28 May 2019

ASX CODE: AVZ

Spec. Buy

AVZ Minerals Ltd

Manono Li-Sn Project proceeding to Definitive Feasibility Study

Revised Scoping Study delivers impressive financial metrics

- The Manono Project (60% **AVZ**, funding feasibility study) covers about 188km^2 in southern Democratic Republic of Congo (DRC) and is one of the world's largest and highest grade hardrock lithium projects.
- A revised 5mtpa Scoping Study managed by Perth based **CPC Design Pty Ltd** (ASX Announcement**,** 23/5/2019) returned an NPV_{10} before tax of US$2.63bn (**RMR** estimate US$1.74bn after tax), IRR >64% (**RMR** estimate 51.2% after tax) with a CAPEX range of US$380m-US$400m inclusive of a US$78m contingency (100% project interest).
- The study was based on a 269Mt Measured and Indicated JORC 2012 Resource producing 1.1Mt of 5.8% Li concentrate over a 20 year mine life. An outstanding set of figures by any measure with further upside from additional by-products (tin).
- The favourable project economics of Roche Dure mean that operating costs should be in the lowest quartile at around US$323/tonne.

Resource upgrade confirms world class status of Manono

- **AVZ** announced (ASX Announcement, 8 May 2019) a 41.7% increase in Measured and Indicated Resources to 269.0 Mt (189.8Mt) @ 1.65% Li_2O, 816 ppm Sn and 36 ppm Ta representing 67% (47%) in the Measured & Indicated category.
- The improved resource classification has enhanced the Scoping Study metrics with lower Fe_2O_3 contents from 0.99% to 0.96% also contributing to a reduction in OPEX compared to the earlier Scoping Study. Sn and Ta are also likely to be included as payable minerals in the DFS.

Lithium Demand Driver Still Apparent

- China continues to lead the way in the sales of electric vehicles (EVs). Chinese EV sales lifted in October 2018 by 14% month-on-month, with all growth coming from battery-powered electric vehicles (BEVs) rather than plug-in hybrids (PHEVs). EV sales within China are forecast to comfortably exceed 1 million units in 2018. Spodumene concentrate prices are set to move above US$700 per tonne in the near term after a soft performance over CY 2019, with the market likely to remain in surplus for the remainder of 2019.

Price Catalysts

- Further metallurgical test work results expected Q3 CY2019.
- DFS expected to be completed Q1 2020.
- Strategic investors/partners, conversion of MoUs with various Chinese Groups to binding offtake agreements for lithium concentrate and other products.

Action and Recommendation

- **RMR** is initiating coverage on **AVZ** with a Speculative Buy underpinned by the favourable results from the 5mtpa Scoping Study.
- Our near term price target of 10 cents still puts **AVZ** at an 72% discount to attributable after tax NPV_{10} of A$1.54bn based on a 5mtpa operation. **RMR** is showing upside to 16 cents post DFS and 36 cents at production on a range of reasonable assumptions.
- The project is a standout among lithium hard rock players and consider **AVZ** cheap under 10 cents.

Capital Structure

Sector	Materials
Share Price (A$)	0.06
Shares (m)	2,283.1
Options (ex 3c, exp 24/5/20) (m)	203.6
Options (ex 30.5c, exp 28/2/20) (m)	30.0
Options (various) (m)	15.0
Performance Rights (m)	63.15
Market Cap. (undil) ($m)	137
Share Price Year High-Low	A$0.037-0.330
Cash (estimate) ($m)	11.0

Directors

Nigel Ferguson	Managing Director
Graeme Johnston	Technical Director
Rhett Brans	Non-Executive Director
Peter Huljich	Non-Executive Director
Hongliang Chen	Non-Executive Director

Major Shareholders

Huayou Cobalt	9.3%
Management & Associates	8.3%

Analyst

Guy Le Page +61 (8) 6380-9200

Share Price Performance

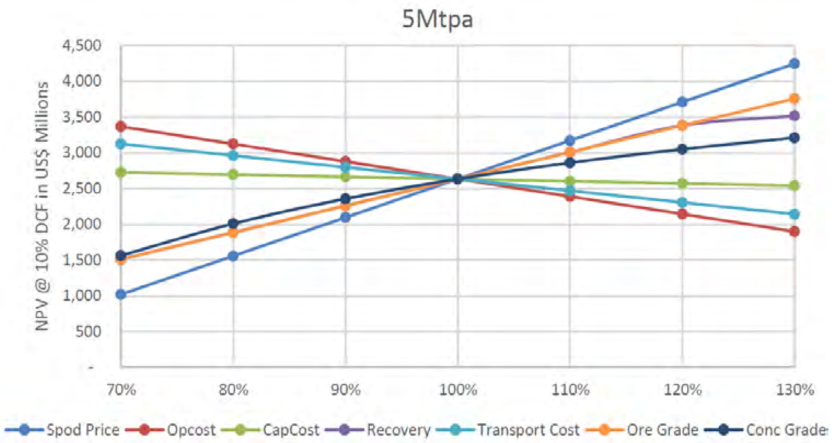
Source: CMC Markets

INVESTMENT CASE

Scoping Study NPV_{10} after tax of US$1.74bn (US$1.04bn attributable to **AVZ**) confirms world class status

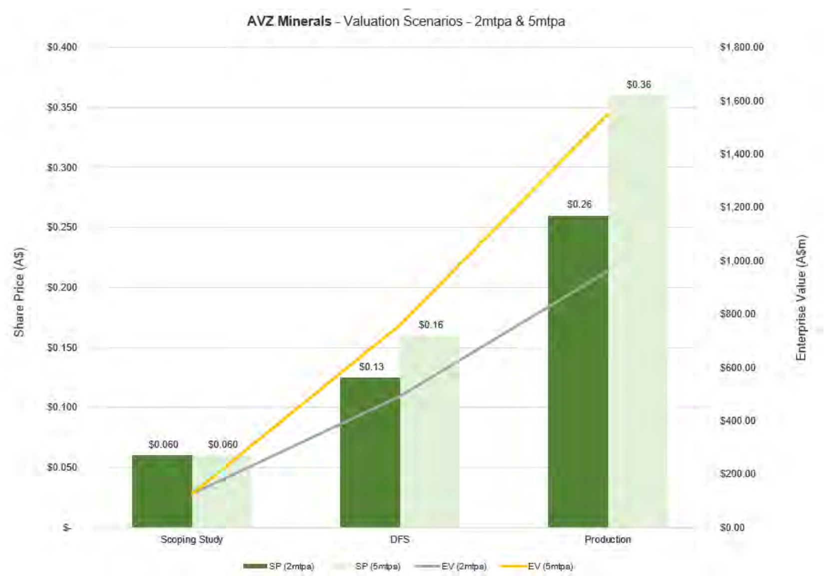
SUPERIOR FINANCIAL METRICS: Revised 5Mtpa Study has delivered a massive lift in financial metrics with an NPV_{10} (100% project interest) increasing from US$1.6bn to US$2.63bn (**RMR** estimate US$1.74bn after tax), an impressive IRR >64% (**RMR** estimate 51.2% after tax) and a CAPEX range of US$380m-US$400m inclusive of a US$78m contingency (100% interest). The study assumed a 269Mt Measured and Indicated Resource producing 1.1Mt @ 5.8% Li concentrate over 20 years.

Favourable orebody geometry means low strip ratio and low mining costs



SHARE PRICE UPSIDE: Modelling suggests price targets of 16 cents (post DFS) and 36 cents at nameplate production based on a 60:40 debt: equity ratio at 5mtpa.

We see short to medium term upside to 16 cents for **AVZ** post DFS...



LITHIUM DEMAND ROBUST: Fundamentals for Electric vehicles (EVs) remain strong with a preference for lithium-ion battery packs. Spodumene concentrate prices set to rise after a soft 2019 performance.

PEER ANALYSIS: **AVZ** is significantly undervalued compared to its peers.

FAVOURABLE METALLURY: Metallurgical recoveries are favourable at 80%.

Higher transport costs are offset by production scale and high resource grades...

LOGISTICS: Optimisation of OPEX associated with transporting the spodumene concentrate 2,050 km to the export facility remain a risk for **AVZ**.

RESOURCE UPSIDE: Significant upside to the resource with 1 of 6 large pegmatites tested.

DEVELOPMENT: **RMR** believes that the DFS will fast track the negotiation of binding offtake agreements that will ultimately provide the confidence to proceed with the Final Investment Decision on the Manono Project.

COMPANY OVERVIEW

AVZ is focussed on the Manono Project in the DRC

AVZ Minerals Limited ("**AVZ Minerals**", "**AVZ**" or "**the Company**") is an exploration and development company focused on the Manono Project located in the south of the DRC. The Manono Project is potentially one of the world's largest lithium-rich LCT (lithium, caesium, tantalum) pegmatite deposits.

AVZ's objective is to leverage its teams extensive experience in mine feasibility studies and project development, including significant expertise working in the DRC, to advance the Manono Project and return value to shareholders.

The Company owns 60% of Manono and is responsible for all funding to completion of a Feasibility Study

The Manono Project is owned by **AVZ** (60%), **La Congolese D'Exploitation Miniere SA** (30%) (Cominiere, a State-owned enterprise) and **Dathomir Mining Resources SARL** (10%) (Dathomir, a privately owned company). **AVZ** is responsible for funding expenditure to completion of a feasibility study.

Additionally, **AVZ** holds a 100% interest in the surrounding Manono Extension Project (lithium, tin, tantalum).

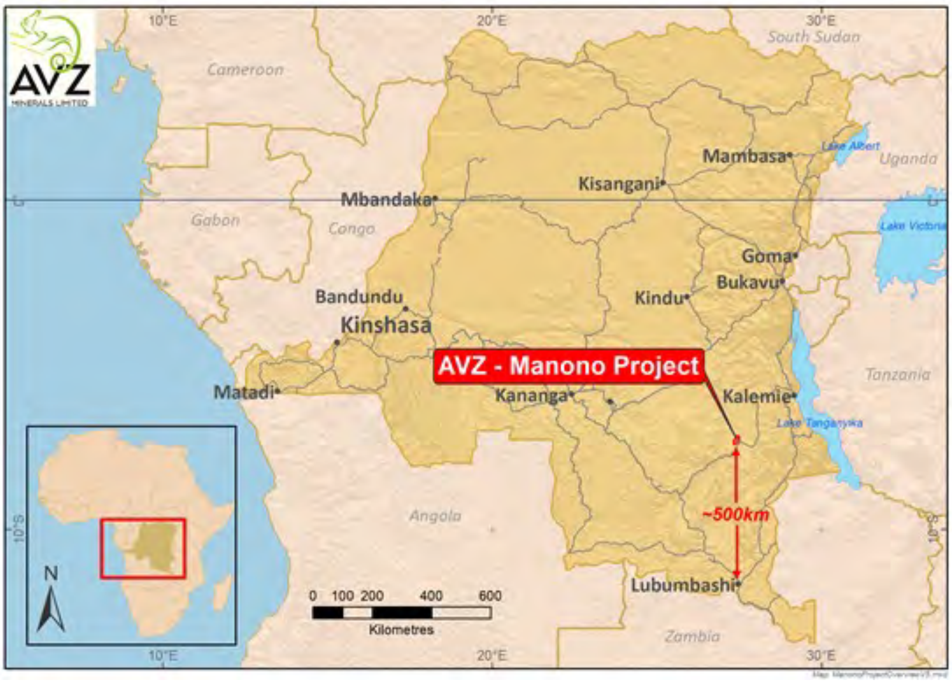


FIGURE 1: Manono Project in Democratic of Congo (*Source*: **AVZ** website, May 2019).

LOCATION & GEOLOGY

The Kibaran belt is a prolific host of pegmatite mineralisation

The strike length of pegmatites at Manono exceeds 13km

The Manono Project comprises PR13359, covering 188km^2 and is located approximately 500km north of Lubumbashi in the south of the Democratic Republic of Congo.

Manono lays within the mid-Proterozoic Kibaran Belt, an intra-cratonic SW-NE striking domain extending for over 1,000km through Katanga and into southwest Uganda. The belt is truncated by the N-S to NNW-SSE trending Western Rift system.

The Kibaran belt comprises a sedimentary and volcanic sequence that has been folded, metamorphosed and intruded by at least three separate phases of granite. The latest granite phase (900 to 950MA) is assigned to the Katangan cycle and is associated with clusters of pegmatite mineralisation containing tin, tungsten, tantalum, niobium, lithium and beryllium occurring throughout the Kibaran terrain. The Katanga Tin Belt (DRC) stretches over 500km from near Kolwezi in the southwest to Kalemie in the northeast comprising numerous occurrences and deposits of which the Manono deposit is the largest known.

Lithium mineralisation in pegmatites at Manono extend along strike for more than 13 km. Over six spodumene bearing pegmatites have been identified namely Manono sector (NE sector) and the Kitotolo sector SW sector). The majority of the smaller pegmatites also contain spodumene and in some cases other lithium minerals. The two largest pegmatites (known as the Carriere de L'est Pegmatite and the Roche Dure Pegmatite) are each of similar size or larger than the famous Greenbushes Pegmatite in Western Australia.

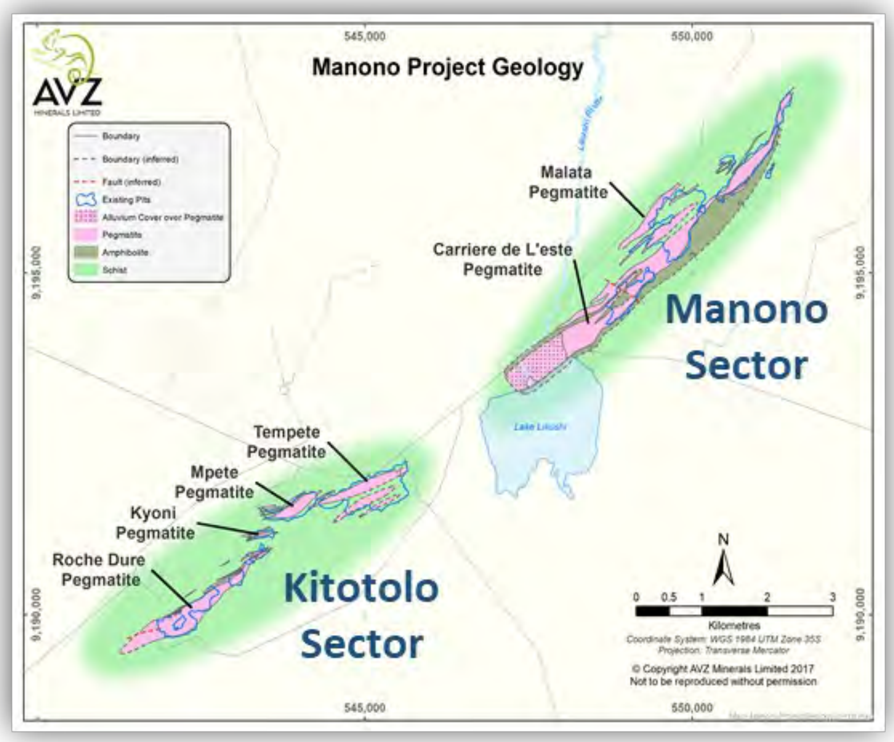


FIGURE 2: Manono / Manono Extension Project Overview (*Source*. **AVZ,** ASX Announcement, 8 May 2019).

High-grade, wide intercepts open at depth...

Better intersections included 209.6m @ 1.73% Li_2O

EXPLORATION & MINING OVERVIEW

FIGURE 3: Manono Project aerial view (*Source:* **AVZ**, ASX Announcement 8 May 2019).

Historical Mining & Exploration Activity

Manono (Figure 3) was previously mined for tin up until 1982, with approximately 100 million cubic meters of ore processed to produce 185,000 tonnes of cassiterite concentrate. In regards to lithium, the Belgians in the 1950s drilled the Roche Dure Pit, with 42 shallow drill holes (maximum depth approximately 50m) producing a lithium concentrate grade of 6.8% at a 10mm crush.

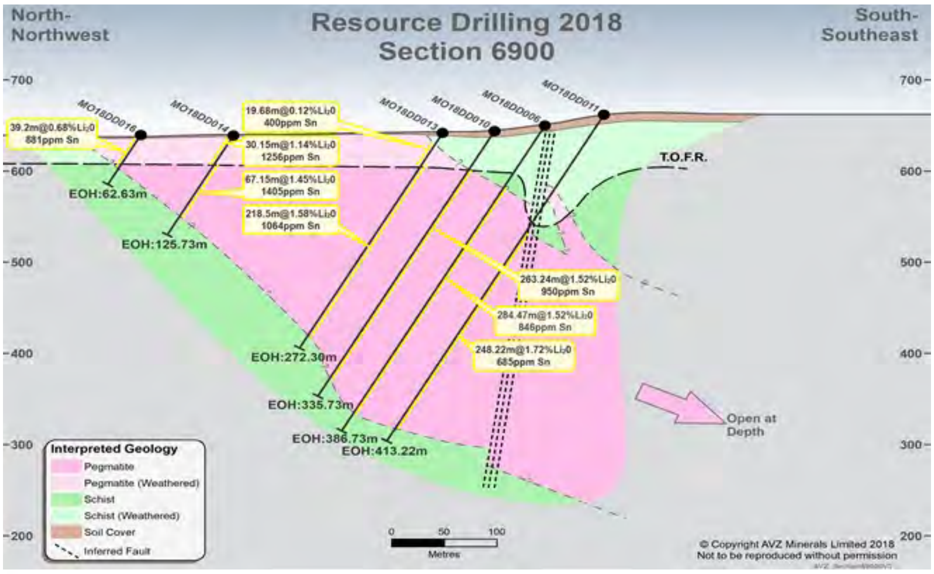


FIGURE 4: Manono Project 2018 Initial Drilling section (*Source:* **AVZ**, ASX Announcements 8 May 2019).

Recent Drilling

AVZ recently announced (ASX Announcement, 8 May 2019) the results of the last phase of infill drilling at Roche Dure which coincided with the publication of the updated JORC 2012 Resource. Resource drilling has continued to return very wide, high-grade intercepts (Figure 4). Better intercepts from this recent phase of drilling included 209.6m @ 1.73% Li_2O and 954ppm Sn from 133.2m and 231.8m @ 1.73% Li_2O and 1,089ppm Sn from surface.

Initial results from the Carriere de l'Este Prospect are very encouraging

Initial Results from Carriere de l'Este Prospect

The Carriere de l'Este prospect is ~5km along strike NE of Roche Dure and forms part of the Manono Project. Initial drilling at Carriere de l'Este confirmed widespread, high-grade spodumene lithium mineralisation over thick intersections. Best intercepts (Figure 5) included 89.0m @ 2.01% Li_2O and 348ppm Sn from 36.0m in hole CD18DD002, 58.7m @ 2.06% Li_2O and 731ppm Sn from 8.3m in hole CD18DD003, and 36.0m @ 2.01% Li_2O and 466ppm Sn from 52.0m in hole CD18DD004.

The pegmatites at Carriere de l'Este are interpreted to be shallower dipping than Roche Dure, averaging -25° to -30° SE and striking for approximately 1500 metres and up to 200m downhole thickness in places.

Results from 4 out of 6 wide spaced reconnaissance drill holes received so far, indicate the possibility of a significant lithium deposit with shallow high-grade zones greater than 2.0% Li_2O present within wider zones of well mineralised spodumene pegmatite. Multiple "stacked" thinner pegmatites underlie the main, thick Carriere de l'Este pegmatite with higher grades present nearer the surface and lithium grades tending to reduce below 200 metres vertical depth.

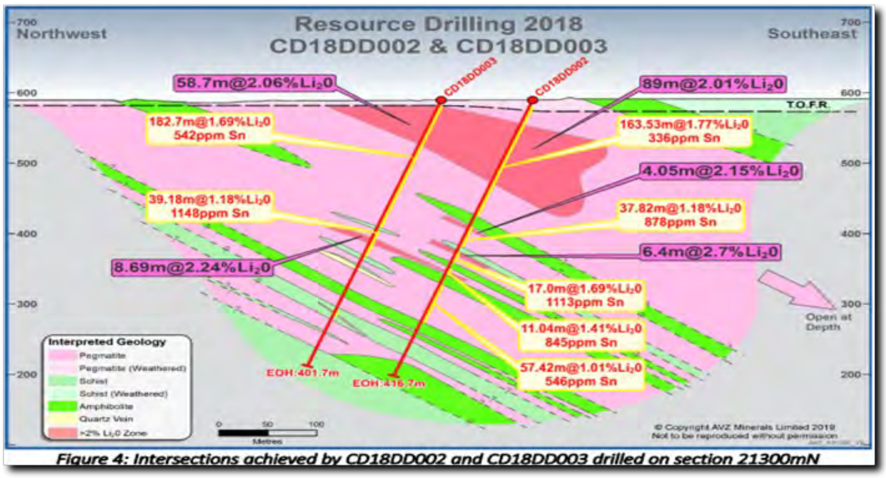


Figure 4: Intersections achieved by CD18DD002 and CD18DD003 drilled on section 21300mN

FIGURE 5: Carriere de l'Este Drill Intersections on Section 21300mN (*Source:* **AVZ**, ASX Announcement, 19 February 2019).

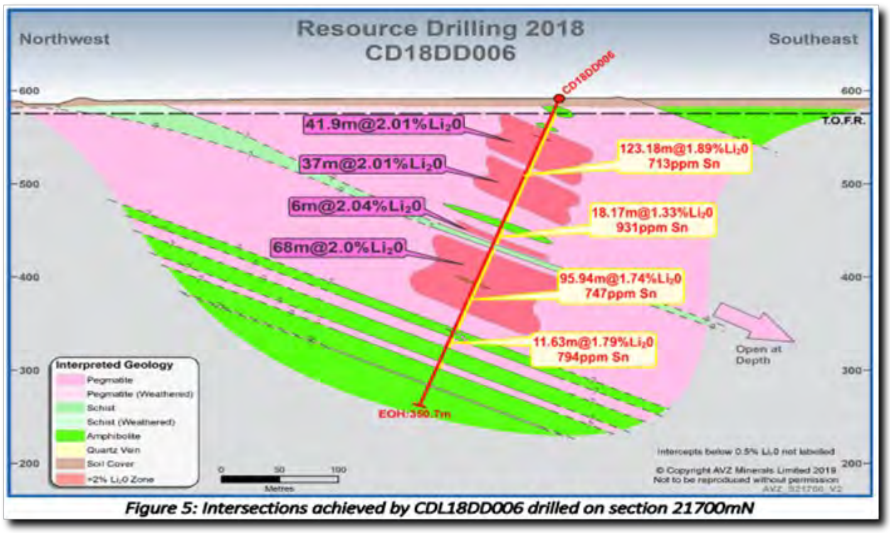


Figure 5: Intersections achieved by CDL18DD006 drilled on section 21700mN

FIGURE 6: Carriere de l'Este Drill Intersections on Section 21300mN (*Source:* **AVZ**, ASX Announcement, 5 March 2019).

RESOURCES & RESERVES

JORC CATEGORY	TONNES Mt	Li_2O %	Sn ppm	Ta_2O_5 ppm	Fe_2O_3 %
MEASURED	107	1.68	836	36	0.96
INDICATED	162	1.63	803	36	0.96
INFERRED	131	1.66	509	30	1.00
TOTAL	400	1.65	715	34	0.96

TABLE 2: Manono Project resource estimate (*Source*: **AVZ**, ASX Announcement, 8 May 2019).

Total JORC 2012 Resources stand at 400Mt @ 1.65% Li_2O

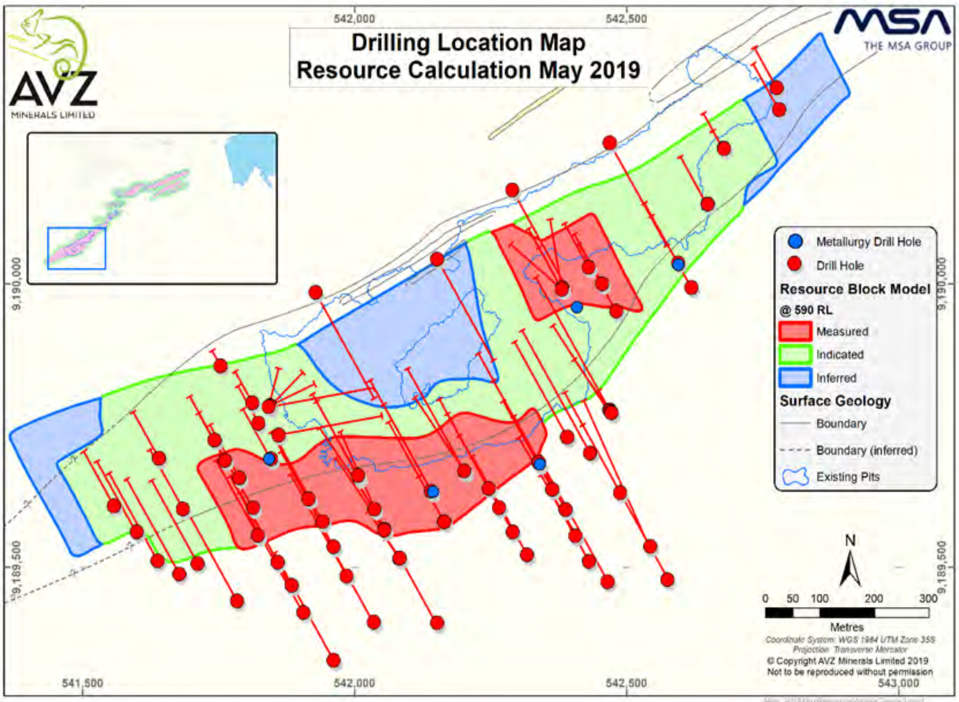


FIGURE 7: Schematic of Drill Hole Locations at Roche Dure used in the Resource Estimation and Classification Categories at 590m elevation (*Source*: **AVZ**, ASX Announcement, 8 May 2019)

86 drill holes over 1,600m of strike for 27,500 metres of drilling…

...including 351m @ 1.77% Li_2O

This updated JORC 2012 Mineral Resource (Table 2, Figure 7) is based on 86 drill holes over 1,600m of strike length together with geological data from a further 5 drill holes (Figure 7). The resource upgrade represents a 41.7% increase in Measured and Indicated resources to 269Mt with 67% of the mineral inventory now in Measured and Indicated. Despite the large resource, there still remains 1,600 metres of strike potential to be tested. In addition M'Pete and Tempete (Kitololo Sector) remain untested.

The update represents a 41.7% increase in Measure + Indicated resources…..

In addition, Fe_2O_3 (a potentially deliterious element) was significantly reduced. The incorporation of tin and tantalum into the flowsheet, the subject of ongoing metallurgical testwork, are likely to form part of the DFS.

Further drilling is planned within the Roche Dure pit once the pit has been dewatered after access is gained to the pit floor later in CY 2019. This should allow the potential upgrade of the Inferred Resources contained within the "wedge", that sits beneath the pit floor to Indicated or Measured.

Significant resource potential remains along strike…..

Whilst approximately 95% of the strike of Roche Dure and the depth extent of the pegmatite to approximately 480m below surface have been drill tested, the bulk of the down-dip extensions of the entire 1,600 metres of strike length remains to be tested.

SCOPING STUDY

Capex for 5mtpa throughput operation estimated at US$380m—US$400m…

...attributable NPV_{10} to **AVZ** has climbed to a pre-tax US$1.6bn (US$1.01bn) even factoring lower concentrate prices from the November 2018 update

Paramter Value	Nov-18	May-19
Potential Mine Life (Yrs)	20	20
Measured Resources (mt)	43	107
Indicated Resources (mt)	104.7	162
Inferred Resources (mt)	112.2	131
Annual throughput - Base Case (Mtpa)	2	5
Production Target Over Mine Life (mt)	40	40
Strip Ration (t waste: t ore)	0.7:1	0.55: 1
Average feed grade (%Li_2O)	1.58	1.51
Recovery (%)	80	80
Potential Annual Production (t 5.8% Li_2O conc) (mt)	0.44	1.1
Open pit mining cost (US$/t concentrate)	56	33
Processing cost (US$/t concentrate)	64	58
Transport cost (US$/t concentrate)	163	223
Admin & sustaining capital cost (US$/t concentrate)	14	9
Average Cash cost (US$/t concentrate)	297	323
Concentrate Price (US$/t)	920	750
Accuracy (%)	+/- 35	+/- 35
Contingency (US$m)	36	78
CAPEX (US$m)	180-200	380-400
NPV 10 (US$m)	1.04	1.54
IRR (%)	90	64

TABLE 3: Manono Scoping Study summary (*Source*: **AVZ**, ASX Announcement, 23 May 2019).

An updated Scoping Study on Manono was released on 23 May 2019 with the comparison to the updated November 2018 study shown in Table 3. The studies evaluated the technical, transport, power and potential economic viability of an open pit mine development at the Company's Manono Project deposit, based on the recent JORC 2012 Measured + Indicated Resource of 269 mt @ 1.65% Li_2O.

The Scoping Study was based on a 5Mtpa high grade (Figure 7) open pit mine to supply material to a conventional dense media separation (DMS) and flotation plant. The estimates presented in Table 3 are based on a 100% project interest with **AVZ** currently holding a 60% interest. CAPEX for the processing plant and project infrastructure was estimated at US$380m to US$400m (±35% including US$78m contingency).

Scoping Study returned robust IRR of >64% (51.1% after tax)

Summary of Results

The assumptions in Table 3 (excluding Sn and Ta credits) returned a pre-tax NPV_{10} of US$2.63bn (US$1.74 post tax —**RMR** estimate) (**AVZ**'s 60% share is US$1.6bn pre tax and 1.01bn post tax —**RMR** estimate) with a pre tax IRR of 64% (51.1% post tax—**RMR** estimate) a significant improvement on the November 2018 Study. Additionally **AVZ** is investigating other cost savings including negotiating bulk volume discounts, potential five-year tax concessions and plant optimization.

Upside from potential by-product credits from tin extraction

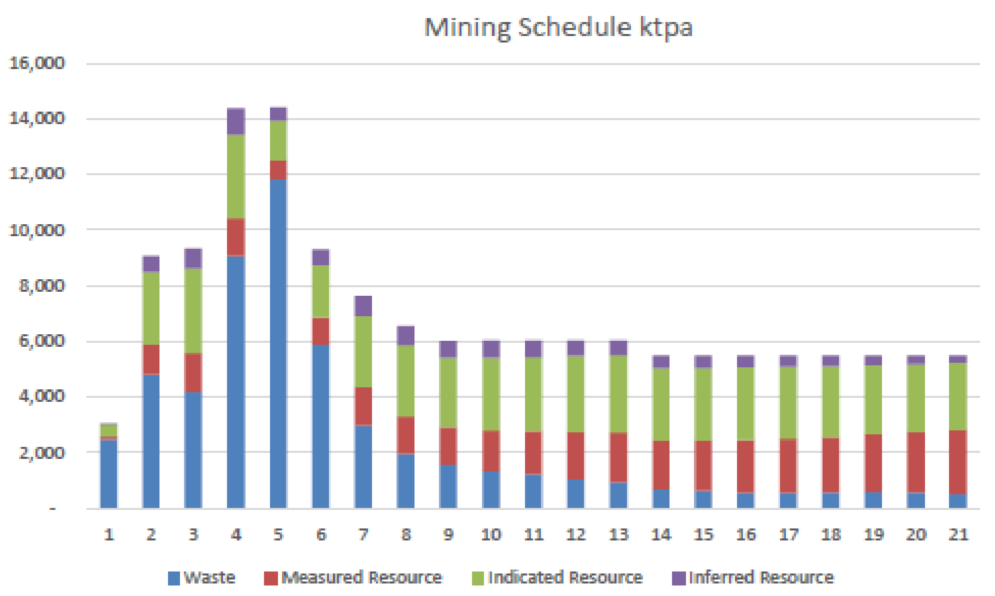


FIGURE 8: Production Schedule by Mining Category (*Source*: **AVZ**, ASX Announcement, 23 May 2019)

Financial model sensitivity analysis has been conducted with largest sensitivity being product price

Transport costs estimated at US$223/t of concentrate, based on combined road and rail freight

Project Sensitivities

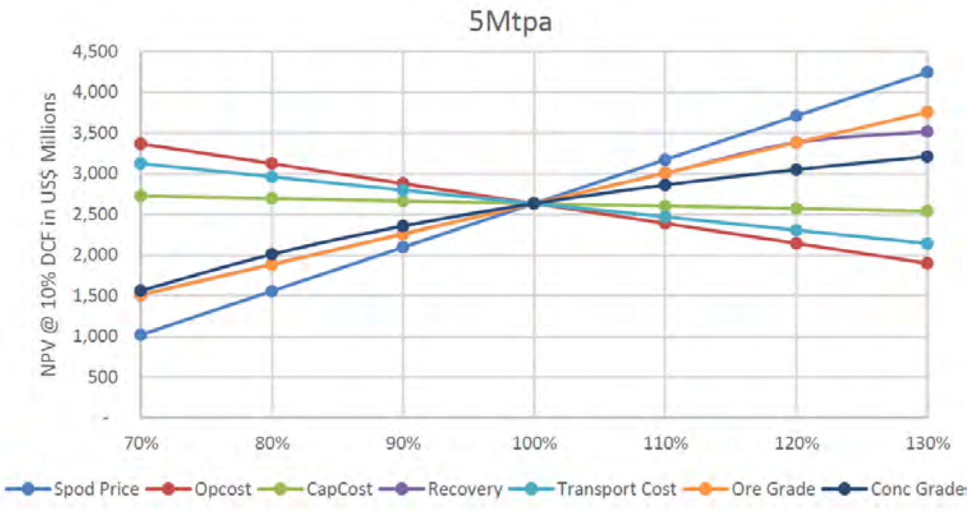


FIGURE 9: Single Parameter pre-tax sensitivity analysis for NPV_{10} (*Source:* **AVZ**, ASX Announcement, 8 May 2019).

Concentrate price, metallurgical recovery, haulage costs, ore grade, operating costs and capex were sensitised between a range of –30% to +30% in increments of 10%. Results of the sensitive analysis are shown in Figure 9. Concentrate price, metallurgical recovery and ore grade had the biggest impact on NPV.

FIGURE 10: Preferred Transport Route (*Source*: **AVZ**, ASX Announcement 23 May 2019).

Transport

Figure 10 shows the preferred transport route (Route 4 in the Scoping Study) that was completed by independent Tanzanian based consultants the Alistair Group. The route involves road transport of loose bulk concentrate from Manono via Pweto to rail siding at Nseluka, rail freight on the Tazara system to Dar es Salaam, warehouse in Dar es Salaam, loading containers for transport to port for loading bulk ships in Dar es Salaam Port.

In regards to site access and procurement route, the IDRC Ministry of Infrastructure, Public Works and Reconstruction has agreed to fully fund (US$285m) the rehabilitation of the bituminised road Lubumbashi to Manono.

Project Power

Dathomir and Cominière have agreed that Dathomir will secure finance for the rehabilitation of the Piana Mwanga hydroelectric power station. The Piana Mwanga Hydro project would comprise an installation of up to a 32MW power plant through the rehabilitation of the current facility and the potential addition of one extra unit to increase capacity to 64 MW.

Activity	CY2019				CY2020				CY2021			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Met Test Work Study												
Feasibility Study												
Transport Route Confirmed												
Licensing, Permitting & Enviro Approvals												
Detailed Engineering and Procurement												
Construction												
Commissioning												

TABLE 5: Manono Project Schedule (*Source*: **AVZ**, ASX Announcement, 8 May 2019).

PROJECT SCHEDULE

In November 2018 **AVZ** completed its planned drilling programs for infill and exploration purposes. These programs were designed to:

- Infill and expand the current resource base.

- Select core to be utilised in the expanded metallurgical test-work programs.

- Substantially upgrade the resource categories from the Maiden Resource.

- Confirm geotechnical parameters for open pit mine planning.

DFS on Manono has commenced immediately with planned Q1 2020 deadline

Detailed metallurgical test-work is scheduled to commence in the current quarter The metallurgical test work and DFS is expected to take 6 months to complete.

As well as improving the accuracy of cost estimates, the Study will provide additional definition on the Project’s infrastructure requirements such as water, power and transport, as well as potential credits for Tin & a proposed 5-year tax concession. This is yet to be factored into our financial models discussed in this report.

In parallel, the Company intends to continue engaging with potential investment & off-take partners and finance providers.

LITHIUM OUTLOOK

Lithium spodumene prices are dare set to recover...

Prices have been relatively stable since September 2018, trading at support levels of US$9k/t. While changes in Chinese subsides and a strong supply response will probably keep prices subdued in the coming months, we expect the price to gain support in the 2H 2019 and continue into 2020 based on continued strong demand for electrical vehicles from China.

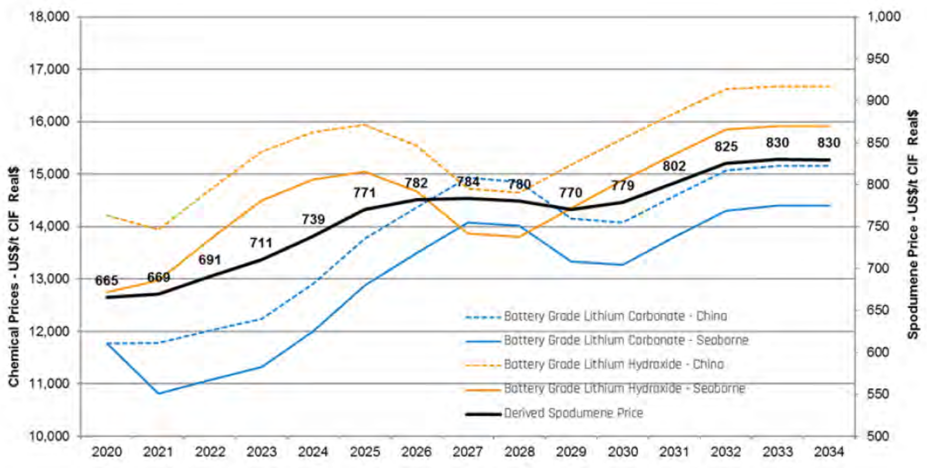


FIGURE 11: Single Parameter sensitivity analysis for he NPV (*Source:* **AVZ**, ASX Announcement, 8/5/2019).

High projected growth rates for both supply and demand mean there is a range of possible price outcomes in the long term, however we expect supply to continue to outpace demand in the near-term with the surplus peaking during 2022 after which we anticipate a lift in prices (Figure 11).

Supply Increasing: Supply continues to build with newly commissioned hardrock producers (AMG, Altura, Pilbara and Tawana) ramping up production in 2019, adding a further ~60,000 (LCE t). These projects and growth from older existing producers have the potential to match or exceed the projected demand growth with 17% forecast CAGR supply growth 2025.

Demand expectations are robust with many market commentators expecting EV sales to grow rapidly and reach general market acceptance by 2025/30….

Projects expected to commission in 2018 (LCE t)			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Minerals												
Pilbara Minerals	Pilgangoora		-	-	4,482	33,057	61,744	104,539	109,010	109,010	109,010	109,010
Altura Mining	Pilgangoora		-	-	6,000	25,000	32,500	32,500	32,500	32,500	32,500	32,500
Tawana Resources/ AMA	Bald Hill		-	-	11,800	17,806	23,000	23,000	23,000	23,000	23,000	23,000
Mineral Resources	Wodgina		-	-	-	24,483	74,561	94,592	94,592	94,592	94,592	94,592
AMG	Mibra		-	-	3,172	13,354	26,708	26,708	26,708	26,708	26,708	26,708
Brine												
Dongtai Resources	China		-	-	1,500	2,500	4,000	4,000	4,000	4,000	4,000	4,000
Qinghai Hengxinrong	China		-	-	6,600	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Minmetals	China		-	-	200	500	1,000	1,000	1,000	1,000	1,000	1,000
Total (Weighted)		**70%**	**-**	**-**	**23,628**	**86,590**	**161,359**	**205,337**	**208,467**	**208,467**	**208,467**	**208,467**

Projects Advance Development (LCE t)			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Lithium Americas	Cauchari-Olaroz Project		-	-	-	-	4,000	8,000	16,500	20,500	25,000	25,000
Argosy Minerals	Rincon		-	-	250	500	750	1,000	1,250	1,500	1,500	1,500
Prospect Resources	Arcadia		-	-	-	1,000	12,000	26,000	26,000	26,000	26,000	26,000
Nemaska Lithium	Whabouchi		-	-	-	-	10,461	20,922	31,700	31,700	31,700	31,700
North American Lithium (CATL)	La Corne		-	-	-	5,000	15,000	20,000	23,000	23,000	23,000	23,000
Project Total (Non weighted)			**-**	**-**	**250**	**6,500**	**42,211**	**75,922**	**98,450**	**102,700**	**107,200**	**107,200**
Project Total (Weighted)		**40%**	-	-	100	2,600	16,884	30,369	39,380	41,080	42,880	42,880

TABLE 6: Lithium demand-supply summary (*Source*: **Citigroup**, April 2019).

….notwithstanding the longer term outlook, near term the market is likely to remain in oversupply

Capacity constraints

Conversion Capacity Looks Constrained — Conversion capacity is currently ~200kt, but is expected to expand to ~400kt by 2020, however there remains a significant difference between production and capacity with overall utilization at ~50% and Chinese Tier 2 producers at ~33%. With the ramp-up of ex-China conversion capacity, utilization rates are expected to increase. Even at 70% this constrains hard rock supply to ~280kt vs potential mine supply of ~400kt by 2020.

Market Share vs Price — Unrisked supply from existing producers has the potential to meet near-term demand forecasts, so the question is how much market share will existing producers be prepared to concede to new entrants against defending price.

In regards to price, supply growth is projected at around 17% pa that sees a surplus build over the next few years, but the market begins to tighten by 2025 as EV adoption rates gain momentum. We maintain our long-term price of US$7.5k/t for industrial Li_2CO_3 (US$9k/t for battery grade & US$9.4k for hydroxide) based on incentive price for brine and/or hydroxide capacity.

Summary		2016	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Industrial application	LCE kt	116	120	125	130	135	140	146	152	158	164
		3.5%	3.5%	3.9%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Consumer Electronics	LCE kt	46	48	49	51	53	55	58	60	62	65
		6.6%	3.0%	3.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Battery Storage	LCE kt	2	3	4	6	8	11	15	21	30	42
		35%	30%	25%	40%	40%	40%	40%	40%	40%	40%
Automotive	LCE kt	46	55	88	129	165	215	264	339	422	510
		53%	18%	61%	46%	28%	30%	23%	29%	24%	21%
Total	**LCE kt**	**211**	**225**	**266**	**315**	**361**	**421**	**482**	**572**	**672**	**780**
		13%	7%	18%	18%	15%	17%	14%	19%	17%	16%

Source: Citi Research Estimates, Roskill, Company reports

TABLE 7: Lithium applications (*Source*: **Citigroup**, April 2019).

Vehicle demand for lithium likely to dominate

Demand The Chinese electric vehicle market dominates the demand side. Given overall demand is supported by strong automotive battery demand growth (31% CAGR) through to 2025, we expect lithium demand to grow at a ~17% CAGR between 2018-2025.

2019 subsidy cut to favour the big players. The new China policy will see new EV subsidies reduced by raising the battery energy density threshold from 45kwh to 49kwh by 2020. We expect the subsidy cut to weigh on the profitability of the whole new EV supply chain and our expectation is that this will continue to squeeze out smaller battery makers.

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PEER COMPARISONS

AVZ is significantly undervalued compared to its peers on an EV/ tonne basis

AVZ has by far the largest Lithium hard rock resource of its ASX listed peers, almost double the size of **Pilbara Minerals Ltd** (Figure 12). Another advantage over its peer group is **AVZ**'s superior Lithium grade.

Company	EXCH	ASX Code	Share Price	EV (A$m)	Res (Mt)	Lithium Grade %	EV/ Res	Country	Status
AVZ Minerals	ASX	AVZ	$0.06	$125.99	400	1.66	0.31	DRC	Dev
Kidman Resources	ASX	KDR	$1.89	$740.07	189	1.50	3.92	AUS	Dev
Nemaska Lithium	TSX	NMX	C$0.31	$362.76	43.9	1.46	8.26	CAN	Dev
Neometals	ASX	NMT	$0.22	$118.83	60	1.37	1.98	AUD	Prod

TABLE 8: Public listed Lithium Hardrock Peers (*Source:* **RM Research** internal modelling, May 2019)

A comparison based on EV/Resource (Table 8) illustrates that **AVZ** is relatively undervalued compared to its peers. We believe **AVZ**'s value will be unlocked post DFS, when the project is further de-risked and the issue of transportation costs is better understood by the market.

Manono is twice the size of Pilgangoora...

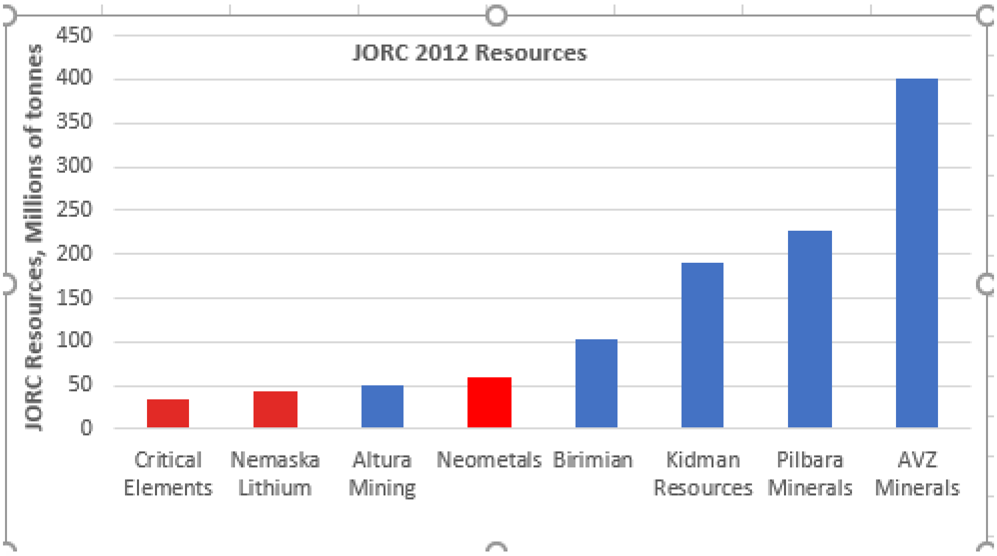

FIGURE 12 Public listed Lithium hardrock peers (*Source:* **RM Research** internal modelling, May 2019)

Notes:

KDR: Lithium focused company, 50/50 joint partner with Sociedad Quimica y Minera de Chile S.A. (SQM) in the Mt Holland Lithium Project

NMX: Developing the Whabouchi Lithium mine in Quebec. The spodumene concentrate produced will be shipped to the company's lithium processing plant being also built in Quebec.

NMT: Sold 13.8% equity interest in Mt Marion Lithium Project for A$104 million, including a binding life of mine offtake option agreement for 57,000 tpa of 6% spodumene concentrate at market linked prices (focused on downstream lithium processing and battery industry)

BGS: Focused on Goulamina Lithium Project in Mali. 2Mtpa Feasibility study expected June 2019. Project economics - Pre-tax NPV_{10} US$690M with a Capex of US$199M

PLS: Executed the Pilgangoora Lithium-Tantalum Project from first drill hole to production in under 4 years. Dec Qtr. 2018, first shipment of +6% spodumene. Strong production ramp up, 85% of annualised stage 1 rate of 2 Mtpa achieved. Future expansion planned of 6.2Mtpa.

CRE: Focused on flagship Rose Lithium-Tantalum project in James-Bay, Quebec. Feasibility study was completed Oct 2017, after tax NPV8 of C$726M with a IRR of 34.9%, estimated initial CAPX of C$341.2M.

AJM: 100% ownership of Altura Lithium Project. Ongoing ramp-up of production over coming months to reach Stage 1 operations of 220,000 capacity. Oct 2018, first shipment to offtake partner Lionenergy. Producing spodumene concentrate with 6.0% Li_2O

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PEER ANALYSIS OF COST STRUCTURES

RMR has conducted a comparison of recently published hardrock lithium feasibility study outcomes and that of **AVZ's** Scoping Study. It shows that the life-of-mine (LOM) operating costs at Manono are competitive with its peer group at around A$475 (US$323/t) of concentrate, but the unique properties of the project mean that mining and processing costs are very low but transportation costs are higher (~71% of total opex compared to peer group of 6-31%). This means that the project economics will be significantly influenced by the Company's ability to optimise capital efficiency and long-term operating costs.

Cost analysis suggests that Manono will be cheap to mine and process but expensive to transport to market

	AVZ	PLS	GGS	CXO	TAW	AJM
Project	Manono	Pilg Stg 2	Goulamina, Mali	Grants	Bald Hill	Pilg Stg 2
Date of Study	23/05/2019	13/02/2018	4/07/2018	25/06/2018	11/07/2017	30/04/2018
Type of Study	Scoping	PFS	PFS	PFS	PFS	PFS
Life of Mine (mnths)	240	204	192	26	43	156
Strip Ratio (w/O)	0.55	3.85	3.5	13.8	9	3
Plant Feed Rate (MTPA)	5	5	2	1	1.2	1.54
Avg Grade (%Li2O)	1.51%	1.26%	1.56%	1.48%	1.18%	1.04%
Avg Recovery (%)	80		70.4	76.1	65.8	80
Targ Conc Grade	5.8	6	6	5	6	6
Processing Plant CAPEX ($m)	588.2	145.3	97.6	20	27	95.8
Additional CAPEX ($m)	0	61.6	168.1	33.5	37.3	23.1
LOM Opex (A$/t conc FOB)	475	335	374	307	641	324
LOM Opex (after by-product credits))		219	374	307	508	324
Mining Costs (A$/t of conc)	49	135	145	209	374	115
Processing Costs (A$/t of conc)	85	137	96	71	110	130
Haulage & Port (A$/t of conc)	328	34	116	19	51	37

TABLE 9: Peer comparison based on project fundamentals including cost analysis (*Source:* **RM Research** internal modelling, May 2019).

ESTIMATE OF VALUE

Our estimate of future value (Figure 13) moves on from EV/tonne calculations as the real value lies in the ability of the Company to forge a pathway to a positive DFS and then to production. We have assumed, *inter alia*, the following;

- LOM 5Mtpa production scenario (which **RMR** anticipate could commence at 2Mtpa)
- 60:40 debt; equity with A$235m equity raising at 16 cents
- Approximately 4.9 billion **AVZ** Shares on issue (fully diluted) at commencement of production with a US$400m CAPEX.
- Assumes **AVZ** will trade at 50% discount to attributable NPV_{10} post DFS/Pre commissioning and at NPV_{10} assuming name plate production is achieved.

We consider there is upside in the **AVZ** share price to 16 cents post DFS/Pre-commissioning….

...and 36 cents per share at name-plate production…

...our modelling assumes the delivery of a positive DFS and a fully funded 5mtpa operation.

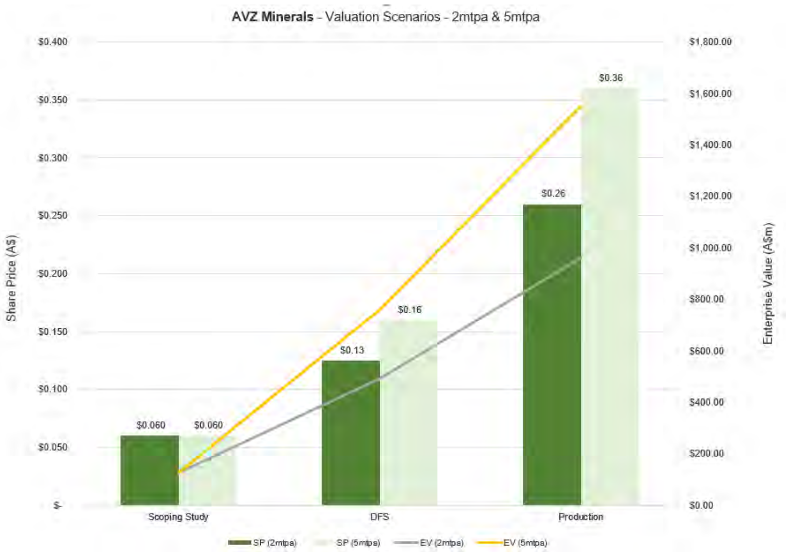

FIGURE 13: Valuation progression from Scoping Study to production based on 2mtpa and 5mtpa production scenarios (*Source:* **RM Research** internal modelling, May 2019).

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OTHER PROJECTS

Manono Extension Project is 100% owned by **AVZ** and host potential strike extensions to the main Manono project area

Manono Extension Project (100% AVZ)

The Manono Extension Project comprises two granted exploration permits (PRs 4029 and 4030) covering 242.25 sq km and surround the Manono Project licence. Within the project, there are two primary targets delineated from the photo-geological interpretation (completed in 2014) that may represent strike extensions of the Manono pegmatite to the southwest and to the north east:

- **SW Extension Target**: A pegmatite striking for approximately 800m and up to 200m in width. The SW target is a weathered calcic feldspar (albite)-quartz-muscovite pegmatite with similar mineralisation style to the main Kitotolo pegmatites which may represent the southern extension to the Kitotolo orebody.
- **NE Extension Target**: A well-developed soil covered laterite, 2 to 3 metres thick in an east-west orientation measuring 2km by 1.5km.

CORPORATE

A Shareholder Purchase Plan ("SPP") was closed on 18 February 2019 raising $5.2 million at an issue price of 3.8 cents per Share. Subsequent to the closure of the SPP, **AVZ** completed a placement on 27 February 2019 at the same price raising a further $9.8 million. The placement was cornerstoned by a strategic investor, **Lithium Plus** and existing shareholder **Huayou Cobalt Group**. **Lithium Plus** now has a 3.46% stake. **Huayou Cobalt Group** also holds 9.30%. **AVZ** has stated that it is now fully funded to Final Investment Decision (FID) at Manono.

KEY RISKS

POLITICAL RISK: DRC is considered a relatively high-risk jurisdiction however there remains significant foreign investment in the country including **Ivanhoe Mines** and **Barrick**.

PERMITTING/APPROVALS/LICENSING: There is risk that the permitting and approval of the Manono Project may take longer and cost more than currently envisaged.

COMMODITY PRICE OUTLOOK: **AVZ** is primarily exposed to lithium concentrate prices which are likely to be subject to supply side pressure in the medium term that could adversely affect the project economics at Manono, and hence the value of the **AVZ** securities.

METALLURGY/PROCESS RISK: Even though only 2 drill hole samples have been lab tested, the Roche Dure Pegmatite is essentially homogenous. Metallurgy test work expected Q3 2019 to confirm grade, recovery and impurities.

Plenty of scope to cut creative finance deals to allow for project funding….

...and manage dilution to **AVZ** shareholders

FINANCE RISK: Based on the results of the Scoping Study we consider that the project economics are robust including a pre-tax IRR of over 64% and a project NPV_{10} of US$2.6 billion (US$1.6bn based on **AVZ**'s 60% share). The primary risk is sourcing the US$380-400 million in capital required to develop the project which we believe could be provided by potential Chinese off-take partners. This is likely to greatly reduce the projects debt and equity financing requirements particular if deals are done at the project level. There remains further upside from project optimisation and the inclusion of Sn as a payable metal in the flowsheet.

TRANSPORT: The project is reliant on multiple modes of transport that increase the probability of supply chain management breakdown and failure to meet future offtake contracts.

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DIRECTORS

Nigel has extensive operating and corporate experience in the region of the Manono Li-Sn Project

Mr Nigel Ferguson, BSc Geology, FAusIMM, MAIG **MANAGING DIRECTOR**

Mr Ferguson is a geologist with 30 years of experience having worked in senior management positions for the past 18 years in a variety of locations. He has experience in the exploration and definition of precious and base metal mineral resources throughout the world, including DRC, Zambia, Tanzania, Saudi Arabia, South East Asia and Central America. He has been active in the DRC since 2004 in gold and base metals exploration and resource development.

Mr Ferguson is also Managing Director of **Okapi Resources Ltd** (ASX: **OKR**) and Managing Director of **Huntsman Resources Ltd**, an unlisted public company.

Graeme has successfully completed feasibility studies and has worked on 5 projects that resulted in the opening of mines...

Mr Graeme Johnston, **TECHNICAL DIRECTOR**

Mr Johnston is a geologist with over 30 years' experience in Australia, the Middle East, Romania, Malaysia and the DRC. Mr Johnston worked on various gold projects before joining Rio Tinto and then with Midwest Corporation where he was the Principal Geologist during its sale to **Sinosteel Corporation** for US$1.4 billion. Following this, he was Technical Director for 9 years with Ferrowest Limited and contributed to the successful completion of the Feasibility Study for the Yalgoo Pig Iron Project. Mr Johnston's technical experience is focused on the transition between orebody delineation and mine opening and has worked on over five projects that resulted in new mines being commissioned. Mr Johnston initially joined the **AVZ** team in May 2017 as Project Manager for the Manono Lithium Project.

Rhett brings experience extends across a full spectrum of development activities in a range of commodities

Mr Rhett Brans, Dip. Engineering (Civil) **NON-EXECUTIVE DIRECTOR**

Mr Brans is an experienced director and civil engineer with over 45 years' experience in project developments. He is currently a Non-Executive Director of **Australian Potash Limited** and **Carnavale Resources Ltd**. Previously, Mr Brans was a founding director of Perseus Mining Limited and served on the boards of **Syrah Resources Limited**, Tiger **Resources Limited** and **Monument Mining Limited**. Throughout his career, Mr Brans has been involved in the management of feasibility studies and the design and construction of mineral treatment plants across a range of commodities and geographies including for gold in Ghana, copper in the DRC and graphite in Mozambique. He has extensive experience as an owner's representative for several successful mine feasibility studies and project developments.

Honliang is also a director and president of Huayou Cobalt's parent company

Mr Honliang Chen **NON-EXECUTIVE DIRECTOR**

Mr Hongliang Chen is a nominee of the Huayou Cobalt Group to the AVZ Board. Mr Chen joined the Huayou Cobalt Group in May 2002 and is currently a director and the president of the parent company, Shanghai stock exchange-listed **Zhejiang Huayou Cobalt Co Ltd**. Mr Chen previously worked in management positions at the Agricultural Bank of China, **Tongxiang Branch Investment Corporation** Tongxiang Securities Department and **Shenyin Wanguo Securities Co Ltd**.

Peter has extensive investment banking finance experience...

Mr Peter Huljich **NON-EXECUTIVE DIRECTOR**

Mr Huljich has over 25 years experience in the legal, natural resources and banking sectors with a particular expertise in capital markets, mining, commodities and African related matters. He has worked in London for several investment banks, including Goldman Sachs, Barclays Capital, Lehman Brothers and Macquarie Bank with a focus on commodities and equity and debt capital markets and has extensive on the ground African mining, oil and gas and infrastructure experience as the Senior Negotiator and Advisor for Power, Mining and Infrastructure at Industrial Promotion Services, the global infrastructure development arm of the Aga Khan Fund for Economic Development (AKFED) whilst resident in Nairobi, Kenya. Mr Huljich holds Bachelor of Commerce and an LLB (University of Western Australia) and is a Graduate of the Securities Institute of Australia. Mr Huljich is also a graduate of the AICD Company Directors Course. Mr Huljich is also an Independent Non-Executive Director of ASX Listed **Kogi Iron Limited** ASX:KFE.

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RM Research Recommendation Categories

Care has been taken to define the level of risk to return associated with a particular company. Our recommendation ranking system is as follows:

Buy	Companies with 'Buy' recommendations have been cash flow positive for some time and have a moderate to low risk profile. We expect these to outperform the broader market.
Speculative Buy	We forecast strong earnings growth or value creation that may achieve a return well above that of the broader market. These companies also carry a higher than normal level of risk.
Hold	A sound well managed company that may achieve market performance or less, perhaps due to an overvalued share price, broader sector issues, or internal challenges.
Sell	Risk is high and upside low or very difficult to determine. We expect a strong underperformance relative to the market and see better opportunities elsewhere.

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