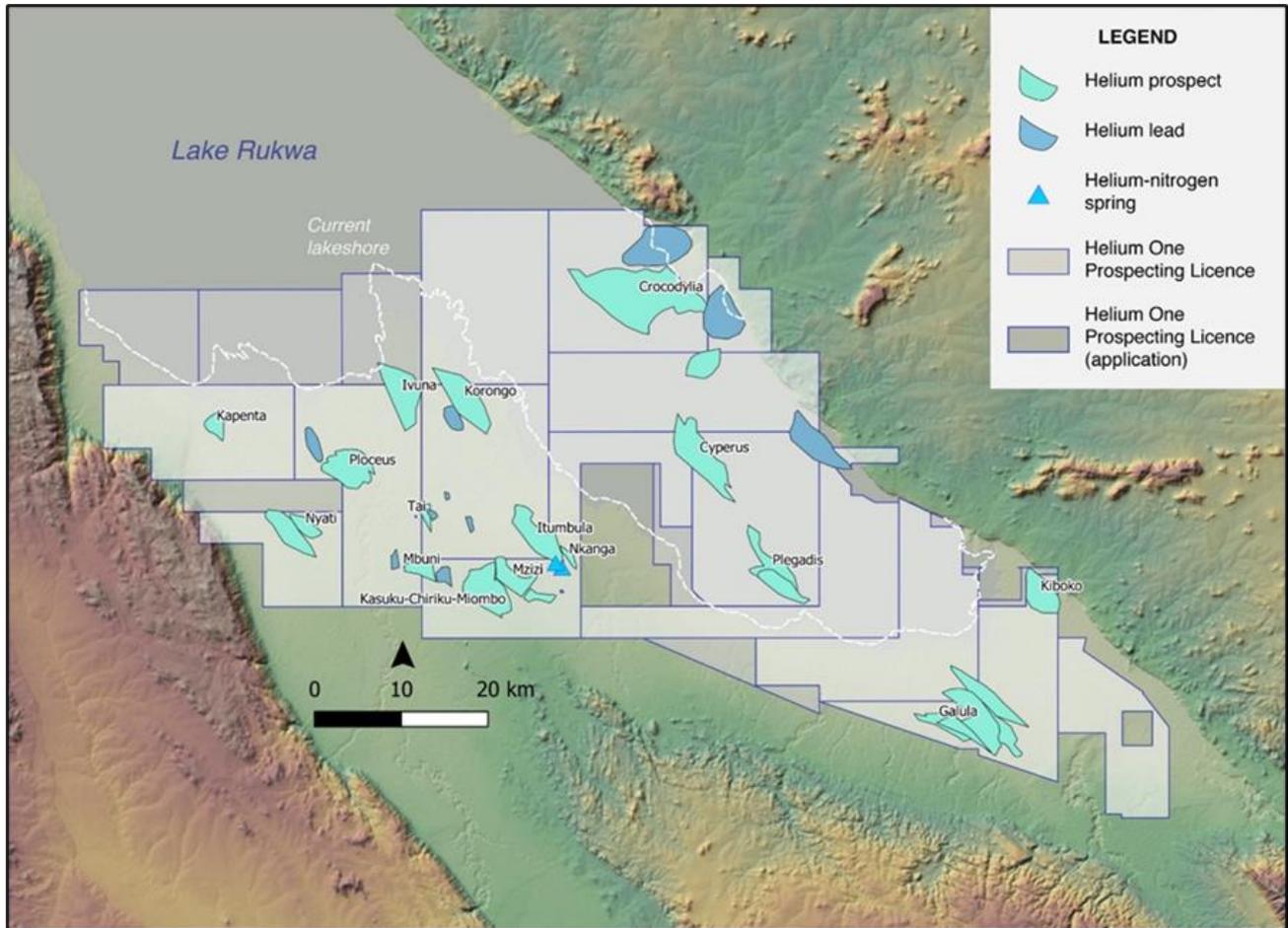
1-year performance (TSR) of the listed helium companies versus the AIM E&Ps



Source: H&P estimates

Rukwa Project

Rukwa licence map



Source: Helium One

Helium One’s main project is located within the Rukwa Rift Basin (RRB) in south-west Tanzania. Lake Rukwa is part of the Southern Rift Valley lakes, which include Lake Tanganyika and Lake Malawi. Around Lake Rukwa, especially on its southern and eastern flanks, there are several international and domestic exploration and mining projects. HE1 has multiple licences that comprise the Rukwa project and independent experts have estimated unrisks recoverable helium of 138bcf or 14bcf risked (the equivalent of two years of global helium supply). HE1 has spent around US\$8mm to date.

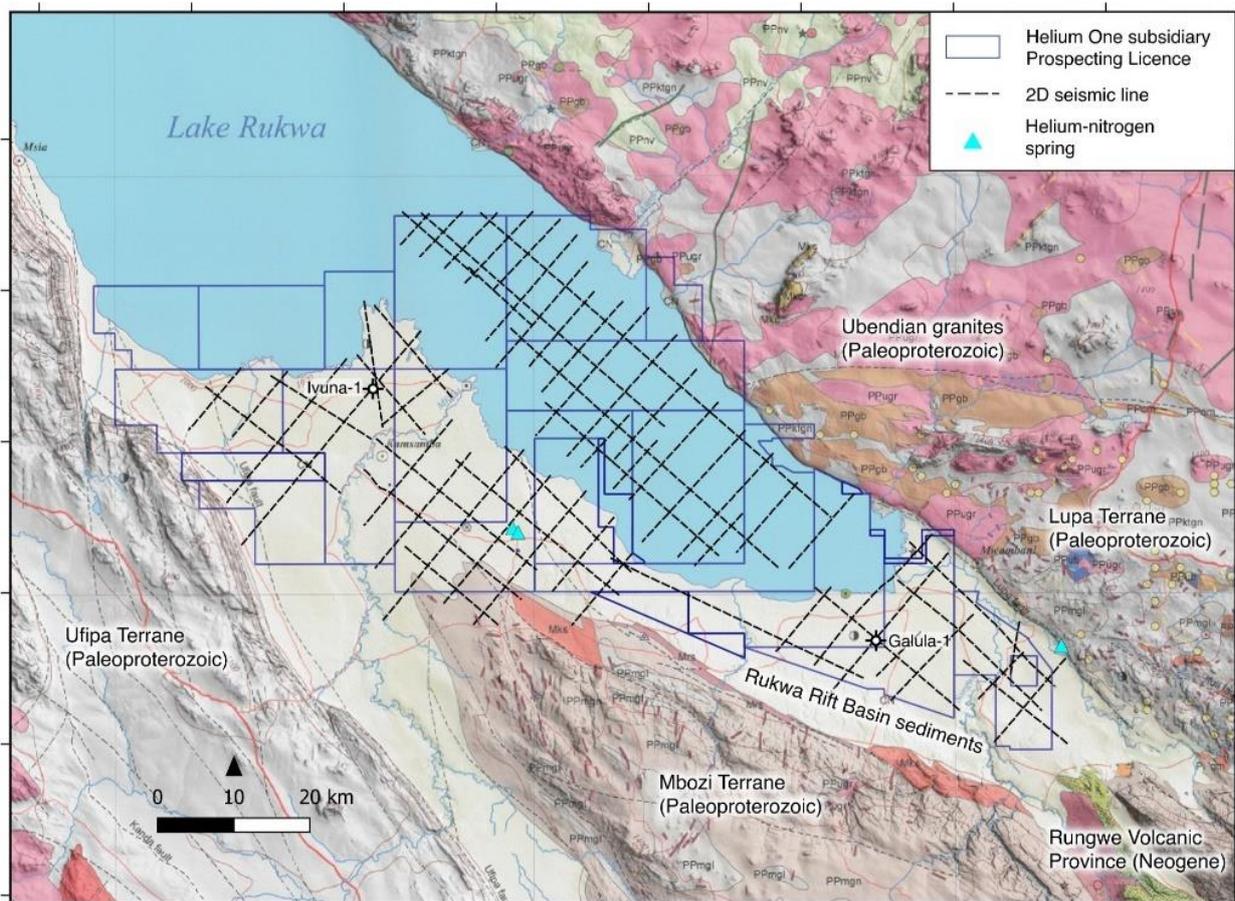
HE1 has had the licences for around five years and carried out extensive analysis to identify its prospects and leads. Each of the three prospects it will drill in early 2021 has three stacked targets, in essence providing nine shots on goal for HE1, each one having ~2bcf of unrisks potential which would be worth ~US\$100mm, as well as significantly de-risking further prospects. The fiscal terms are attractive with a simple tax and royalty regime, and the size of the project means there should be less bureaucracy and permitting requirements relative to a large oil and gas project. In a successful scenario, production could be online by 2023 and HE1 at plateau would generate around US\$50mm in FCF with an NPV of US\$90mm and >50% IRR.

Licence history and data acquisition

Initial work and discovery of helium in the project area was undertaken and documented by T.C. James in 1967, who collected a gas sample from the Itumbula Spring in the Rukwa area. The gas sample analysed indicated a helium concentration of 4.2% and suggested that gas discharge was predominantly nitrogen-rich (87.5%) with trace amounts of hydrocarbons (5.4%) and carbon dioxide (0.8%).

Work undertaken during the 1980s and 1990s to assess the hydrocarbon potential of Lake Rukwa defined the structure and stratigraphy of the Rukwa Rift Basin using gravity, seismic reflection surveys, fieldwork reports and drilling of two exploration wells, Ivuna-1 and Galula-1, by an Amoco led JV, which have provided valuable information about the geology and stratigraphic control. Helium was not measured during the drilling of Ivuna-1 and Galula-1.

Historic 2D seismic dataset for Rukwa



Source: Company data

In 1986-7 some 1,100km of 2D seismic data was acquired within the Rukwa Project area, both onshore and offshore within Lake Rukwa. The lines are widely spaced at between 3.5 km and 6 km intervals.

Helium One's permits were initially granted in September/October 2015 after which the Company carried out desktop work, including reviewing technical publications, re-sampling and analysis of helium-nitrogen bearing thermal springs, interpretation of open-source potential field geophysics data, a review of the historic well logs and the 2D seismic data, and fault and seismic horizon mapping, which resulted in the reinterpretation of some of the initial structures.

This enabled Helium One to plan field activities including further macroseep sampling, soil gas geochemistry analysis, and airborne gravity and magnetic survey, as well as reprocessing the 2D seismic data.

Macroseeps

A macroseep is a seep that has an obvious surface manifestation (i.e. springs). Macroseep sample collection was undertaken in November 2015 and again in January 2016. A third macroseep sampling program located at the Itumbula seep in Rukwa during November 2016 was led by an Oxford University team. A total of 22 macroseep gas samples were showing the deep gas concentrations to contain between 8 – 10% helium, with the remainder mostly nitrogen.

Soil sampling

In 2016 Helium One commissioned a soil gas sampling program to look at micro-seeps for fixed gases (He, H₂, CO₂, CO, O₂, and N₂) and C₁-C₄ hydrocarbon analysis. Microseeps lack an obvious surface manifestation. A total of 1,486 soil gas samples were collected at 1 m depth, at ~500m intervals, over the Rukwa project area. Widespread helium seepage in the soil profile was measured, in some cases within the vicinity of mapped prospects.

Gradiometry

Between December 2016 and February 2017 Airborne Gravity Gradiometry (AGG) and magnetic surveys were carried out over the Rukwa and Balangida licence areas. A total of 15,606km of data was acquired at Rukwa.

Seismic reprocessing

In 2018, HE1 engaged Earth Signal to reprocess the historic seismic data to enhance the structural and stratigraphic imaging through the application of modern processing techniques, which resulted in a step-change improvement especially of the deeper image.

Well log analysis

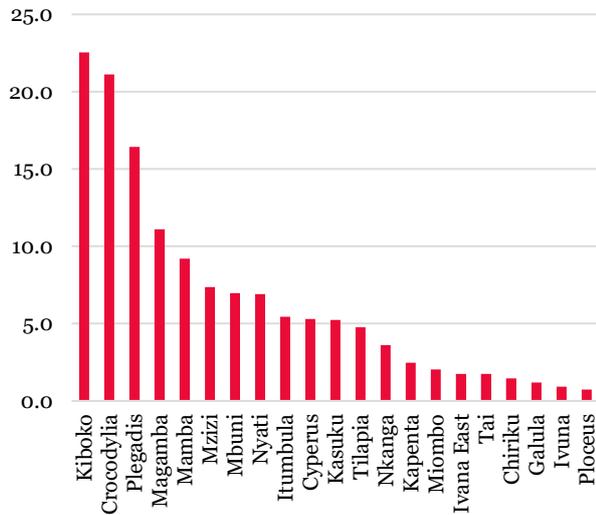
Petrophysical log analysis by Bryneich Energy (2018) from Ivuna-1 and Galula-1 well data calculated sandstone reservoir porosity in the Karoo between 13 and 18%, and between 15% and 30% within the Lake Bed Formation and Red Sandstone Group.

Further data reprocessing

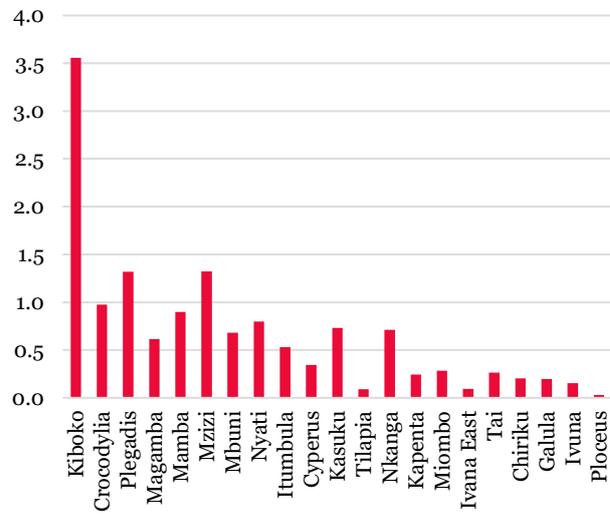
InSeisive interpreted the reprocessed 2D seismic data, in conjunction with the 2017 gravity and magnetic survey data, the historic Ivuna-1 and Galula-1 well log data and the macro and micro-seep data. InSeisive's (2018) interpretation and mapping review was validated by Havoc Partners (2019).

Resource potential

Unrisked P50 recoverable helium by prospect, bcf



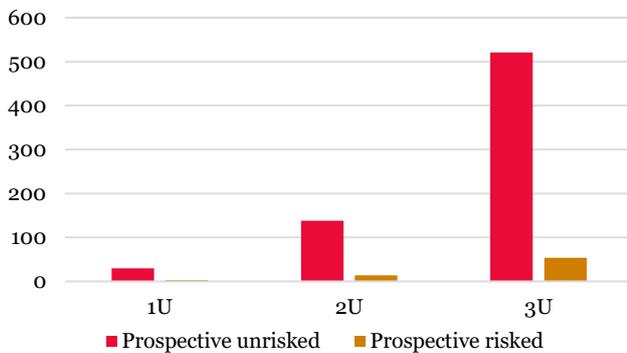
Risked P50 recoverable helium by prospect, bcf



Source: Company data, H&P estimates

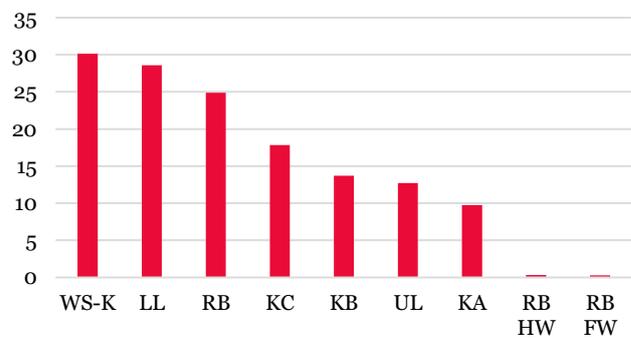
A total of 21 Prospects and four leads have been identified for helium exploration in the Rukwa Rift Basin. The prospects have a total unrisked base case recoverable helium potential of 138bcf or 14bcf on a risked basis (average 10% geological chance of success). The high or P10 case is almost four times higher at >500bcf gross unrisked.

Gross prospective risked and unrisked resource by category, bcf



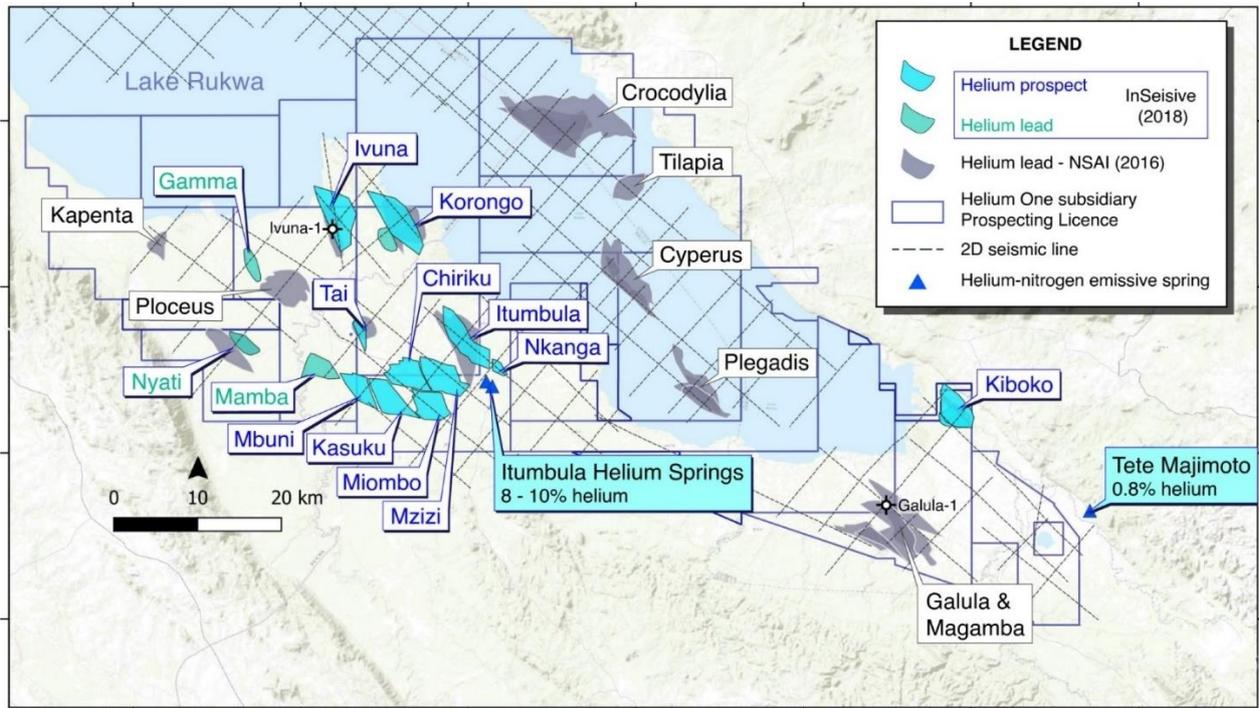
Source: Company data, H&P estimates

Unrisked P50 recoverable helium by prospect, bcf



In terms of the gas in place, it is assumed between 61% (P90 case) and 72% (P10) will be recoverable, which is reasonable compared to gas discoveries globally which have high recovery rates. In aggregate across all the prospects, the helium content is assumed to be 3% in the P90 case, 4.2% in the P50 case and 4.9% in the P10 case. Given that there has been significantly higher concentrations of helium found in surface seeps, we believe that there is a good chance that if helium is found it could exceed the P10 case, which means that the size of the recoverable helium from the prospects could be significantly higher than the base case (P50). The prospects comprising several anticlinal rollovers and drapes, often fault-bounded and draped over extensional blocks associated with rift growth. Four horizons – Upper Lake Beds (UL), Lower Lake Beds (LL), Red Sandstone Group (RB) and Karoo White Sands Beds (KA, KB, KC) – were considered in determining target unrisked volumetrics.

21 Prospects and 4 Leads in the Rukwa Leases



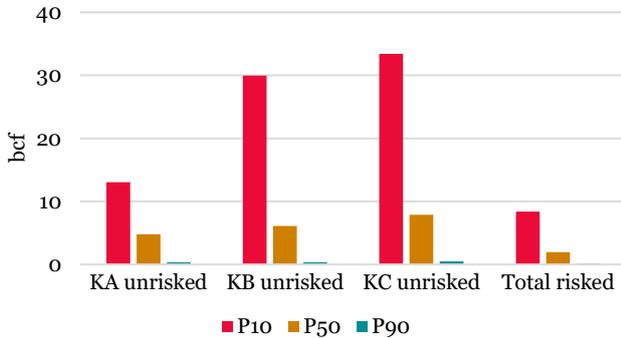
Source: Company data

Prospects and leads unrisks and risks size, bcf and implied chance of success							
	P90 unrisks	P50 unrisks	P10 unrisks	P90 risks	P50 risks	P10 risks	P50 CoS
Kiboko	6.9	22.5	73.7	1.09	3.6	11.7	16%
Crocodylia	4.9	21.1	80.5	0.23	1.0	3.7	5%
Plegadis	4.9	16.4	42.8	0.40	1.3	3.3	8%
Magamba	2.1	11.1	50.9	0.11	0.6	2.8	6%
Mamba	0.5	9.2	28.3	0.05	0.9	2.8	10%
Mzizi	2.0	7.4	27.5	0.36	1.3	4.9	18%
Mbuni	0.3	7.0	21.0	0.02	0.7	2.0	10%
Nyati	1.8	6.9	21.1	0.21	0.8	2.4	12%
Itumbula	0.4	5.4	33.6	0.04	0.5	3.3	10%
Cyperus	1.3	5.3	17.9	0.09	0.3	1.2	6%
Kasuku	0.5	5.2	21.9	0.07	0.7	3.1	14%
Tilapia	1.3	4.8	13.9	0.02	0.1	0.3	2%
Nkanga	0.5	3.6	18.0	0.09	0.7	3.6	20%
Kapenta	0.8	2.5	5.8	0.07	0.2	0.6	10%
Miombo	0.1	2.0	27.6	0.02	0.3	3.9	14%
Ivana East	0.4	1.8	7.1	0.02	0.1	0.4	5%
Tai	0.6	1.7	5.5	0.08	0.3	0.8	15%
Chiriku	0.1	1.5	9.6	0.01	0.2	1.3	14%
Galula	0.2	1.2	6.2	0.03	0.2	1.0	17%
Ivuna	0.2	0.9	4.3	0.03	0.2	0.7	16%
Ploceus	0.1	0.7	4.3	0.004	0.03	0.2	4%
Arithmetic Total	29.7	138.3	521.0	3.1	14.0	53.8	10%

Source: Company data, H&P estimates

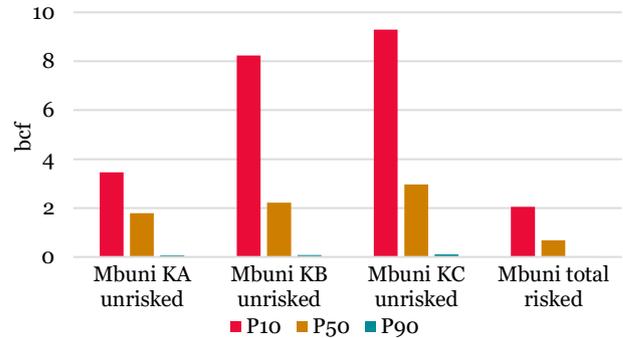
Exploration and appraisal plans

3 prospects risked and unrisked resource, P10-P90

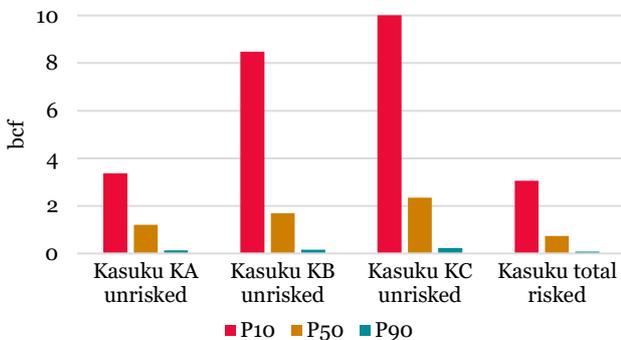


Source: Company data, H&P estimates

Mbuni risked and unrisked resource, P10-P90

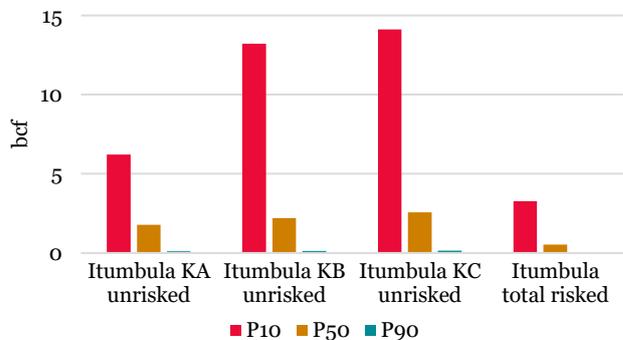


Kasuku risked and unrisked resource, P10-P90



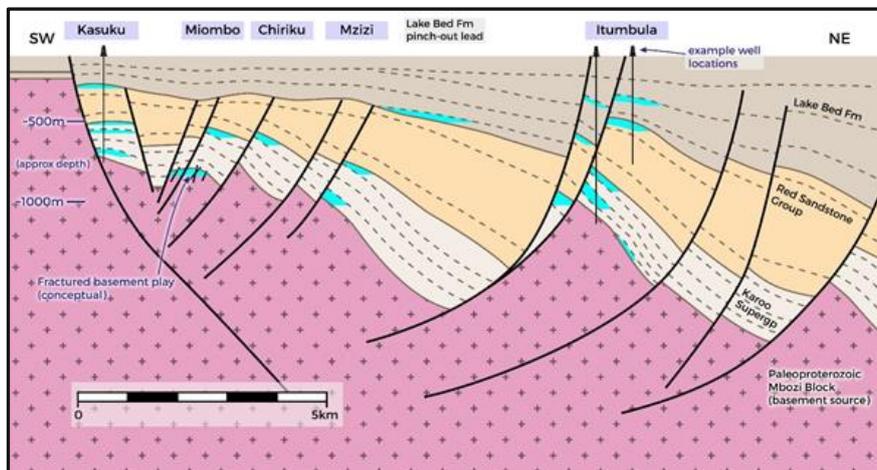
Source: Company data, H&P estimates

Itumbula risked and unrisked resource, P10-P90



HE1 plans to drill the Kasuku, Itumbula and Mbuni Prospects in Q2'21. The plan is to spud the first well in April 2021. The three prospects each have three different reservoir intervals being targeted, lowering the overall risk as in essence there are nine different targets with the three wells being drilled. All three wells are targeting the KA, KB and KC formations. In the P50 scenario, the percentage of helium is assumed to be 4.7%, which appears conservative.

Geologic cross-section interpretation of Helium One Prospect and Leads



Source: Company data

We have built a bottom-up risked valuation of the prospects that HE1 intends to drill on the Rukwa licence. Each of the prospects are between 5-7bcf and based on

our conceptual development model we have an NPV of US\$51/mcf, which implies an unrisksed value of on average US\$254mm for each the prospects, around 5x the current share price. We use the geological risking contained in the recent prospectus of between 10-17% for the prospects; however, we see this as conservative given the company believes that a 20% chance of success is more realistic. We also factor in a further 75% chance of commercialisation to take into account potential development risk, delays and the funding requirement for development. In total on a risksed basis, we see 9p/sh of value or >US\$50mm.

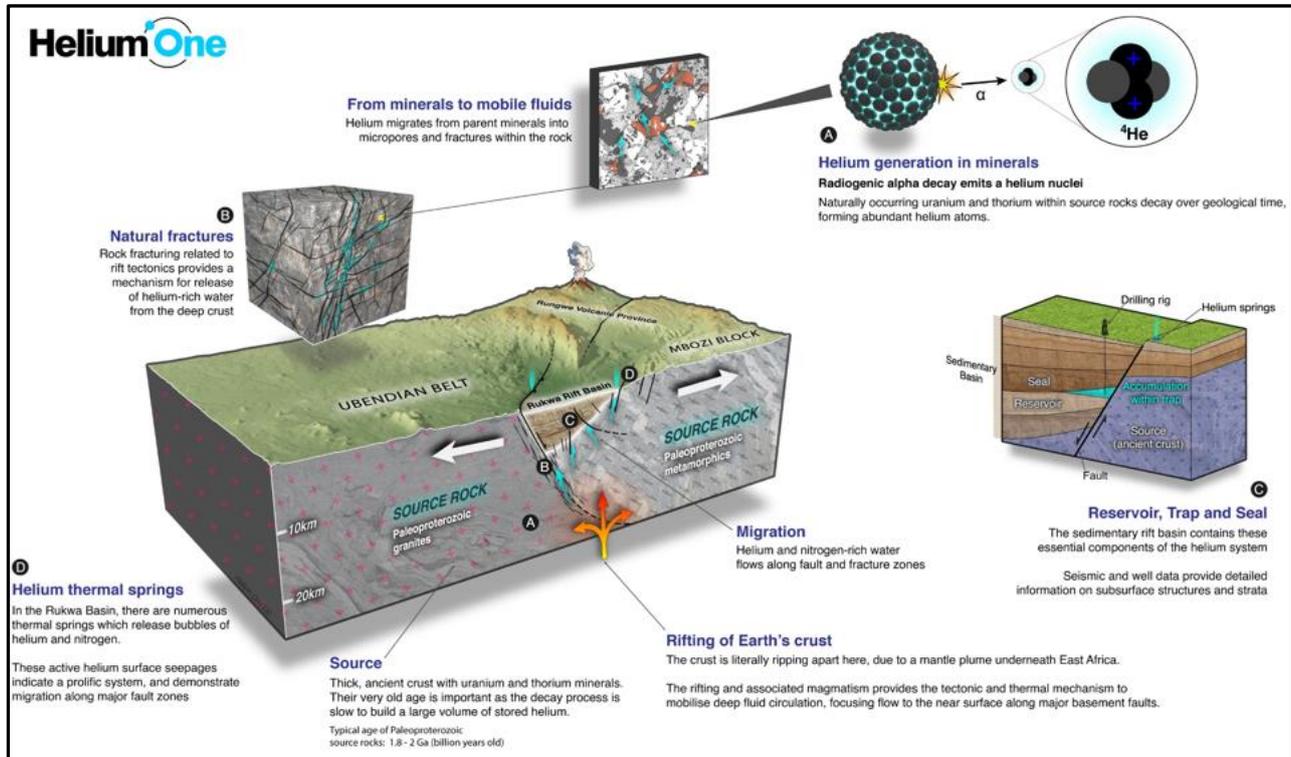
H&P valuation of planned 2021 exploration prospects to be drilled

Asset	Gross bcf	Interest	Net bcf	NPV US\$/bcf	Unrisksed US\$m	Unrisksed £/sh	Geo./techn. CoS	Comm. CoS	Well cost US\$m	Risksed US\$m	Risksed £/sh
Kasuku (Rukwa)	5	84.0%	4	\$51	\$226	£0.30	14%	75%	\$1	\$25	£0.03
Itumbula (Rukwa)	5	84.0%	5	\$51	\$235	£0.32	10%	75%	\$1	\$18	£0.02
Mbuni (Rukwa)	7	84.0%	6	\$51	\$301	£0.40	10%	75%	\$1	\$23	£0.03
Total	18	84%	15	\$51	\$762	£1.02			\$3	\$66	£0.09

Source: H&P estimates

Geological risk

Helium play system model in Rukwa



Source: Company data, H&P estimates

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. Rukwa appears to be in the 'Goldilocks' zone for helium generation, migration, and trapping. The Rukwa Rift Basin has 1km to 11 km of sedimentary fill, making it one of the thickest continental basins in Africa.

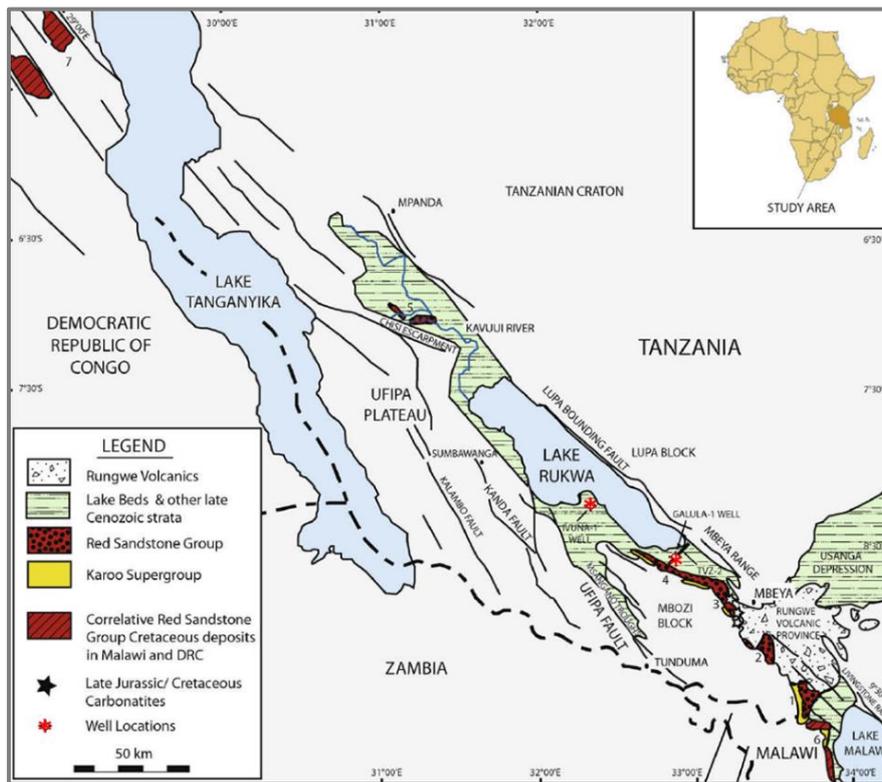
We see the source and migration risk as low. Given the numerous surface seeps of helium it is evident that helium is being produced and is migrating to surface. There are conventional trap structures, which have been defined on seismic/gravity data and known high-quality reservoirs (up to 30% porosity) and seals, which have been derisked by previous wells.

Helium surface seepage rates are not suitable for economic collection, but they demonstrate the potential to accumulate high reservoir helium since the time of formation of the local prospect traps. They have been sustained over a period, still going strong since the 1950s. Helium seepages are evidence of a prolific subsurface helium-rich fluid system. The position of the Itumbula seep is favourable for helium charge into nearby prospects.

Source

The helium in Rukwa is thought to be derived from the radiogenic decay of uranium and thorium within the Pre-Cambrian Basement. The extremely old age of the rocks means that there has been sufficient time for the slow decay process to take place and build a large amount of helium.

Rukwa Rift Basin showing major tectonic elements



Source: Company data, H&P estimates

Helium Macroseeps occur as springs located along the sedimentary basin margins in Tanzania. The widespread and prolific occurrence of helium-nitrogen thermal springs is unique globally.

Helium ($^3\text{He}/^4\text{He}$) isotope studies carried out at Oxford University identified a strongly crustal signature within the gases, which suggests that the helium is derived from the Pre-Cambrian basement. Local low-temperature hydrothermal systems ($\sim 110^\circ\text{C}$) are important as driving mechanisms in releasing and mobilising helium from basement rocks. The driving mechanism is thought to be related to the Rungwe Volcanic Province to the south and south-west.

Distance to the nearest volcanic province is important as it plays a significant role in the nature of the helium release, as well as initiating the driving mechanism for the release of the helium from the Precambrian basement source rocks. Results suggest that the distance from Rukwa to the nearest volcanic source is optimal – if too close to the volcanic province helium could be diluted by CO_2 , if too far the driving mechanism of the hydrothermal system is weakened, and not enough helium gas is released.

Migration

There needs to be a thermal release of the helium produced in ancient deep crust and in Rukwa this is caused by the crust ripping apart due to a mantle plume (upwelling of abnormally hot rock) underneath East Africa. This is exceedingly rare, which is why it is unusual to find large primary helium deposits globally. This rifting and associated magmatism focuses the flow to the near-surface along major basement faults. Helium and nitrogen-rich water is thought to flow along fault and fracture zones. Numerous thermal springs release bubbles of helium and nitrogen through surface seepages, indicating migration along major fault zones.

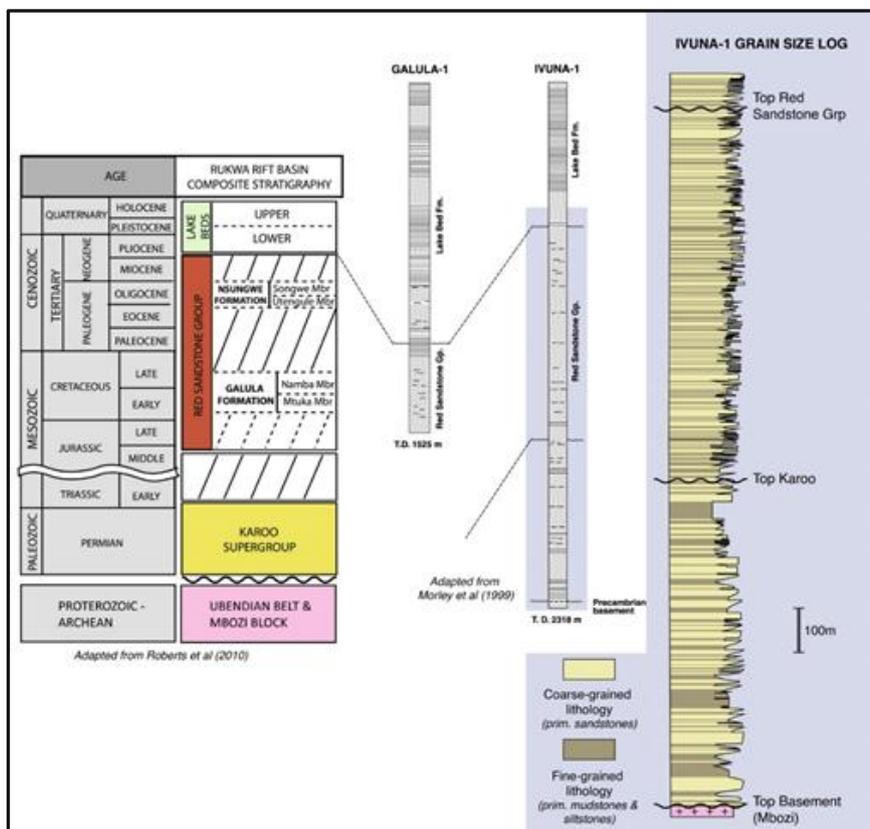
Reservoir

There are suitable reservoirs at multiple stratigraphic levels that have the capability to hold helium with good porosity. The sandstone reservoirs have been proven by the two wells drilled in 3 stratigraphic levels: the Lake Bed Formation, Red Sandstone Group and Karoo Super Group. The basin is dominated by sand (i.e. potential reservoirs) with shales (potential seals) more sparsely distributed.

Seal

The two historic (dry) petroleum exploration wells in the Rukwa Basin demonstrate stratigraphy with effective seal capacity. Additionally, bentonitic tuff beds described in the Lake Bed Formation and Red Sandstone Group have the potential for high-quality seals. Seals are present within and at the top of the Karoo section as evidenced by the Ivuna-1 well. Observed seismic amplitude anomalies are conformable to structural highs may be related to gas effect in the rock, in which case effective seal is demonstrated although well data is required to confirm this relationship.

Stratigraphic correlation of Ivuna-1 and Galula-1 petroleum wells

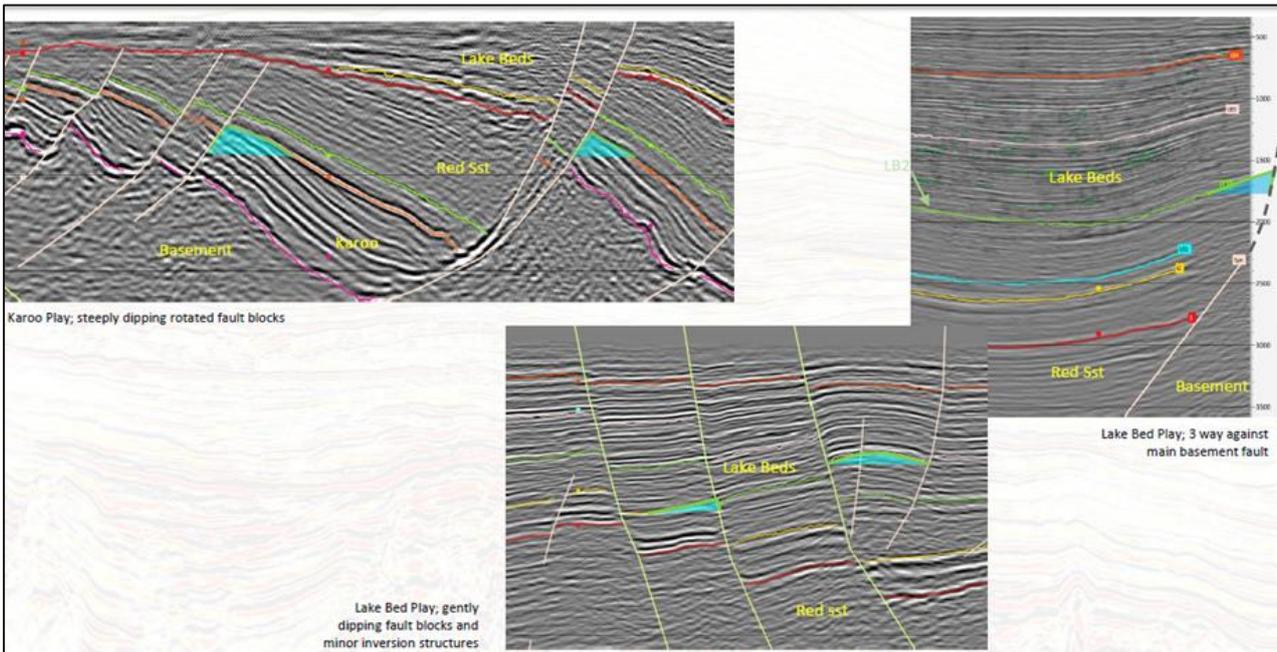


Source: Company data

Trap

Migration can be halted by seals or traps. If trapping structures are present on the migration pathway, a gas phase can accumulate. The trap will be filled with helium-rich gas until full and then spill. The excess spilt fraction if not trapped further up in the system will escape at surface seeps.

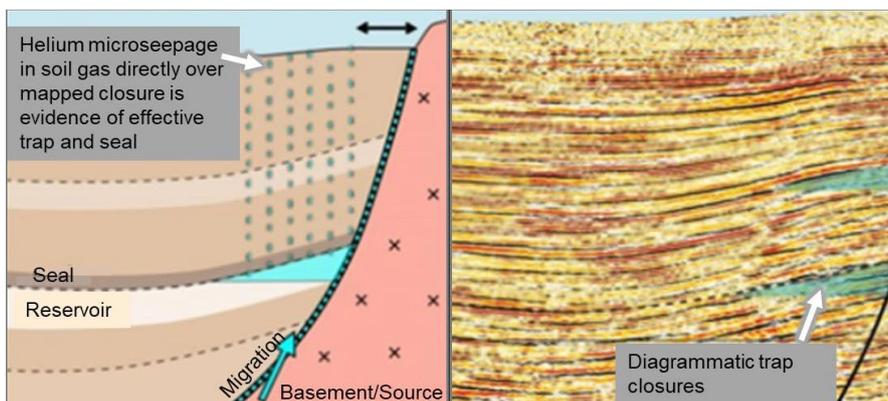
Rukwa Rift trapping styles



Source: InSeisive

Helium can be trapped at the top of the Red Sandstone by lacustrine shales at the base of the Lake Beds and anywhere within alternating sand/ shales throughout the Lake Bed sequence. The traps can be identified using seismic data. In the Karoo play, the dominant trapping geometry is rotated extensional fault blocks creating 3-way dip closures with fault seal in the 4th direction. The trapping style within the Lake Bed play is more varied than for the Karoo: there are gentle 3-way closures against faults as tested by the Ivuna-1 well and minor inversion structures, low relief 4-way traps, stacked low-relief 3-way traps against the fault. Stratigraphic trapping may also be present within the rift.

Interpreted micro-seepage migration pathways and potential relationship with trap geometry



Source: Company data, H&P estimates

Regulation and licence terms

Helium is governed in Tanzania by the Mining Act, which was amended in 2017 and is not covered by Hydrocarbon legislation as it is considered as an “Industrial Mineral”. Prospecting Licences (PLs) have an initial term of 4 years with the ability to renew for a further 3 years and then a further 2 years with no mandatory relinquishments necessary. There is a royalty rate of 3% applicable to helium produced from the licences. There is a requirement for all Mining Licensees to give the Government a minimum 16% free carried interest in the capital of their companies. The Government is entitled to purchase at market value up to 50% of the shares in a mining company, which can be paid via tax breaks on production. To date, this right has not been exercised by the government. Capex is depreciated over 5 years on a straight-line basis.

Valuation and economics

If HE1 is successful with one of the exploration wells we would expect it to carry out a bankable feasibility study in order to confirm production rates, the scalability potential, helium quality analysis, capital cost confirmation and operating margins.

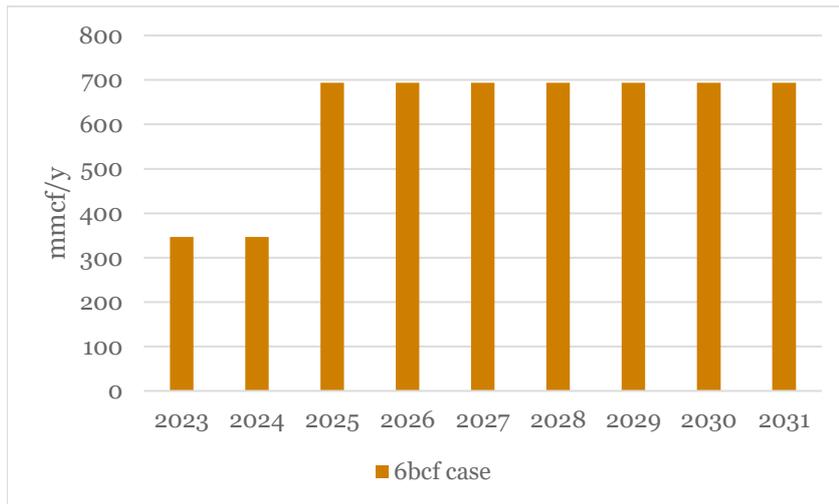
We have modelled out the development of a helium discovery to calculate the economics under various scenarios as there are many uncertainties at present (e.g. helium price, size of discovery, flow rates, size of development etc.). Our base case scenario is shown below, and we estimate an NPV₁₄ valuation of US\$51/mcf of recoverable helium. We see a break-even price to generate a 12% IRR of ~US\$100/mcf for a 2bcf discovery. The three prospects that Helium One is targeting are on average 6bcf and we see a discovery of this size as worth ~US\$250mm on an unrisks basis net to HE1, which shows the upside potential relative to Helium One’s current valuation. In a 6bcf scenario the break-even price to generate a double digit IRR falls to under US\$70/mcf. The overall NPV per mcf for either a 2bcf or 6bcf development is similar at our base case 14% discount rate as although there are economies of scale, the production that is further out in the 6bcf case has a low value due to the time value of money.

Assumptions	Units	Value
Helium price (flat)	\$/mcf	250
Discount rate		14%
Discount date		2021
Inflation rate		0%
Development start date		2022
First production		2023
Government carried stake		16%
Recoverable helium	bcf	6.0
Production capacity	mmcf/d	2
Production capacity	mmcf/y	730
Facility uptime	%	95%
Variable operating cost	\$/mcf	\$15
Well	\$mm	\$9
First plant	\$mm	\$50
Second plant	\$mm	\$40
Power	\$mm	\$10
Contingency	20%	\$14
Total capex	\$mm	\$129

Source: Company data, H&P estimates

We have modelled out a potential development scenario for a 6bcf discovery at Rukwa. We are using a base case helium price of US\$250/mcf flat in nominal terms, a discount rate of 14% starting from 1/1/21 and we assume that the Government backs in for a 16% carried interest. Our base case NPV₁₄ value net to HE1 is US\$259m or US\$51/mcf. The IRR of the project to HE1 is 73%. The breakeven helium price required to earn a double-digit IRR is under US\$70/mcf.

Production scenario for a 6bcf development

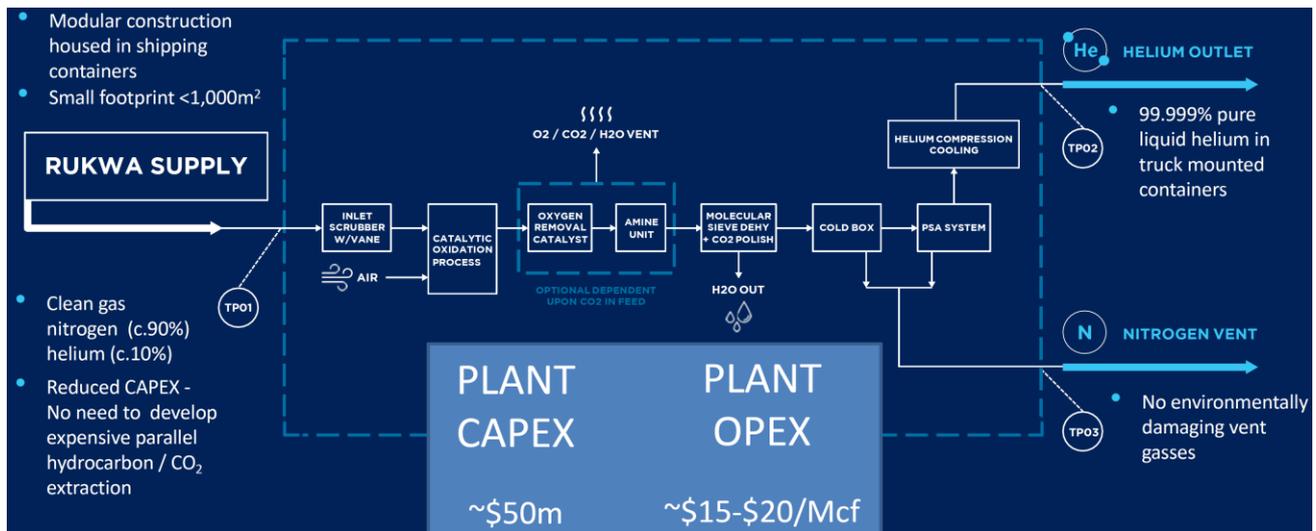


Source: H&P estimates

We have looked at a development case of 6bcf, which in the event of a discovery is realistic given the likelihood of follow-on success. In the event of a successful well being drilled in H2'21, it is possible that appraisal and development planning go ahead in H2'21, hand-in-hand, allowing the development to take place over the course of 2022 and first gas possible as early as H1'23. Based on a 6bcf discovery, we think that a 1mmcf/d plant that initially produces one ISO container of liquid helium per day would be feasible, growing to 2 ISO containers a day (700mmcf/y) by 2025. We use a 95% plant uptime rate.

The development is expected to be straightforward (unlike a traditional oil and gas project). The wells are much cheaper than oil and gas wells to drill and complete (estimated cost of US\$3mm per well). The processing plant can be constructed abroad requiring only installation and commissioning – the size of the plant is small at <1,000m². The estimated cost for a plant is US\$50mm.

Simple industry standard gas processing technology



Source: Company data

According to HE1, operating costs are expected to be between US\$15-20/mcf but to be conservative we have assumed US\$20/mcf for a smaller scale plant scenario and US\$15/mcf for our base case 6bcf development. We also assume US\$1/mcf of maintenance capex.

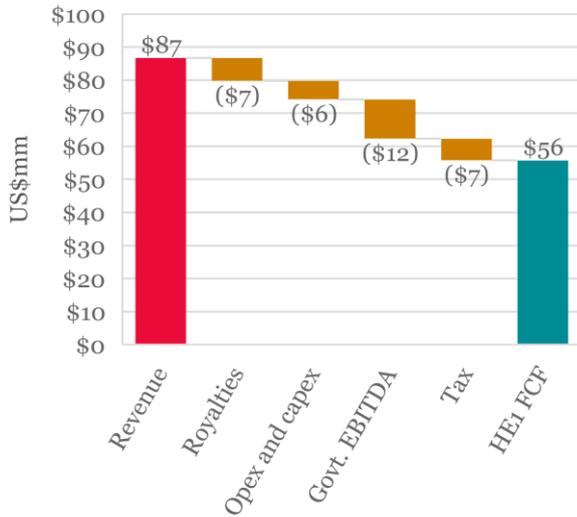
Sensitivity of NPV14 (\$mm) of a 6bcf development to capex and opex

		Capex % contingency			
		0%	20%	40%	60%
Opex per mcf	\$15	\$268	\$259	\$250	\$241
	\$20	\$260	\$251	\$242	\$233
	\$25	\$253	\$244	\$235	\$226
	\$30	\$245	\$236	\$227	\$218

Source: H&P estimates

We expect the plant at plateau production to generate US\$87mm in revenue per annum based on US\$250/mcf in 2023. This should result in EBITDA net to HE1 of US\$75mm and post-tax free cash flow of US\$56mm, demonstrating very quick payback on the plant.

2023E allocation of revenues in absolute terms (\$mm)



Allocation of revenues on a unit basis (\$/mcf)



Source: Company data, H&P estimates

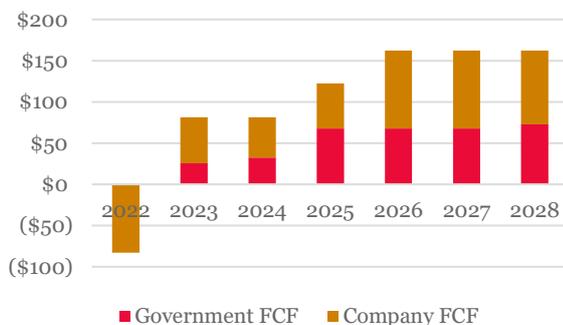
Sensitivity of NPV14 (\$mm) of a 6bcf development to helium price and discount rate

		Capex % contingency			
		10%	14%	16%	18%
Helium price \$/mcf	\$100	72	46	36	27
	\$175	204	153	133	115
	\$250	336	259	228	202
	\$325	467	365	324	289

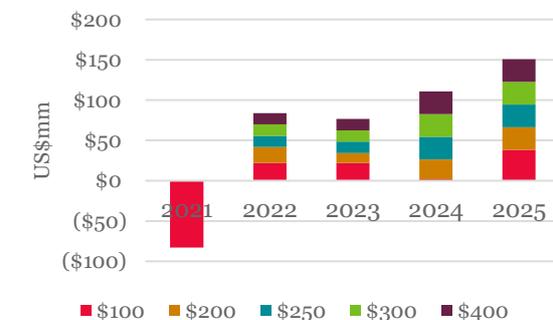
Source: H&P estimates

The left chart below shows the split of the FCF from the asset between the Government and the company. Given that the Government is fully carried the full capex would be borne by HE1 in 2022 but then the company will get >50% of the FCF in the future from the asset. The right-hand chart shows the sensitivity of HE1's potential FCF to the helium price. Even at a draconian US\$100/mcf, the company will be generating significant free cash flow and at a helium price of US\$400/mcf, the company would generate ~US\$75mm of free cash flow.

Split of FCF and taxes from asset (\$mm)



HE1 FCF at various helium prices (\$/mcf)

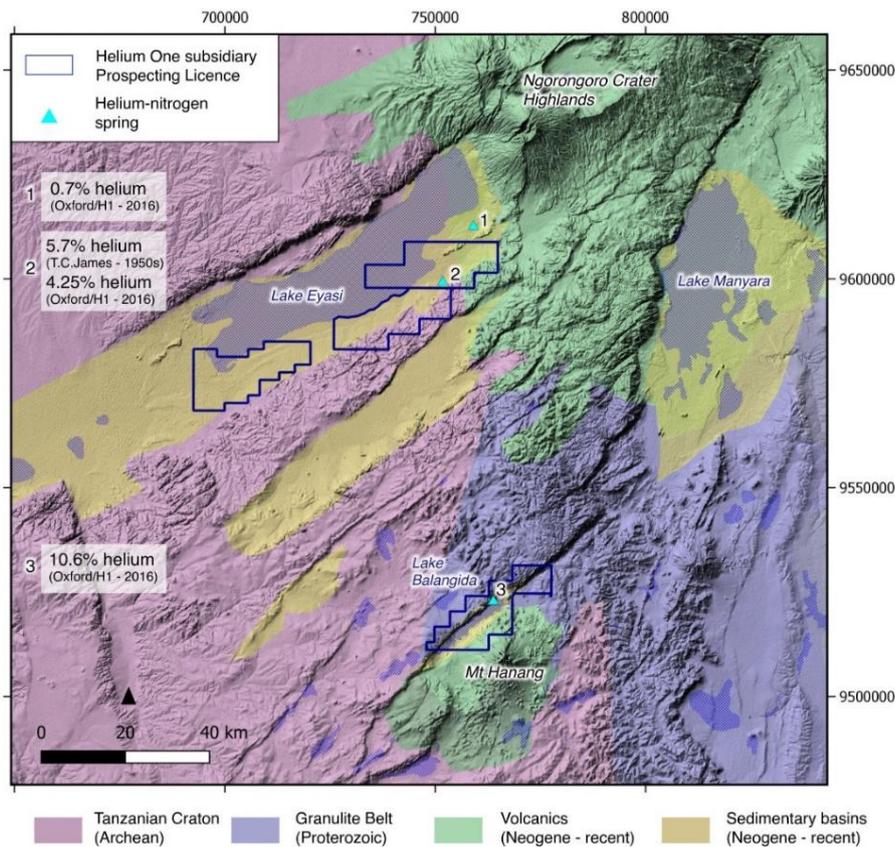


Source: Company data, H&P estimates

Other Assets

Eyasi and Balangida

Lake Eyasi and Lake Balangida surface geology map with surface topography and helium spring locations



Source: Company data

In addition to Rukwa, HE1 has licences that are prospective for helium in two other regions of Tanzania. The Balangida and Eyasi projects are located in and around lakes of the same names in the Manyara and Arusha Regions respectively. The Eyasi and Balangida Projects cover a portion of the East African Rift System that is relatively unexplored for helium and petroleum. There are several helium-nitrogen seeps at surface providing strong evidence of an active helium system, related to extensional rift tectonics.

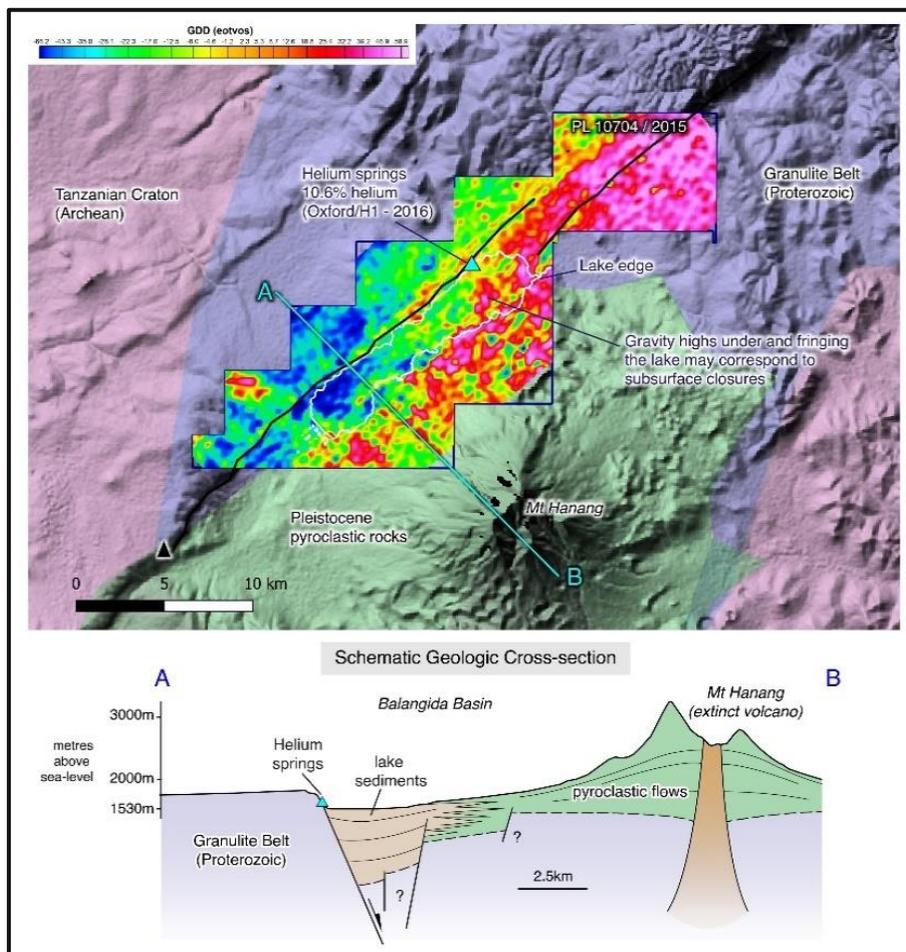
The licences on Eyasi and Balangida are less progressed than the Rukwa area but there is strong evidence of an active helium system given several helium-nitrogen seeps at the surface. Success in the Rukwa area would derisk the helium potential in the Eyasi and Balangida areas given the potential for similar play types in these areas.

Although there has been no drilling on the licences to provide geological data, and there is no historic seismic data, there is gravity and aeromagnetic data that suggest that subsurface rift basins are present. Aeromagnetic and gravity data are typically acquired in sedimentary basins in guiding exploration in particular plays especially those where basement structure and tectonics are fundamental, or where intra-sedimentary volcanics are involved.

Given the early-stage nature of exploration on these licences, we do not carry any value in our NAV. We do see there being option value in these assets, especially if there is success at Rukwa. We think there is the opportunity to firm up some prospects through additional geological investigation and seismic work to mature some prospects that we can include in our risked NAV. Also, we see the potential for HE1 to potentially farm down its acreage in return for carried exploration, especially if success on Rukwa ignites interest in the helium play in Tanzania.

Balangida

Raw gravity gradient (1st vertical derivative) within the Balangida Project Area, location of sampled helium seeps and interpretive geological cross-section



Source: Company data

The Balangida Project covers an area of some 260km² and comprises one PL. Gas analysis conducted in November 2015 returned helium concentrations up to 10.5% from thermal springs.

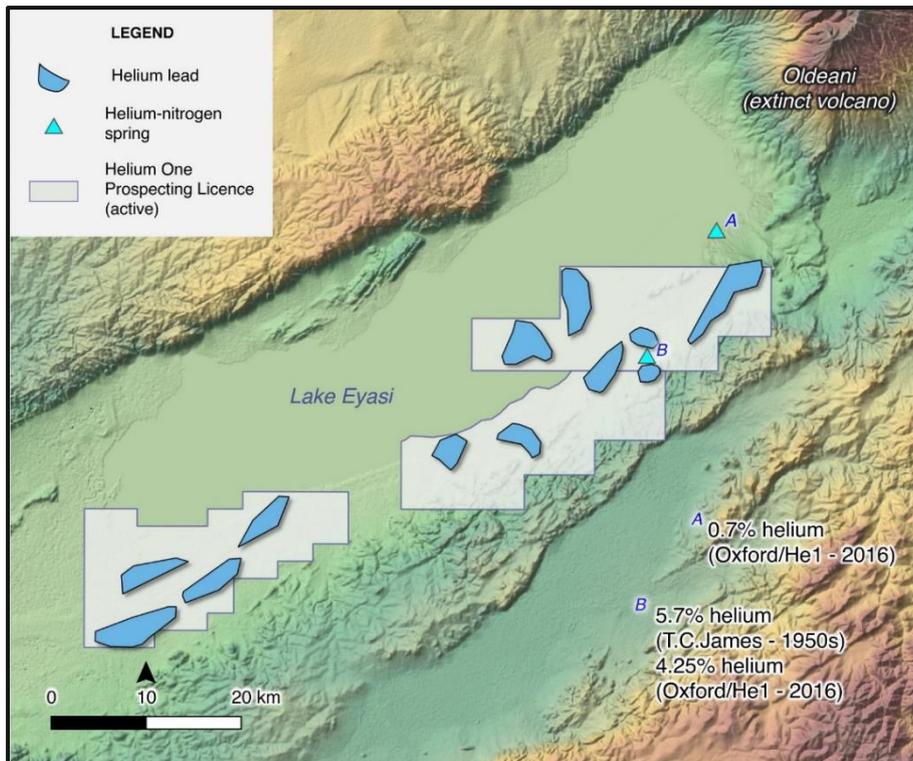
Lake Balangida is bounded on its western side by a major border fault where surface helium-nitrogen seepages (springs) occur with concentrations up to 10.6% helium. Salt accumulates as the lake seasonally dries out, which suggests the potential for salt sealing formations. Helium leads are based on gravity survey data that shows clear evidence of the rift system.

The thickness of the sedimentary section is currently unknown and with no seismic or drill hole data, reservoir potential is speculative at this stage. Gravity highs under and fringing the lake basin may correspond to prospective subsurface

structures. Schematic geologic cross-section normal to the basin axis illustrates the relationship with Neogene sedimentation and volcanoclastic flows with the underlying basement (helium source).

Eyasi

Mapped Leads in the Eyasi Project Area based on gravity gradiometry data



Source: Company data

The Eyasi Project comprises three PLs over an area of some 804 km². Gas analysis conducted in November 2015 returned helium concentrations of 4.3%. No seismic or well dataset is available in the Eyasi Project Area. Leads are mapped (Figure 6-4) based on data acquired from the CGG Multiphysics FALCON GDD (vertical gravity gradient). The Eyasi Basin is thought to be analogous to Rukwa Rift Basin with half-graben style traps are expected to occur. Gravity highs have been used to constrain the lead geometry. Surface helium-nitrogen seepages occur in proximity to mapped leads.

Management Profiles

We see HE1 having an effective management team, balancing both the technical and commercial sides of the helium business. The management team have experience of developing projects in a range of jurisdictions in Africa. It is technically-focused and led with experience of delivery on the continent. The members of the Company's Board, senior management team and technical team have extensive expertise in resource exploration including geology, geophysics, geochemistry, and drilling execution, development inclusive of engineering, procurement and construction and operations, inclusive of execution and delivery.

The overall management team and board has been shaken up and strengthened ahead of the public market listing. David Minchin, with both a strong technical background in geology and markets experience having been a natural resources investor into Africa, joined as CEO in November. Ian Stalker, who has a lifetime of experience of taking projects from exploration to production, has moved from CEO to Chairman. Russel Swarts with plenty of African senior financial roles is the new CFO. Robin Birchall, Sarah Cope and James Smith, all of whom have significant African resources experience were appointed as non-executive directors.

Management and senior leadership share ownership and options



Source: Company data

Management and the board own 3% of the company plus they have a combined 30mm options taking the total ownership as a percentage of the diluted shares of 8%. Directors have kept salaries to a minimum (e.g., £140k CEO's salary; £37.5k CFO) with a focus on options and share-based remuneration, meaning clear alignment with shareholders. Also, the company has minimal G&A as a result. Previous directors and non-executive directors also hold significant equity stakes (directly or indirectly): these include Chukwuemeka Obiora Okwuosa (2%), Jonathon Taylor (1.5%), Thomas Abraham-James (1.8%), Jeffrey Clarke (1.7%), Charles Wood (1.3%).

Board of Directors & Key Management

Name, Position and Tenure	Profile
John Ian Stalker, Chairman, June 2020	<ul style="list-style-type: none"> Over 47 years of experience in mine operations and resource development. He has directed various metal and mineral projects from initial exploration drilling to start-up phase worldwide Served as the CEO of Helium One from April 2019 till he was appointed as the Chairman Currently serves as a Non-Executive Lead Director of TSX listed K92 Mining Inc, and AIM listed Condor Gold as well as serving as Non-Executive Director of TomBillMines and Nexus Gold both on the TSXV Previously, served as the Chief Executive Officer at LSC Lithium, Brazilian Gold Corporation and K92 Mining until 2018. Also served as the Chief Executive Officer and later as Non-Executive Director of Berkeley Resources Ltd from 2009 to 2011 Prior to that, worked as the Chairman and Chief Executive Officer at Niger Uranium Ltd for 3 years and as the Chief Executive Officer of UraMin Inc. from 2005 until its acquisition in 2007 for US\$2.5bn Held several senior positions, notably as Vice President at Gold Fields Ltd and Managing Director (International Projects) at Ashanti Goldfields Holds a Chemical Engineering honours degree from the University of Strathclyde in Scotland
David Minchin, Chief Executive Officer, November 2020	<ul style="list-style-type: none"> Over 15 years of experience in mineral exploration and production, as well as expertise in resource investment Prior to joining Helium One, served as the Managing Director of ScandiVanadium Ltd, an exploration company with projects in Australia and Europe Previously, worked as the Director of Geology for AMED Funds focusing on projects in Africa, where he was responsible for the investment of ~US\$450mm in various projects from the exploration to feasibility stages Also, worked in various geology roles for Rio Tinto, the British Geological Survey and Cleveland Potash Ltd/ICL-Boulby During his tenure at ICL-Boulby as a Senior Exploration Geologist he was closely involved in the discovery of the 3.2Bt Polyhalite deposit that was subsequently put into production and extended operating mine life by over 30 years Holds a Masters' degree focused on Geology from Southampton University
Russel Swarts, Finance Director,	<ul style="list-style-type: none"> Extensive financial and corporate experience, ranging from large multinational to medium-sized corporations Held senior financial roles within several JSE listed South African companies Previously, served as the Non-Executive Director of Premier African Minerals Ltd from January 2017 to September 2018, and prior to that was the Chief Executive Officer at URU Metals for five years Also, served as the Chief Executive Officer of a specialist communications group in South Africa and Director at a Private Equity Investment group involved in energy and natural resources Qualified Chartered Accountant, serving articles with Price Waterhouse in Johannesburg from 1989 to 1991
Robin Birchall, Non-Executive Director, February 2020	<ul style="list-style-type: none"> Over 18 years of experience in the financing and management of resource companies Currently serves as the Chief Executive Officer of Giyani Metals, a listed manganese development company in Botswana Previously, served as the Chief Executive Officer of a private E&P company, Executive Chairman of Silver Bear Resources, Vice President - Investment and Corporate banking with BMO Capital. At BMO, led a wide variety of cross-border mining transactions including the PhosAgro US\$5.0bn IPO raising US\$538.0m Prior to BMO, served as the Vice President - Corporate Finance at Canaccord Adams Ltd from 2003 to early 2008, and participated in raising a total of over £2.0bn for projects and transactions to include a large number of primary and secondary, dual and US offerings Holds an MBA from the University of Cape Town and a Masters' degree in European Politics from the University of Edinburgh, a Première Degré en Langues Literature et Civilisation, from Stendahl Université, and a BA from Queens University

Name, Position and Tenure	Profile
Sarah Cope, Senior Independent Non-Executive Director, October 2020. (Since November 2018 was at Attis)	<ul style="list-style-type: none">• An investment banker in London with over 20 years of experience in advising small and mid-sized companies at Board level on corporate governance, strategy, amalgamations and disposals, capital markets and regulatory compliance• Currently, serves as the Non-Executive Director of Anglo African Oil& Gas• Previously, has advised AIM-listed Oil & Gas companies as both Nominated Advisor and Broker, assisting them to raise finance for their exploration, development, and production projects around the world with her experience in AIM regulations and compliance• Also, developed and co-led Cantor Fitzgerald Europe's Oil & Gas franchise and has specialised in this sector at previous roles held at RFC Ambrian, finnCap Ltd, and RBC Capital Markets
James Smith, Independent Non-Executive Director, October 2020	<ul style="list-style-type: none">• Over 30 years of experience covering exploration, appraisal and development in the oil and gas industry as a Senior Oil and Gas Executive• Currently serves as the Non-executive Director of Prospex Energy• For over a decade, has been working with Orca Energy Group in Tanzania in their producing asset at Songo Songo• Previously, held Senior Executive position for Chevron Corporation and has used his experience to benefit small entrepreneurial companies• Holds a BSc in Geology/Geophysics and an MSc in Petroleum Geology from Imperial College
Josh Bluett Technical Director September 2015	<ul style="list-style-type: none">• Co-founded Helium One, and has over 10 years of technical experience in resource exploration in sub-Saharan Africa and Australia, combining geology, geophysics, and geochemistry• Previously, worked with Armour Energy Ltd and AWT International as the exploration geologist, where he was involved in the early definition of some of the largest unconventional hydrocarbon plays in Australia• Holds a Bachelor of Applied Science in Geoscience from the Queensland University of Technology and is a member of the AAPG and SPE

Name, Position and Tenure	Profile
Mike Booyens, Operational Director, May 2019	<ul style="list-style-type: none">• Over 25 years of experience in mineral exploration, mining, and management across Southern, Central and West Africa, in the UAE and recently in Argentina with his main focus on small-cap (junior) exploration companies operating in Africa and the impact of their exploration activities on the environment, and the environmental legal requirements• Has experience in commodities such as precious metals, base metals, energy minerals, agri-minerals, and diamonds• Previously, served as the Sectional Geologist for Goldfields in South Africa, Chief Operating Officer for Premier African Minerals Ltd and African Middle East Resources and an Exploration Geologist for Plymouth Minerals Ltd• Holds an MSc in Environmental Science from the Potchefstroom Campus of the North West University

Investment Risks

The main risks that we see facing Helium One are:

- Tanzania has relatively high geopolitical and regulatory risk. Tanzania has made several changes to the fiscal regime for extractive industries over the last few years and there is also risk associated with getting the relevant approvals that could be delayed due to bureaucracy. However, we factor this into our valuation by using a high discount rate of 14%.
- Helium market and pricing. In the event of a successful discovery, the key driver of profitability for HE1 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, we see this mitigated for HE1 by the fact that the company generates significant FCF at helium price of US\$100/mcf, relative to our base case scenario of US\$250/mcf.
- Exploration risk: HE1 is drilling high-risk prospects and therefore there is the risk that HE1 does not find any commercial resource with the initial drilling programme. The exploration risk is discussed in detail earlier in the note. HE1 is an exploration company, where investors specifically take on risk with the potential for multiple times upside.
- Commercialisation risk: In the case of a helium discovery, commercialisation risk will exist. There is the risk of financing, however, in a discovery scenario, there should be the availability of finance. There are also risks involved with development including cost overruns and delays. However, a development is expected to be low complexity, rapid and largely fabricated out of the country, which should reduce this risk.
- Financing: HE1 is fully funded for its drilling campaign, however, it is likely to require additional capital following the campaign either to put towards appraisal and development in a success case or potentially to continue with an exploration programme. If there are positive indications from the initial wells we believe that HE1 will be able to access financing, however, this will become more challenging and could be dilutive to existing shareholders if a commercial discovery is not made.
- COVID-19 Risk: As with all companies there is a risk of disruption from COVID-19. Exploration and development projects may have to be put on hold or operate at reduced capacity or subject to restriction due to COVID 19 and the associated measures put in place by national governments to control COVID 19, including social distancing measures and travel restrictions.

Tanzania Overview

Tanzania is located in East Africa and was formed in 1964 as a union between Tanganyika and Zanzibar. The country is rich in natural resources including precious metals, gemstones, base metals, aggregates, natural gas, coal, uranium and rare earth elements. The potential for standalone economic helium deposits is also thought to be some of the highest in the world.

Economy

Tanzania has sustained relatively high economic growth over the last decade, averaging 6–7% a year. While the poverty rate in the country has declined, the absolute number of poor citizens has not because of the high population growth rate. The country's overall population is about 58 million (2019). Tanzanian President John Magufuli officially won a second term in October 2020, with a landslide victory of more than 84% of the vote in a disputed election.

Reflecting strong income growth over the past decade, on July 1, 2020, the World Bank announced that Tanzania's gross national income (GNI) per capita increased from \$1,020 in 2018 to \$1,080 in 2019, exceeding the threshold for lower-middle income status. It is dependent on the agricultural sector (29% of GDP and 65% of employment) and weather conditions. Tourism is the second-highest earner of foreign currency in Tanzania accounting for 11.8% of GDP in 2019; this has been badly impacted by COVID. GDP growth in 2020 will decline due to the impact of COVID. Prior to this, the country's GDP was expected to grow by 5.8% in 2020 up to 6.1% in 2021 (World bank - Dec 2019).

The country's broad vision of its development goals as a middle-income country in 2025 are set out in the Tanzania Development Vision 2025, characterised by high-quality livelihoods; peace, stability, and unity; good governance; a well-educated and learning society; and a competitive economy capable of sustainable growth and shared benefits.

Regulatory and fiscal

Tanzania's legal system is based on English common law and the country has a well-established and progressive Mining Act (2010) that has welcomed the entry of large oil and gas and mining major companies. Mining projects have a minimum 16% free carry for the Government but can increase up to 50% depending on tax incentives.

Last year President John Magufuli highlighted the difficulties in striking the balance between maximising tax revenues and attracting development. At a multi-stakeholder meeting concerning the mining sector, he stated his government's intention to review the 2017 fiscal regime given his concern that the recent increase in taxes is hindering rather than helping efforts to collect more revenue from the sector.

In June 2020, Tanzania took a critical step towards a beneficial fiscal regime by introducing the Finance Act 2020, which reintroduces VAT refunds for mineral exports. This better aligns its tax level with other countries, while maintaining a fiscal regime that should still generate significant government revenue. This more balanced regime should increase the prospects for new investment, without which the sector and the benefits that it generates will shrink, rather than grow, over the next decade. Investment prospects will also critically depend on improvements in policy predictability. Part of this could involve clarifying aspects of 2017 laws and improving transparency.

In 2019 Barrick Gold reached a deal to settle a long-running tax dispute between Tanzania and mining group Acacia, which Barrick bought in a \$1.2 billion deal

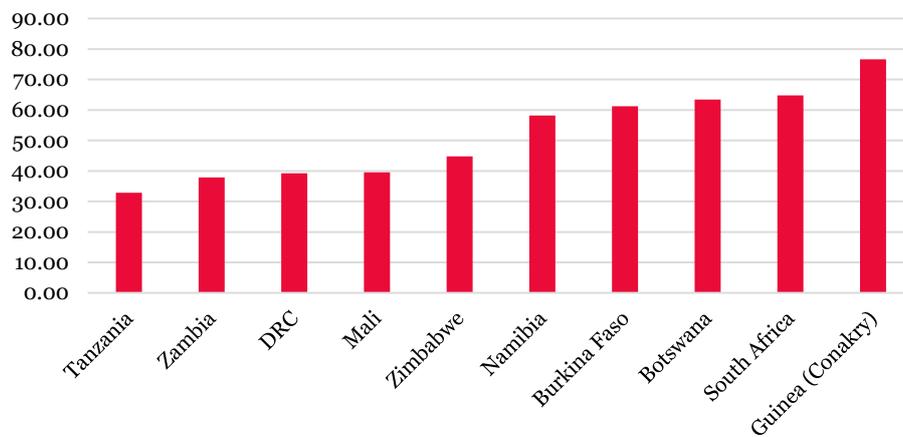
approved by a British court. An Africa-focused international dispute resolution framework was also to be established as part of the agreement. The improved relationship between government and Barrick and growing confidence in the jurisdiction was highlighted by Barrick applying for and receiving ten exploration licences in Oct 2020. This is also a positive for mining sentiment in the country.

Ease of doing business in Tanzania

According to the World Bank Doing Business Report 2020, Tanzania ranks 141 out of 190 economies in ease of doing business, trailing Rwanda, Kenya, and Uganda and Sub-Saharan peers like Zambia, Malawi, and Mozambique. This index particularly points to needed reforms in improving trade across the border and resolving insolvency in Tanzania. In 2014, before Magufuli came to power with an anti-corruption drive, Tanzania scored a 31 (out of 100) on Transparency International's Corruption Perception Index, which he has since improved to 37.

The Fraser Institute Annual Survey of Mining Companies for 2019 saw Tanzania rank as the least attractive jurisdiction in the world for investment combining geological attractiveness with the effects of government policy on attitudes toward exploration investment. However, we believe that this applies more to larger, more prominent projects such as gold mining (gold accounts for almost 50% of goods exported). Also, recent regulatory reforms and settlements of disputes with foreign companies (e.g. Barrick Gold) and delayed project approvals (Aminex) are positive signals.

Investment Attractiveness Index-Africa, 2019



Source: Fraser Institute

Extractive industries

Tanzania is predominantly a mining country with both small and large-scale operations. The mining sector is diversified with gold, diamonds and tanzanite mining. The government joined the Extractive Industries Transparency Initiative (EITI) as part of wider reform efforts to make the sector more competitive and maximise the benefits from mining. The country currently produces natural gas from proven reserves from Mnazi Bay and Songo Songo Island. With significant offshore gas discoveries, the country is planning to become an exporter of liquefied natural gas (LNG) in the future.

Extractive Industries Transparency Initiative

EITI Requirements		Level of progress					Direction of Progress
Categories	Requirements	No progress	Inadequate	Meaningful	Satisfactory	Beyond	
Tanzania second Validation scorecard							
MSG oversight	Government engagement (#1.1)						→
	Industry engagement (#1.2)						=
	Civil society engagement (#1.3)						→
	MSG governance (#1.4)						→
	Work plan (#1.5)						→
Licenses and contracts	Legal framework (#2.1)						→
	License allocations (#2.2)						=
	License register (#2.3)						→
	Policy on contract disclosure (#2.4)						→
	Beneficial ownership (#2.5)						N/A
	State participation (#2.6)						→
Monitoring production	Exploration data (#3.1)						←
	Production data (#3.2)						←
	Export data (#3.3)						←
Revenue collection	Comprehensiveness (#4.1)						=
	In-kind revenues (#4.2)						=
	Barter agreements (#4.3)						=
	Transportation revenues (#4.4)						→
	SOE transactions (#4.5)						→
	Direct subnational payments (#4.6)						=
	Disaggregation (#4.7)						→
	Data timeliness (#4.8)						→
	Data quality (#4.9)						←
Revenue allocation	Distribution of revenues (#5.1)						→
	Subnational transfers (#5.2)						
	Revenue management & expenditures (#5.3)						
Socio-economic contribution	Social expenditures (#6.1)						
	SOE quasi-fiscal expenditures (#6.2)						→
	Economic contribution (#6.3)						→
Outcomes and impact	Public debate (#7.1)						→
	Data accessibility and open data (#7.2)						
	Recommendations from EITI (#7.3)						→
	Outcomes & impact (#7.4)						

Source: Extractive Industries Transparency Initiative

Foreign company involvement

Many foreign companies operate in the oil, gas and mining sectors in Tanzania. Companies involved in the oil and gas space include ExxonMobil, Shell, Equinor and Pavilion, which are involved in the giant gas discoveries with LNG potential. There are also smaller companies exploring for or producing oil and gas such as Aminex, Wentworth, Maurel et Prom and Orca Energy.

In the mining space, the United Kingdom is the largest foreign investor in this industry in Tanzania. Companies involved are Acacia Mining, AngloGold Ashanti, Cradle Resources, Kibo Mining, Peak Resources, Petra Diamonds and Shanta Gold.

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