Sunrise Resources

18th January 2019

Mining

Speculative Buy

Offering a clearly defined strategy focussed on generating near-term cash flow together with value-enhancing minerals discoveries, Sunrise Resources <SRES:AIM> is targeting first production from its lead CS Pozzolan-Perlite Project before the end of this calendar year. Assuming a low capex start-up option following successful commercial trials, with mine permitting on track for completion during Q3'2019, the green credentials of natural pozzolan makes it the obvious alternative for an industry facing an increasingly urgent need to close the fly ash supply-gap created by the mass closure of US coal-fired power stations. The early signing of two offtake MOUs with local Perlite processing companies also highlights the demand for this favoured growing medium. Given that the pozzolan asset is free-digging with minimal requirement for crushing, the low opex CS Project has potential to earn premium margins compared to its peers as output is ramped-up. On this basis, SVS projects the Group commencing low-cost production early in 2020E, leading to commercial deliveries in the second quarter with sufficient momentum to generate a modest positive cash flow by period end. Having factored in the need for significant new expenditure in facilitation of these goals, a risk. adj. DCF for the CS Project suggests 193% upside to existing levels (based on a 70% discount factor) despite prudently awarding a zero valuation to Sunrise's remaining legacy assets. Although such industrial minerals presently enjoy a strong US macro backdrop, Sunrise must nevertheless be considered speculative given continuing risks that include timing, costing, customer buy-in, prospective funding and permit finalisation, all of which remain key considerations. SVS accordingly rates the shares as a Speculative Buy with a current price target of 0.41p, although this could rise sharply as permitting and other risk factors reduce going forward.

Equity placing provides additional working capital through the raise of £350,000 before expenses with the conditional placing of 292m new Ord. shares at a price of 0.12p announced on 9th January.

Full year results to end-September 2018 highlight operational progress, with initial permit applications having been submitted with mine/business/permitting plans completed by SRES management. Additional funding is likely to be required during 2018/19E, however, to progress mine development to first production, with low-capex start-up options now being evaluated.

CS Project: Demand for natural pozzolan has risen sharply due to diminishing supplies of domestic fly ash following mass closure of US coal-fired power stations. Established local cement/concrete companies will look to lock in forward supply in order remain competitive, with bulk sampling and testing proving equivalence to existing supply batches. Perlite sampling led to two MoU's with local horticultural firms, with other potential customers evaluating SRES as a prospective supplier.

Key Risks – Early stage, cashflow, permitting and timing uncertainty with the need for additional fund raising anticipated during the current financial period. Estimated monthly cash burn rises to in excess of £100k between now and anticipated first commercial sales commencing in Q2'2020E, making the shares vulnerable to slippage in Project timetable. Speculative Buy.

Year End – September	(£m)	FY17A	FY18A	FY19E	FY20E
Revenue		0.0	0.0	0.2	6.5
EBITDA (stat.)		-0.3	-0.8	-0.3	1.6
PBT (stat.)		-0.3	-0.8	-0.3	1.6
EPS (p)		-0.02	-0.04	-0.01	0.06
PER (x)		nm	nm	nm	2.3
EV/EBITDA (x)		nm	nm	nm	5.0
Net Cash/(Debt)		0.2	0.2	-0.6	0.7
Net Assets		1.5	0.2	-0.6	0.7

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Sunrise Resources plc

Ticker SRES (AIM-quoted)

Market Cap. £3.54m (pre-Placing)

Price Target 0.41p

Current Price 0.14p

Shares in Issue 2,736m (post Placing) Dividend Yield

.

Normal Market Size 300,000 shares

52 Week Low-High 0.09p - 0.18p

Sector Mining

Upcoming Events AGM – 21st February 2019

Sunrise Resources plc 1-year Share Price (Source: LSE)



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Investment Scenario

- Sunrise's lead CS Pozzolan-Perlite Project is expected to continue advancing toward production in the current financial year with first, albeit modest, commercial sales anticipated during Q2'2020E. Nearterm progress is expected to include the completion of mine permitting together with the formal concluding of customer offtake agreements, while also seeking progressive valorisation of legacy precious metal/industrial minerals projects with a view to unlocking inherent value within the Company. This may include the sale or joint-venturing of non-core projects.
- A defined deposit. The two-phase drill programme that commenced at the CS Pozzolan-Perlite Project in July 2017 and completed in March 2018 confirmed thick and open-ended intersections of high quality natural pozzolan and perlite were made from bedrock surface in step out holes in the prospect's Main Zone and Northeast Zone. These results added substantially to the Company's known pozzolan and perlite deposits, with management remaining confident that the Main and Northeast Zones are part of one continuous zone with a very long-term production potential.
- A 15-year Mine Plan completed by SRK Consulting details three phases of open-pit mining targeting annual production starting at 20,000 perlite rising steady state of 100,000 tons, along with 100,000 tons pozzolan rising to 500,000 tons. Low strip ratios of just 0.25 tons waste/ton in the Main Zone and 0.16 tons waste/tone in Tuff Zone should ensure relatively low operational expenditure, with most waste being mined by year 8. As this time, the Mine Plan does not include the extensive areas of pozzolan identified in the northern Main Zone, the western Tuff Zone and NE Exploration Area.
- Early in 2018 the mine permitting process was initiated, following shorter Environmental Assessment path rather than longer Environmental Impact Statement. Within this, environmental surveys and assessment formed major components and subsequent baseline biological and cultural surveys were completed with favourable results having no impediments to mining identified. A preliminary plant design for the processing of perlite has also been completed, while successful commercial trails with prospective customers have been undertaken for both industrial minerals. Planning includes an initial low capital cost start-up for the Project in the Tuff Zone using contract mining and mineral processing, followed by options for construction of more sophisticated pozzolan and perlite process plants (in the Main Zone requiring capital investment estimated in the range of US\$10m) in order to produce a larger range of higher-value products. SVS anticipates a decision on whether to proceed being taken after the third year of commercial production. The Company has also identified the NewPerl Perlite Project as a future source of feed for the CS Project; located 85 miles from CS Project, initial testing suggests suitability for production of horticultural grade expanded perlite.
- Sunrise also holds a diverse legacy exploration project portfolio that targets gold & silver, copper and industrial minerals. Its strategy is to sell, JV or otherwise valorise these projects whilst management focusses the Company's financial resources on advancing the CS Project through to production. The first sale, Junction Copper Project, was agreed with VR Resources Ltd <TSX:VRR> in August 2017 for a minor consideration of cash and shares with the Company also retaining a royalty. While these opportunities do represent future upside potential for investors, prudence within its overall assessment presently requires SVS to exclude these assets in its valuation of Sunrise Resources.
- Anticipating total 2018/19E capital expenditure of £900,000 for the CS Project, SVS's financial model for Sunrise suggests the Company will end 2018/19E with net debt of £600,000 in the absence of further equity placement. Assuming low-cost start-up of the CS Project commences early in calendar 2020E, however, modest early commercial sales should be capable of generating positive cash for Sunrise by end 2019/20E. With output being ramped-up sharply over the four subsequent years before reaching steady-state production of 600,000 tons/year, a risk. adj. DCF suggests 193% upside to current levels (based on a 70% discount factor). Various remaining risks plus sharply rising cash burn anticipated for 2018/19E, however, means SVS awards the shares a Speculative Buy rating with a 0.41p price target while recognising this could rise sharply as outstanding risk factors reduce.

Company Overview

Sunrise Resources (SRES) is an AIM-quoted mining company with assets in both the United States and Australia. Its lead development asset is the CS Pozzolan-Perlite Project (illustrated below), located in the excellent mining jurisdiction of Nevada which provides simple access to an experienced local labour force, infrastructure, power, water and necessary communication/transportation links to facilitate an early move to production and commercialisation.



Source: Sunrise Resources

The CS Project is located 20 mins from Tonopah, a regional service town located at the junction of US routes 6 and 95. The land on which the CS Project lies is federally-owned, meaning that the lead agency for permitting is the Federal Bureau of Land Management. A reclamation permit is required from the Nevada Division of Environmental Protection in addition to other mining permits from other regulatory bodies. SRES has appointed a local environmental consulting firm (EM Strategies, Inc.) as its lead advisor to take it through the permitting process.

Under the National Environmental Policy Act (NEPA), either a satisfactory Environmental Assessment or a more extensive Environmental Impact Statement is required prior to the CS Project being commercialised. A preliminary permitting study indicates that the project can follow the former, less onerous Environmental Assessment in order to fulfil NEPA requirements, with baseline survey reports having already been accepted by the Bureau of Land Management. These included season-sensitive botanical and wildlife surveys which identified no biological or cultural impediments to development within the CS Project area.

Having completed both initial (August 2017) and the Phase 2 drill programmes (January 2018), SRES is now working on the detailed submission set out in the CS Project mine operations plan. Although the final permit, environmental and development assessment, is made by the Bureau of Land Management, SRES is confident that this will facilitate a relatively smooth process of acceptance which it has been advised by its consultants should be completed in the third quarter of 2019. This would permit first production of both pozzolan and perlite before the year-end, with initial sales then contributing to FY19/20E turnover. Further zonal development of the Project offers significant upside both to current deposit estimates and the LOM

The CS Project site is comprised of three key areas: -

- Main Zone (0.72 km²)
- > **NE Zone** (0.42 km²)
- **Tuff Zone** (0.44 km²)

To date, SRES has completed 33 drill holes in Main Zone & Tuff Zone & Northeast Zone, with 11 trenches completed in around Main Zone demonstrating potential extensions and link to Northeast Zone. This has confirmed extensive thick deposits of perlite and pozzolan across all zones, in open ended intersections that are easy to mine. Management are now of the belief that the Main Zone and NE Zone are in fact a single continuous area with pozzolan lying beneath a thin layer of surface material, possibly indicating upside in both deposit estimates and mine life once initiated.



Source: Sunrise Resources

Extensive laboratory testwork on drill and surface sampling has also continued over the past year, delivering outstanding results for production of both perlite and pozzolan. This was followed up with a bulk sampling programme, including 100 tons pozzolan submitted to one potential cement company customer along with compliance with ASTMC618; and 8 tons perlite submitted for crushing/screening to produce horticultural-grade product plus 2 tons to a potential customer and expanded in commercial scale furnace. Laboratory tests have confirmed potential for production scale up and good yields.

While the Company has made good progress in seeking sales contracts for both perlite and pozzolan, it may be unrealistic to expect this to translate into immediate results as both pozzolan and perlite are performance products with individual customer requirements requiring tailored testwork. Nevertheless, Sunrise has already signed two memoranda of understanding on perlite sales sufficient to underpin a production start-up. Low capital cost start-up options for pozzolan include elementary sale of lower-value 'run-of-mine' ore to cement companies and, for perlite, production of a single coarse horticultural-grade raw perlite product, with pozzolan by-product.

SRES proprietary technology used to identify the CS Project has also led to the discovery of large areas of perlite deposits in another location (approx. 85km distance). This NewPerl Project has now had forty additional claims staked because of exploration mapping and has yielded large outcrops of perlite. Expandability results from NewPerl project testing indicates that the majority of October's reconnaissance samples are suitable for production of horticultural grade perlite.

Pozzolan - A natural silica or aluminium rich material that is used as a replacement for ordinary Portland cement in mortar and concrete mixes. Traditionally the fly ash by-product of coal-fired power plants has been the main source of pozzolan used in cement and concrete mixes. In filing the supply gap, however, its natural replacement's 'green credentials', recognise that traditional production of Portland cement is responsible for 5% of the global manmade carbon dioxide emissions, whereby one tonne of cement = one tonne carbon dioxide (CO_2) generated.

Pozzolanic concrete has improved resistance to cracking and alkaline erosion compared to standard concrete that degrades and cracks. Pozzolan has to date been traditionally sourced from fly ash, the by-product of coal fired power stations due to its relative abundance and low cost. However, due to environmental restrictions and efforts by the US administration for cleaner, more green energy production schemes, the supply of fly ash is now in terminal decline. Since 2010, over half of the US based coal fired power stations have closed with natural pozzolan (e.g. mined material) filling the US supply gap. However, pozzolanic material demand continues to experience strong growth suggesting that existing fly ash supplier shortfalls will only increase going forward. The current market for pozzolans in Nevada and California is estimated to be 1.4 million tons/year.

Identification by regulatory bodies that the manufacture of Portland cement is directly attributable to around 5% of global CO₂ emissions has led to increasingly stringent federal and local environmental regulations surrounding production. Mercury & Air Toxic Standards (MATS) along with the introduction of the Clean Power Plan (2014), have all led to a 50% decline in coal fired power stations in the US since 2010 (approximately 248 power stations). Subsequent demand has been met with lower global pricing for liquefied natural gas (LNG). California and Nevada are the most affected states by the supply crisis as they are the most distant from main power plant sources in midwest and eastern states with no significant production in either State. Supplies from Navajo power plant in Arizona, the largest plant west of the Mississippi and 3rd largest emitter of CO2 in US, is also scheduled for closure in 2019, leading to a further significant drop in supply of fly ash.

Subsequently, the supply gap to date (illustrated below) has been met by producers of natural mined pozzolan with established suppliers experiencing topline growth in 2017/18 (e.g. Hess Pumice and CR Minerals).





SRES recently excavated a 100-ton bulk sample which was used by a potential customer for testing. Feedback was very positive with the bulk sample meeting all testing requirements (ASTM C618) and it is highly likely that the undisclosed customer will seek to work with SRES via the direct sale of 'as mined' ore with the customer then grinding it down to their required size.

Perlite - A glassy volcanic raw material which when heated expands to form a low-density material used in horticulture, insulation materials and concrete fillers amongst other uses. Expanded perlite is white in colour and is expected to increase in demand due to it forming the ideal growing composite for cannabis, which is now legalised in Canada and some states across the US.



Source: Sunrise Resources

Expanded perlite is used as the insulation inside LNG tankers as well as tiling grout and as a vital component of paints and outdoor coatings. Due to the high amounts of water contained within perlite ore, upon heating expanded perlite take on an appearance like that of popcorn with typical densities ranging from 1 to 20lbs per cubic foot (with commercial grades generally expected to be in the 2 to 10lb range). Below is a comparison table of the sample perlite tests that SRES has carried out on the CS Project and how they compare to benchmark samples.





After the Canadian based company SGS Lakefield produced initial samples for SRES, a potential customer conducted follow on bulk testing of the perlite which showed direct equivalence to the existing perlite samples sold on the market. Further independent perlite testing by other potential customers led to the signing of two Memoranda of Understanding (MoU) by expanded perlite suppliers selling into the horticulture market. These MoU's have the potential to develop into formal offtake agreements whereby both companies commit to purchase minimum orders for raw perlite under set commercial terms. Together these MoU's are considered sufficient to underpin perlite production start-up in 2020E.

Meanwhile the perlite market in the western US continues to be strong as more US States, and now Canada, continue the legalisation of cannabis for which perlite provides an ideal growing medium. The legal cannabis market was worth an estimated US\$7.2 billion in 2016 and is projected to grow at a compound annual rate of 17%.

Valuation

In our attempts at reaching a fair value for SRES now, we have accepted management's 15-year mine life plan, recently disclosed in the FY17/18 company results (11^{TH} December /18). This primarily allows for a low capital cost start up for the CS Project using contract mining and outsourced mineral processes. Within three years of first commercial production, it is assumed that a go-ahead decision for the more sophisticated process plant options will be taken in order to secure higher value production with both perlite and pozzolan being mined within the same broad open pit outlines (due to their overlapping and adjacent zones).

To capture value, we have risk adjusted free cash flows for the estimated fifteen-year life of the mine including both capex and estimated operating costs. For simplicity we have assumed a perlite and pozzolan selling price of \$75m and \$70m respectively along with a blended operating margin of 29-30%. Future cable rates (i.e. GBP/USD), are fixed at 1.3 and we anticipate production to start in 2020. Other key assumptions include: -

- > Initial pozzolan production rate of 100kt growing linearly to 500kt over a four-year period.
- > Initial perlite production rate of 20kt growing again linearly to 100kt over a three-year period.
- Additional capex of £0.9m in 2019 with a recurring £0.3m annually until 2034E.
- 70% discount rate comprised of permitting (10%), logistics (15%), DoT licence (20%), mining market (25%) and estimated current equity risk premium (5%).

Using a heavily discounted risk adjusted DCF model, we arrive at a fair value for SRES of £8.0m which includes our FY18/19E year-end net debt of £0.6m and the total number of Ordinary shares in issue (post the equity placing announced on 9th January 2019) of 2736m. With the current share price being 0.15p, this indicates significant upside today of 173%, assuming all current risks have been captured. It must be noted that this valuation contains both a 70% funding and a 20% cash flow discount rate given Sunrise's early, precommercialisation, stage of development.

Whilst it is possible that the Company will seek to raise additional capital through equity (or other instruments) during the current financial year, rather than assume the CS Project start-up costs as debt on the balance sheet, SVS believes that the investment case remains in the Company's favour due to low country, political and business risks together with the more recent positive shifts in supply-demand dynamics of the local US pozzolan-perlite markets.



Sunrise Resources plc – 3-year Share Price

Source: London Stock Exchange 17/01/18

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Porters Five Forces

Threat of Substitute products – Low

There are some local producers that may compete but the comparable and high quality of both pozzolan and perlite allows for existing prices to be maintained and hence SRES will be in receipt of market rates when selling

Rivalry amongst firms - Medium

Whist there are many other mining companies operating in Nevada, demand is sufficient such that SRES will begin producing into a market is steadily growing. Production amounts are based on capacity, inventory levels and price floors individually set by each company

Barriers to entry - Low

Nevada is a mining friendly US state with reasonable environmental and business laws. There is little in the way of restrictions apart from standard permitting applications and local relations.

Bargaining power of suppliers – High

With regards to pozzolan, fly ash supply will decrease giving SRES an enviable position in terms of supplying to the existing local businesses who may look to buy forward to lock in prices. Perlite demand is supported by various strong end users with diversification in use a strength for SRES.

Bargaining power of buyers - Low

There are few suppliers in the local region that can provide reliable raw materials for established businesses giving SRES the benefit in terms of existing supply/demand economics in the region.

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