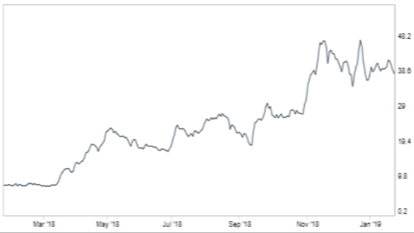
Company update

30 January 2019

Alternative Resource Capital

BMN LN	Mining & Metals



Source: LSE

Market data

Price (p)	40.8
12m High (p)	48.5
12m Low (p)	8.2
Shares (m)	1,119.1
Mkt Cap (£m)	456.0

Company summary

Bushveld Minerals is an AIM-quoted mineral resource development and production company. The group's key asset is a majority controlling interest in the Vametco vanadium operation in South Africa. Bushveld also has thermal coal interests via its wholly-owned Lemur Resources subsidiary and tin exposure via a 17.5% stake in AfriTin Mining Ltd.

Key forecasts

	2017	2018e	2019e
Sales (£m)	2.2	144.4	184.0
EBITDA (£m)	0.7	79.7	117.1
EBITDA, adj* (£m)	0.7	58.2	86.0
EPS (GBp)	(0.1)	3.8	5.3
EV/EBITDA (x)	na	5.7	3.9
EV/EBITDA adj* (x)	na	7.8	5.3
P/E (x)	na	10.7	7.7
Net cash (£m)	1.4	33.7	106.4

*Equity-attributable adjusted EBITDA

Analyst contact

Nick Chalmers
Email: nchalmers@altrescap.com
Tel: +44 (0)20 7186 9003

Broking contacts

Alex Wood
Email: awood@altrescap.com
Tel: +44 (0)20 7186 9004

Rob Collins
Email: rcollins@altrescap.com
Tel: +44 (0)20 7186 9001

Bushveld Minerals*

Vanadium strength drives sharp earnings growth

Production rates at Bushveld's Vametco operation in South Africa trended back up in Q4 2018, strike interruptions having derailed output in Q3. Volumes rose 22% Q-on-Q and costs fell 15%, taking the full-year result to 2,560t V at a cash production cost of just under US$20/kg. With ferrovanadium (FeV) up 149% relative to 2017, to US$81/kg, margins widened significantly despite the interruptions – Vametco EBITDA rose more than three-fold Y-on-Y, to US$108m. Operational improvement initiatives should fuel further earnings growth in 2019 if vanadium markets remain robust as expected. A widening structural deficit has driven a step-change in prices over the past two years, and, despite a recent correction, they remain high by historic levels. We believe a material increase in global supply will be needed to attain market balance, and this will take time to develop. Vanadium prices thus look set to remain firm for longer than previously envisaged, and we have upwardly adjusted our forecasts accordingly. Even with our now more modest assumed increase in volumes in 2019 given operational issues to date, we believe EBITDA could thus rise past £100m at current FeV prices, underlining Bushveld's status as one of the UK market's most cash-generative junior mining stocks.

- **Production rates recover:** Quarterly vanadium output rose 22% to 657t as production interruptions were reduced, with costs falling 15% accordingly. We expect rates to further improve through 2019 as operational enhancement initiatives being rolled out enable more of the benefits of last year's capacity expansion to come through, though at a lower level than previously assumed as remedies to the issues encountered in 2018 take time to be worked through.
- **Vanadium outlook compelling:** The impact of vanadium co-product supply constraints has been exacerbated by increasing intensity of usage in China, opening a structural deficit and sending prices to an all-time high in Q4 2018. We think significant additional supply is needed to restore lasting balance, but existing production expansions, restarts of idled capacity and, particularly, new projects will take time to roll out. We therefore believe the market will remain in deficit over the near-to-medium term, with vanadium prices resultingly remaining firm by historic standards for the next few years at least.
- **Further earnings growth to come:** We have lifted our 2019 FeV price forecast by 20%, bringing it in-line with current market pricing of cUS$80/kg. Thereafter we have increased our 2020 and 2021 assumptions to US$70/kg (+30%) and US$60/kg (+50%) respectively. The positive impact of these higher near-to-medium term pricing assumptions offsets our now more conservative assumptions on the production ramp-up schedule at Vametco given the 2018 disruptions and the issues identified by the recent diagnostic review. We await Bushveld's formal 2019 guidance, but our preliminary estimates point to potential for group consolidated EBITDA to rise to well over £100m this year. And we believe all-in margins can be sustained at over 50% for the long term, with rising volumes offsetting our conservative assumption of a gradual retreat in vanadium pricing to more modest levels over time.
- **Undemanding valuation:** Our preliminary revised estimates put Bushveld on an undemanding 2019 EV/EBITDA multiple of just 3.9x (5.3x on a 74% equity-attributable basis) and point to a 2019 free cash-flow yield of 16%. Our sum-of-parts valuation of 50p incorporates a long-term FeV price assumption of US$45/kg from 2022. The latter is c40% below current pricing levels, and we therefore consider the valuation risks lie firmly to the upside.

Q4 and 2018 full-year operational results

Bushveld has provided an operational update for the three and twelve months to end-December 2018 for its Vametco vanadium operation in South Africa.

Production rates back up in Q4

Vametco produced 657t of vanadium (in the form of Nitrovan, its trademarked vanadium nitrate product) in the three months to 31 December 2018, an increase of 22% relative to the preceding quarter when operations were interrupted by industrial action. The Q4 result was however marginally below expectations owing to unplanned maintenance downtime at the refractory and cooler girth sections of the process plant. Accordingly, full-year production of 2,560t was slightly below management's last guidance range (2,600-2,650t), and 3% lower than 2017 output.

Cash production costs came down 15% quarter-on-quarter, to R256/kg V (US$18.0/kg), reflecting the higher volumes. The Q4 improvement in costs was slightly less marked than anticipated however owing to the above stated reasons, and costs for the full-year consequently averaged 3% higher than guidance, and 19% higher than 2017, at R261/kg (US$19.7/kg).

Higher vanadium price drives upwards step-change in profitability

Despite broadly flat year-on-year production, Vametco's sales revenue in 2018 increased by a staggering 143% compared with 2017, to US$192m, reflecting a marked increase in global vanadium prices – ferrovanadium (a close price equivalent to Nitrovan) averaged US$81/kg across 2018 (and US$108/kg in Q4), up 149% versus 2017. Accordingly, Vametco enjoyed significant margin growth, EBITDA rising 349% year-on-year, to US$108m.

Review identifies measures to better realise expanded capacity

Aside from the previously reported 16-day period of unprotected industrial action in September, annual production was also adversely impacted by several instances of unexpected downtime relating to operational issues. Together with the strike stoppages, management estimates that this resulted in over one months' worth of lost output, in the absence of which we note production for the year would have exceeded 2017 following the expansion initiatives undertaken through the year.

Given the unexpected challenges experienced during the ramp up of the expansion, Bushveld has completed a detailed diagnostic review of Vametco's operational performance in conjunction with an external consultant. This found that the major factors inhibiting the expanded nameplate capacity rate of 3,750t pa from being achieved were lower-than-anticipated rates in the new milling circuit and a concurrent reduction in the vanadium grade of run-of-mine ore feed. This resulted in reduced concentrate production, lower recoveries and plant operating instability.

The review identified several measures with which to remedy these issues, including: increasing ore feed grades through improved mine scheduling; increasing vanadium grade in kiln feed through improved silica liberation; improving kiln availability through better engineering practices and production throughput; and sustainably increasing kiln feed rates.

An operational transformation programme has subsequently been rolled out to implement the above initiatives with a view to ultimately achieving a sustainable production level of around 90% of nameplate capacity (or c3,400t pa). Bushveld plans to provide formal operational guidance for 2019 with its Q1 update, but has confirmed that it expects production levels to be higher than those achieved in 2018.

Longer term sights remain set on expanding to 5,000t pa

Bushveld continues to explore the potential to further increase Vametco's capacity to approximately 5,000t pa over the longer term. It has previously detailed that this third phase of expansion will likely involve an upgrade of the kiln feed and discharge equipment and an expansion of the process circuit's evaporative capacity. The diagnostic review highlighted that additional targeted investment is required for the kiln and the leach and crushing circuits in order to achieve such expanded rates.

The company is progressing environmental approvals for this planned initiative, and has commenced detailed design and capital estimation work with a view to commencing construction in 2020. We believe the capital cost (previously guided at around US$15m) will prove fundable through internal cash generation.

Completion of the Phase Three expansion would see Bushveld emerge as a primary producer of significant scale, increasing its share of a structurally challenged global vanadium supply market from around 3% currently to over 5%. Moreover, we believe the mineral resource upside potential of Vametco and the neighbouring Brits property are such that there may be scope over the longer term to support a further step-up in production capabilities beyond that targeted under the Phase Three expansion. Recent drilling aimed at increasing geological confidence and grade control of ore mined at Vametco has provided evidence of further mineralised material, and an updated resource estimate will be published by the end of Q1 2019. A maiden resource estimate for Brits is scheduled to follow Q2 2019 following encouraging exploration results at this greenfield property.

Revised ARC operational assumptions

Bushveld plans to provide its 2019 production guidance with its Q1 2019 operational update once all aspects of the operational transformation programme have been scheduled.

Given lower-than-anticipated production in 2018 and the issues identified by the diagnostic review that will take time to remedy, we have adjusted down our 2019 production assumption for Vametco by 20%, to 3,000t. Our cash production cost estimate rises somewhat resultingly (reflecting the lower assumed volumes), though at US$17/kg it is still materially lower than 2018 costs.

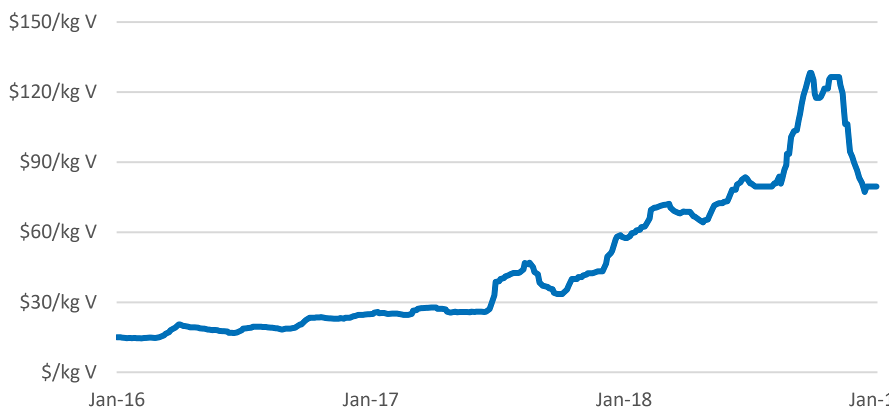
Thereafter, we assume that the targeted sustainable production rate from existing installed infrastructure of 3,400t pa is achieved in 2020. We continue to assume that Bushveld progresses a further expansion of Vametco to c5,000t pa, but with construction now planned to commence later than we had previously anticipated we have pushed out our assumed date for this fully-expanded target by one year, to 2022 (with 2021 representing a ramp-up year following the planned start of construction of Phase Three in 2020). We continue to assume that costs can be lowered to <US$15/kg on completion of the Phase Three expansion.

We would caution that both our near and longer-term operational assumptions remain subject to potential change based on the company's forthcoming 2019 guidance and the outcome of its ongoing assessment of the planned Phase Three expansion, particularly given the operational underperformance in 2018.

Vanadium prices remain robust on structural deficit

Vanadium prices reached an all-time high of just under US$130/kg (ferrovanadium, FOB Europe basis) in Q4 2018, before dropping back late in the year and stabilising in 2019 to date at around the US$80/kg level. This late spike took the 2018 average to just over US$80/kg, a staggering increase of almost 150% relative to 2017.

Figure 1: Ferrovanadium three-year price history (FOB Europe basis)

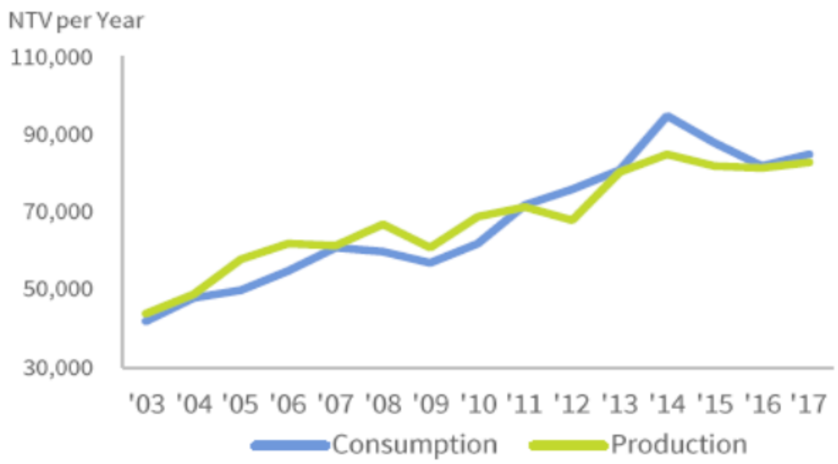


Source: Bloomberg (Metal Bulletin data) and vandiumprice.com

Structural change in supply dynamics have constrained output

This remarkable rise reflects a structural change in the global vanadium market that began earlier this decade, but which only really started having a marked impact on pricing from 2017. Having been in a position of surplus throughout the first decade of this century as China ramped up domestic iron ore production (which is rich in vanadium by-product – vanadium output grew by c5% pa accordingly), the vanadium market has moved into deficit during the latter part of this decade as slowing global steel demand growth and resultant lower iron-ore prices have seen Chinese steel producers increasingly switch to using higher-quality imported iron ores (which have minimal vanadium content). This has been compounded by environmental closures of primary production sources in China and a ban on the import of vanadium-bearing slags (most of which had previously come from Russia).

Figure 2: Historic vanadium supply and demand profile



Source: Largo Resources

With co-produced vanadium from steel slags historically accounting for upwards of three-quarters of global vanadium supply, the impact of this structural shift on the market balance has been stark. According to commodity consultant CRU, Chinese co-product supply of vanadium dropped by 22% between 2014 and 2016 (immediately preceding the sharp upturn in vanadium pricing). Away from China, the closure of the Highveld integrated iron-ore-steel operations in South Africa in 2014 removed around 12% of vanadium supply, with global output falling year-on-year to 2017.

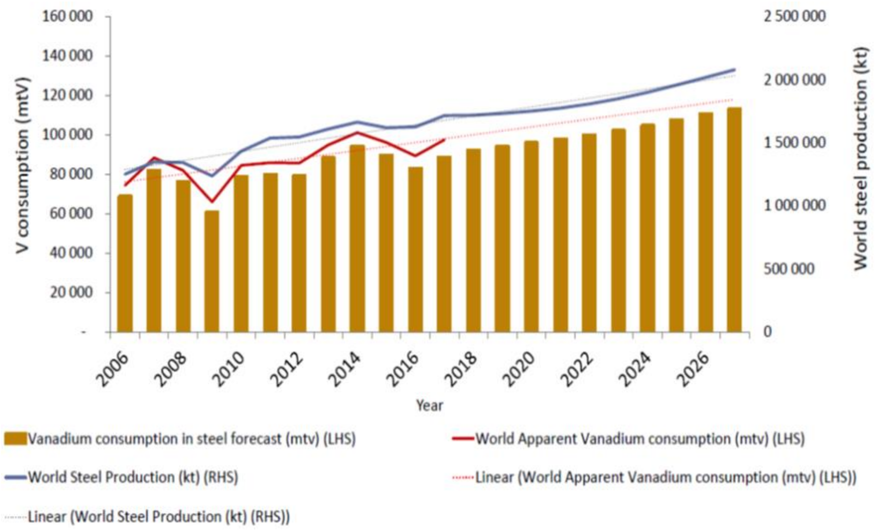
Demand robust as China moves towards higher vanadium rebar

On the demand side of the equation, the story, at least to date, has been equally dominated by the steel sector. Steel applications account for over 90% of total vanadium consumption. While global steel production growth rates have slowed over recent years, the intensity of vanadium use in producing high-strength steels has increased as emerging market economies close the gap on vanadium usage in the West's steel markets.

Around half of vanadium consumption in steel is accounted for by the rebar sub-sector. Given China accounts for around three-quarters of the world's rebar production (equating to approximately one-third of global vanadium consumption), changes in that market are particularly pertinent to vanadium's fortunes. It was the implementation of new rebar strength standards in China that fuelled the major vanadium price spike of 2005-06 (figure 4), and fresh standards introduced in Q4 2018 further added to the latest, initially supply-driven, boom in prices. The new regulations require Chinese rebar manufacturers to meet stricter criteria concerning the minimum tensile strength of their products as part of a safety push to reduce the use of inferior steels in building constructions. The new regulations eliminate the previously permissible lowest-strength rebar and, importantly, set out stringent specifications for three different high-strength rebar standards (encouraging mills to use more strength-inducing alloying additives such as vanadium).

If enforced strictly, we believe these new regulations could lead to a significant and sustained increase in intensity of vanadium usage in the domestic Chinese steel market, which we think could increase global vanadium consumption by well over 10% relative to 2017 levels (all else being equal).

Figure 3: Vanadium consumption versus global steel production



Source: Bushveld Minerals

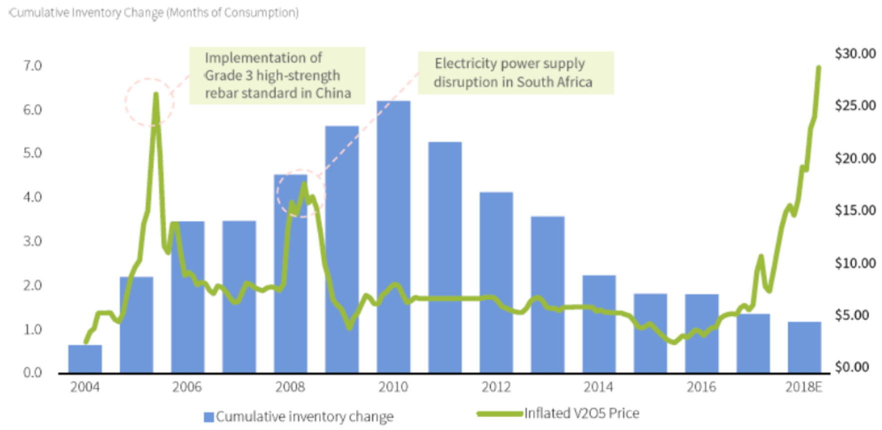
Amongst other vanadium end uses, there has been increasing interest in the energy storage sector, where vanadium redox-flow battery (VRFB) technology appears well suited to help solve the issue of grid-scale storage of energy sourced from renewables. According to vanadium industry technical committee Vanitec, the amount of vanadium consumed in energy-storage applications has doubled in the past 12-18 months. If global growth targets for energy storage are met, and assuming VRFB technology continues to capture a material share of the market (industry experts predict 15-25%), Bushveld estimates this sector could end up accounting for at least 20% of global vanadium demand, compared with just 2-3% currently.

However, we would caution that prolonged elevated vanadium prices could inhibit the widespread commercial role out of VRFB technology given that vanadium electrolyte is the single largest cost component of a VRFB unit (>50% at current pricing levels). We note that Bushveld, through its Bushveld Energy subsidiary, is actively looking at developing potential solutions to this conundrum, including evaluating the potential to lease vanadium electrolyte to VRFB customers (thereby reducing the upfront capital cost for the VRFB developer), but retaining ownership of it (enabling vanadium recovery at the end of the economic life of the VRFB).

Price outlook: strong for longer

The net impact of these shifting supply-demand drivers was a dramatic reduction in global vanadium inventories to multi-year lows in 2018 and the resultant upwards surge in market pricing across the first ten months of the year. Given the extent of the upwards spike, the downwards correction through December 2018 and early January 2019 is perhaps unsurprising. Moreover, we note that Chinese steel production historically slows with the onset of Northern Hemisphere winter.

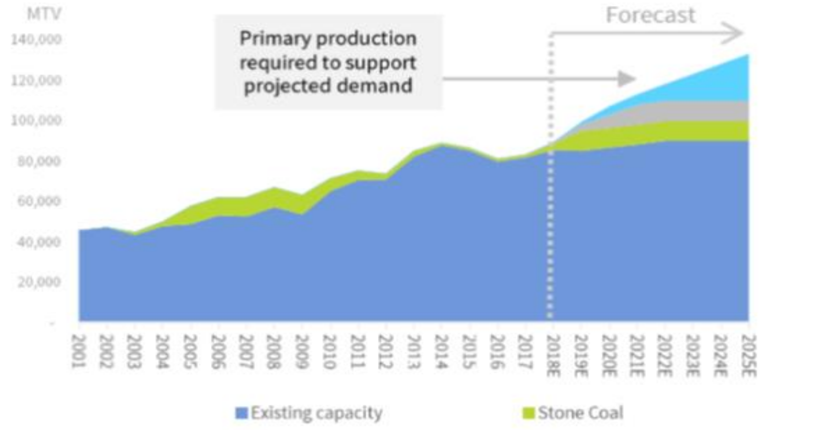
Figure 4: Cumulative global vanadium (V_2O_5 basis) inventory changes and price



Source: Largo Resources

If the new Chinese standards for rebar are strictly adhered to (media reports suggest there has been some delayed compliance thus far, which perhaps partly explains recent (relative) price softening), we believe there will need to be material supply growth over coming years if a sustainable market balance is to be achieved. Other than in the, in our view, unlikely event of significantly higher global steel demand, we don't see mothballed co-product vanadium supply coming back on stream in a meaningful way. This will place the burden of supply growth on the select group of primary producers. Stone coal (vanadium-bearing shale) production from China may plug some of the gap, though environmental restrictions may limit growth from this source (and it is also typically higher cost versus other primary supply sources). There therefore exists a compelling runway for the very select group of low-cost primary magnetite-vanadium producers, of which Bushveld is one, to expand into.

Figure 5: Additional primary supply is likely required to meet projected demand

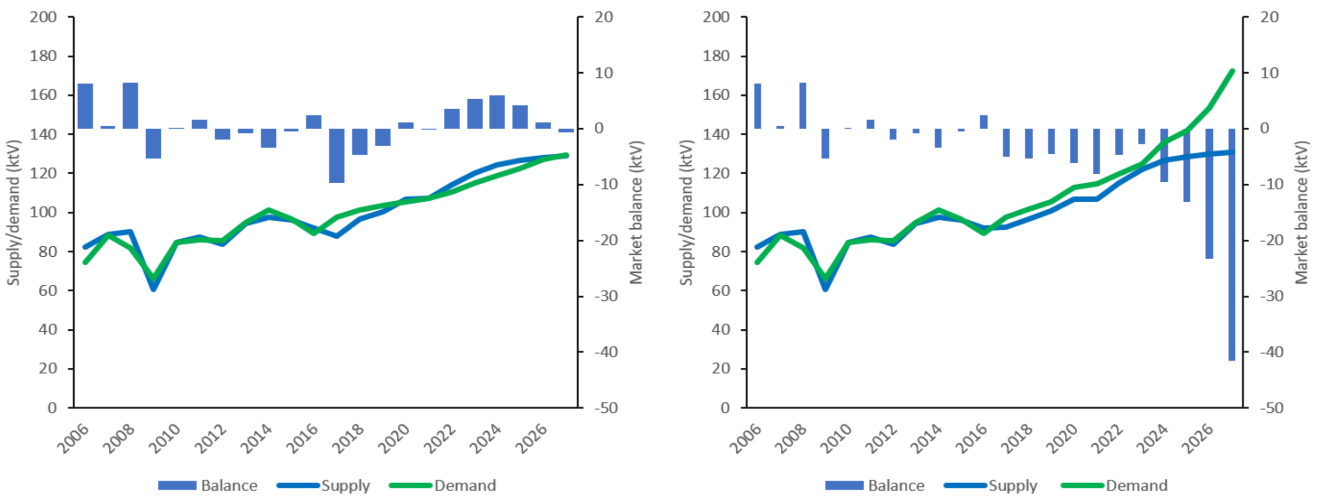


Source: Largo Resources

New primary production will inevitably take time to roll out, and we therefore feel vanadium prices may remain firm by historic standards over the medium term. **We have accordingly lifted our 2019, 2020 and 2021 price assumptions (ferrovanadium basis) to US$80/kg V, US$70/kg and US$60/kg respectively.** Cognisant of the historic volatility of pricing through a cycle (and noting also that price moderation often helps the long-term sustainability of commodity sectors), we consider it prudent to continue to use a conservative long-term assumption. However, we have also raised this, to US$45/kg from US$40/kg previously, and pushed it out by one year, to 2022. Our long-term deck is above the ten-year average price of just over US$30/kg, reflecting our view that the market has undergone a fundamental structural change over the past two to three years that is unlikely to be reversed.

Prolonged elevated prices could result in some demand destruction. Vanadium can be substituted with niobium in some steel applications, and increasing ferroniobium prices across Q4 2018 indicates some substitution may be occuring (perhaps partly influencing softer vanadium markets across late December and early January). But we believe the impact will be limited – niobium is not suitable for use across all rebar grades, there are costs associated with adjusting the rebar manufacturing process, and the niobium market is tightly concentrated (dominated by one major supplier).

Figure 6: Conservative-case vanadium supply-demand outlook (LHS) and VRFB market upside case** (RHS)*



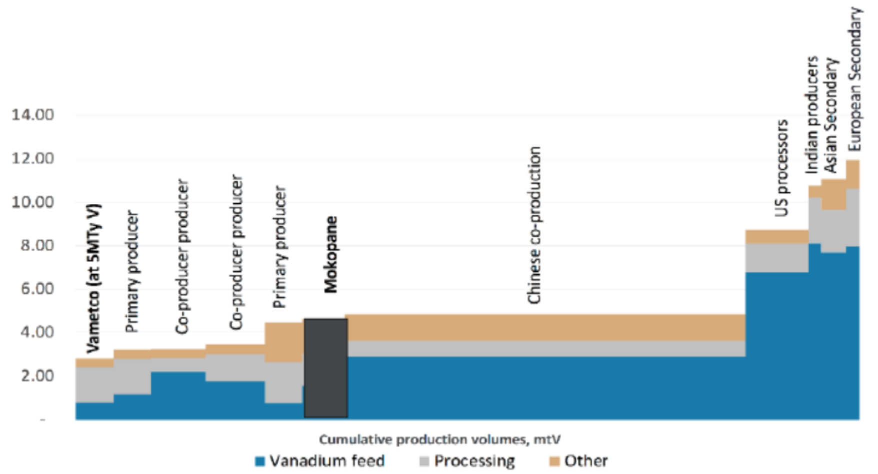
**Adapted from Roskill Consulting **Assumes 25% share of energy storage market captured by VRFBs* *Source: Bushveld Minerals*

On balance therefore, we believe the risks to our revised pricing assumptions (and particularly our long-term assumption) lie to the upside. This may particularly be the case if the VRFB market expands materially (though, as discussed earlier, persistent elevated pricing levels could inhibit growth from this end-use application).

Bushveld well positioned to capitalise

We believe this supply-demand outlook plays into the hands of low-cost, resource-rich primary producers such as Bushveld. The company's Vametco operation in South Africa is amongst the world's lowest-cost producers currently (Figure 7), and with an extensive resource base that would sustain current production rates for decades, there is significant scope to expand output capabilities and reduce costs further.

Figure 7: Vanadium production cost curve (V_2O_5 basis – US$/lb)



Source: Bushveld Minerals

Valuation

We have updated our Bushveld valuation for our upwardly revised vanadium price assumptions and our more conservative near-to-medium term production assumptions. The net result is a 32% increase in our risked NAV estimate, to 50p.

*Figure 8: Base-case sum-of-the-parts valuation**

		Unrisked US$m	Risk multiple	Risked US$m	Risked GBp/s
Vametco (BMN share)	$NPV_{10\%}$	606	1.0x	606	42.2
Mokopane	$NPV_{10\%}$	477	0.2x	95	6.6
Brits	nominal	25		25	1.7
AfriTin Mining (17.5%)	market	2		2	0.1
Lemur Resources	nominal	10		10	0.7
Corporate G&A	$NPV_{10\%}$	(30)		(30)	(2.1)
EV		**1,091**		**709**	**49.3**
Adjusted cash (mid-2018)	estimate	5		5	0.3
NAV		**1,096**		**714**	**49.7**

**Assumes long-term (from 2022) US$45/kg V price and R14.00:US$1 FX rate* *Source: ARC estimates*

Vanadium price and ZAR:USD exchange rate assumptions are the two key variables in our NAV estimate (Figures 9-10). As can be seen, our revised 50p per share valuation may prove conservative if current vanadium market strength holds – our long-term FeV price assumption (introduced in our cash flow model from 2022) is over 40% below current vanadium market pricing levels.

Figure 9: Risked NAV (GBp) sensitivity to V price (flat from 2019) and FX rate*

USD/ZAR rate	Ferrovanadium price (US$/kg V): 40.00	50.00	60.00	70.00	80.00	90.00	100.00
12.00	32	48	65	82	98	115	132
13.00	34	50	67	84	100	117	134
14.00	36	52	69	86	102	119	136
15.00	37	54	70	87	104	121	137
16.00	39	55	72	89	105	122	139

**Our base-case NAV assumes a long-term FeV price of US$45/kg from 2022* *Source: ARC estimates*

Figure 10: Risked NAV (GBp) sensitivity to V (flat from 2019) and discount rate*

Discount rate	Ferrovanadium price (US$/kg V): 40.00	50.00	60.00	70.00	80.00	90.00	100.00
15%	24	36	47	59	70	82	93
12%	30	44	58	73	87	101	115
10%	36	52	69	86	102	119	136
8%	43	63	83	103	123	143	163
5%	59	86	113	141	168	196	223

**Our base-case NAV assumes a long-term FeV price of US$45/kg from 2022* *Source: ARC estimates*

Summary operating and financial forecasts

Figures 11-15 below and over page summarise our base-case operating and financial forecasts for the next three years, updated to incorporate our revised assumptions.

Figure 11: Summary Vametco operational forecasts and macro assumptions

		2017*	2018E	2019E	2020E	2021E	2022E
Vanadium production	t	2,649	2,560	3,000	3,400	4,200	5,000
V_2O_5 equivalent	t	4,729	4,570	5,356	6,069	7,498	8,926
Vanadium sales	t	2,721	2,573	3,000	3,400	4,200	5,000
Ferrovanadium market price assumption	US$/kg V	32.60	81.20	80.00	70.00	60.00	45.00
Cash production costs (on-site costs & freight)	US$/kg V	16.42	19.65	17.07	16.40	15.00	14.31
Total cash costs (incl royalties, marketing & G&A)	US$/kg V	20.94	30.30	26.96	25.06	22.35	19.92
Operating cash margin	%	*30%*	*60%*	*66%*	*64%*	*62%*	*55%*
All-in costs (incl depreciation)	US$/kg V	21.49	31.64	28.48	27.02	23.91	21.10
All-in margin	%	*29%*	*58%*	*64%*	*61%*	*60%*	*52%*
South African Rand	ZAR:USD	13.30	13.20	14.00	14.00	14.00	14.00
GB Sterling	USD:GBP	1.29	1.34	1.29	1.29	1.29	1.29

**Bushveld did not assume majority control of Vametco until end 2017* *Source: ARC estimates*

Figure 12: Summary Bushveld Minerals consolidated income statement

Year-end 31 Dec		**2017***	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**
Revenue	£m	2.2	144.4	184.0	182.4	193.2	172.5
Cost of sales	£m	(1.1)	(48.9)	(54.3)	(59.1)	(65.0)	(69.3)
Other income	£m	0.0	0.9	1.1	1.1	1.2	1.1
Selling & distribution costs	£m	(0.2)	(6.4)	(8.0)	(8.2)	(9.0)	(8.7)
G&A and other costs	£m	(3.9)	(12.9)	(9.2)	(9.2)	(9.2)	(9.2)
Operating profit/(loss)	**£m**	**(3.0)**	**77.1**	**113.6**	**107.1**	**111.2**	**86.4**
Net finance costs	£m	(0.8)	(0.7)	(0.4)	(0.4)	(0.2)	0.0
Impairments	£m	(0.5)	0.0	0.0	0.0	0.0	0.0
Share of profit/(loss) from associates*	£m	3.6	0.0	0.0	0.0	0.0	0.0
Tax	£m	(0.0)	(23.4)	(32.9)	(37.9)	(42.0)	(30.7)
Net profit/(loss)	£m	**(0.7)**	**53.1**	**80.2**	**68.7**	**69.0**	**55.8**
Minority interests	£m	(0.3)	(15.6)	(22.0)	(19.0)	(19.0)	(15.5)
Attributable net profit/(loss)	£m	**(1.0)**	**37.5**	**58.3**	**49.7**	**50.0**	**40.2**

**Bushveld did not assume majority control of Vametco until end 2017* *Source: ARC estimates*

Figure 13: Summary Bushveld Minerals consolidated cash flow statement

		2017*	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**
Operational CF before WC changes	£m	(2.9)	56.1	84.2	74.3	74.3	60.3
Working capital changes	£m	(1.1)	(17.3)	(1.3)	0.1	(2.8)	1.2
Cash flow from operations	**£m**	**(4.1)**	**38.7**	**82.9**	**74.4**	**71.6**	**61.5**
Capex	£m	0.0	(8.5)	(7.6)	(11.6)	(4.9)	(2.3)
Other	£m	3.3	(16.9)	(2.0)	(1.6)	(31.3)	0.0
Cash flow from investing activities	**£m**	**3.3**	**(25.3)**	**(9.6)**	**(13.2)**	**(36.2)**	**(2.3)**
Equity issue and warrant exercises	£m	1.7	18.8	0.0	0.0	0.0	0.0
Net borrowings	£m	6.4	(5.1)	0.0	0.0	0.0	0.0
Dividends to minorities	£m	0.0	0.0	0.0	(24.8)	(35.2)	(19.3)
Other	£m	0.0	(0.7)	(0.4)	(0.4)	(0.2)	0.0
Cash flow from financing activities	**£m**	**8.1**	**13.0**	**(0.4)**	**(25.2)**	**(35.4)**	**(19.3)**
Increase/(decrease) in cash	£m	7.3	26.4	72.8	35.9	(0.0)	39.8

**Bushveld did not assume majority control of Vametco until end 2017* *Source: ARC estimates*

Figure 14: Summary Bushveld Minerals consolidated balance sheet

		2017*	2018E	2019E	2020E	2021E	2022E
Cash	£m	7.2	33.7	106.4	142.4	142.4	182.2
P,P&E	£m	32.9	38.8	42.8	49.3	49.1	46.8
Intangible assets	£m	45.1	45.9	46.2	46.2	46.2	46.2
Other assets	£m	33.8	46.6	44.9	45.6	48.3	47.4
Total assets	**£m**	**119.1**	**164.9**	**240.4**	**283.5**	**286.0**	**322.7**
Payables	£m	15.0	10.2	31.8	43.1	27.1	25.7
Debt	£m	5.8	0.0	0.0	0.0	0.0	0.0
Other liabilities	£m	18.8	32.4	35.5	37.9	7.0	7.0
Total liabilities	**£m**	**39.6**	**42.6**	**67.4**	**81.0**	**34.1**	**32.7**
Shareholders' equity	£m	52.5	79.8	108.5	143.8	209.3	251.3
Non-controlling interests	£m	27.0	42.6	64.6	58.8	42.5	38.7
Total equity	£m	79.5	122.3	173.0	202.5	251.8	290.0
Total liabilities & equity	**£m**	**119.1**	**164.9**	**240.4**	**283.5**	**286.0**	**322.7**

**Bushveld did not assume majority control of Vametco until end 2017* *Source: ARC estimates*

Figure 15: Key financial measurements and ratios

		2017E*	2018E	2019E	2020E	2021E	2020E
EBITDA	£m	0.7	79.7	117.1	112.2	116.3	91.0
EBITDA margin	%	30%	55%	64%	62%	60%	53%
EBIT	£m	0.1	77.1	113.6	107.1	111.2	86.4
EBIT margin	%	3%	53%	62%	59%	58%	50%
EPS	GBp	(0.1)	3.8	5.3	4.5	7.2	5.8
Net profit margin	%	na	26%	32%	27%	26%	23%
Free cash flow	£m	(0.8)	13.4	73.2	61.2	35.4	59.2
Net cash/(debt)	£m	1.4	33.7	106.4	142.4	142.4	182.2
EV/EBITDA (fully consolidated)	x	na	5.7	3.9	4.0	3.9	5.0
EV/EBITDA (equity attributable)	x	na	7.8	5.3	5.5	5.3	na
P/E	x	na	10.7	7.7	9.0	5.7	7.0
FCF yield	%	na	2.9%	16.1%	13.4%	7.8%	13.0%

**Bushveld did not assume majority control of Vametco until end 2017* *Source: ARC estimates*

Disclaimer

This document has been prepared and issued by Alternative Resource Capital, a trading name of Shard Capital Partners LLP ("Alternative Resource Capital"), which is authorised and regulated by the Financial Conduct Authority.

Bushveld Minerals is a corporate client of Alternative Resource Capital, and Alternative Resource Capital is contractually engaged and paid by Bushveld Minerals to produce marketing communications on an ongoing basis. In addition, Alternative Resource Capital may from time to time receive additional compensation from Bushveld Minerals for provision of other advisory services, including fundraising services. This document constitutes a minor non-monetary benefit.

This document is a marketing communication and not independent research. As such, it has not been prepared in accordance with legal requirements designed to promote the independence of investment research.

This document is published solely for information purposes and is not to be construed as a solicitation or an offer to buy or sell any securities, or related financial instruments. It does not constitute a personal recommendation as defined by the Financial Conduct Authority, nor does it take account of the particular investment objectives, financial situations or needs of individual investors. The information contained herein is obtained from public information and sources considered reliable. However, the accuracy thereof cannot be guaranteed.

The information contained in this document is solely for use by those persons to whom it is addressed and may not be reproduced, further distributed to any other person or published, in whole or in part, for any purpose, at any time, without the prior written consent of Alternative Resource Capital. This document is not intended for retail customers and may not be distributed to any persons (or groups of persons) to whom such distribution would contravene the UK Financial Services and Markets Act 2000. Moreover, this document is not directed at persons in any jurisdictions in which Alternative Resource Capital is prohibited or restricted by any legislation or regulation in those jurisdictions from making it available. Persons into whose possession this document comes should inform themselves about, and observe, any such restrictions.

Alternative Resource Capital or its employees may have a position in the securities and derivatives of the companies researched and this may impair the objectivity of this report. Alternative Resource Capital may act as principal in transactions in any relevant securities, or provide advisory or other service to any issuer of relevant securities or any company connected therewith.

Neither Alternative Resource Capital nor any of its directors, officers, employees or agents accept any responsibility or liability whatsoever for any loss however arising from any use of this document or its contents or otherwise arising in connection therewith. The value of the securities and the income from them may fluctuate. It should be remembered that past performance is not a guarantee of future performance. Investments may go down in value as well as up and you may not get back the full amount invested. The listing requirements for securities listed on AIM or ISDX are less demanding and trading in them may be less liquid than main markets. If you are unsure of the suitability of share dealing specifically for you then you should contact an Independent Financial Adviser, authorised by the Financial Conduct Authority.

By accepting this document, the recipient agrees to the foregoing disclaimer and to be bound by its limitations and restrictions.

Further information on Alternative Resource Capital's policy regarding potential conflicts of interest in the context of investment research and its policy on disclosure and conflicts in general are available on request.

Alternative Resource Capital is a trading name of Shard Capital Partners LLP, which is authorised and regulated by the Financial Conduct Authority. Shard Capital Partners LLP's registered partnership number is OC360394.

Shard Capital Partners LLP
23rd Floor,
20 Fenchurch St,
London, EC3M 3BY

T +44 (0)207 186 9900
F +44 (0)207 186 9979
E info@shardcapital.com
W shardcapital.com