

Non-Independent Research

A MiFID II compliant note

*SP Angel acts as Nomad & Broker to Bushveld Minerals.

30 June 2020

Stock Data

Ticker	BMN LN
Share Price:	14.25
Market Cap:	£164m

Price Chart



Production sharing agreement with Orion financing Phase III expansion at Vametco with notes to refurbish Vanchem

Bushveld is an integrated vanadium mining, processing and technology businesses. The South African group owns 74% of Vametco and 100% of the Vanchem. Bushveld Energy (84%) is developing vanadium redox batteries for grid use in SA.

- **Interim results:** Bushveld report sales of \$43.1m for the first half vs \$78.0m yoy.
- The numbers are lower due to 21 lost days of production due to the COVID-19 lockdown, significantly lower fe-V prices and longer lead times for sales into China.
- **Sales to China** rose to 18% of total vanadium sales vs just 3% a year ago as Vametco directed sales into China to meet rising prices and demand driven by national and local stimulus programs
- A number of stimulus and other mainly housing projects will have been delayed by flooding along the 6.3km Yangtze river and should restart soon.
- Vanadium sales into China incur longer shipping and payment terms pushing a proportion of H1 sales into H2 and will likely result in a greater proportion of H2 vanadium sales being reflected in H1 2021 revenues.
- **Ferro-vanadium prices** averaged \$25.70/kgV through the first half 54% lower yoy. This includes higher prices in China which incur longer lead times and a 13% tariff.
- **EBITDA** fell to -\$1m for the six months to end June as a direct result of the lockdown, lower ferro-vanadium prices and delayed payment for sales into China which will now fall into the second half.
- Directing sales into China has a double whammy effect as costs are incurred in H1 but sales will only be recorded in H2 for around 50% of sales into China.

Conclusion: . We continue to recommend Bushveld as we see the group as well positioned to benefit from rising demand for vanadium and for rollout of increasing numbers of VRFB battery systems for grid support.

(Dec year end)		2018	2019E	2020E	2021E	2022E	202
FeV price	US\$/kg	81	55	25	35	40	40
Vanadium Production	mtV	2,560	2,833	3,737	5,432	6,168	7,645
Vanadium Sales	mtV	2,573	2,392	3,946	5,782	6,168	7,645
Sales ⁺	US\$m	192.1	118.4	93.7	192.1	234.8	291.0
Cash Op costs	US\$m	-65.3	-58.4	-73.6	-102.5	-107.1	-130.1
Unit Cash Op costs ⁺	US\$/kg	25.5	20.6	19.7	18.9	17.4	17.0
Operating profit	US\$m	95.2	33.2	-15.8	50.2	85.1	114.4
Pre-tax profit	US\$m	86.6	34.7	-18.9	46.3	83.4	113.0
Tax	US\$m	-37.6	-7.4	0.0	-8.3	-18.2	-25.2
Post-tax profit	US\$m	49.0	27.2	-18.9	37.9	65.2	87.8
EPS	US\$/s	2.90	2.02	-1.46	2.78	4.79	6.68
PE	x	5.7	7.6	-	6.1	3.5	2.5
EV/EBITDA	x	1.3	3.6	-	2.3	1.4	1.1
EBITDA	US\$m	101.2	37.1	-10.8	57.9	94.4	123.9
Free Cash Flow (100%)	US\$m	32.2	-23.0	-21.7	1.9	45.0	85.0

SP Angel forecasts: Figures based on 100% of Vametco and Vanchem. Bushveld hold an effective 74% of Vametco.

⁺Vanadium sales see a 8 -12 week lag when product is delivered to final customer. This applies for all the sales

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Bushveld Continued...

- **Operating profits** fell to -\$9.9m after \$8.9m of depreciation. The depreciation charge has risen due to capital investment to expand production and lower unit operating costs over the past two years.
- Management slashed capital costs to just \$5m through the first half and also reduced unit operating costs through cost efficiencies and a weaker South African rand
- **Bushveld recorded 36 COVID-19 cases** all of whom have fully recovered and returned to work. There were also no work-related fatalities and an 11% improvement in the injury frequency rate.
- **Vametco** produced 1,218 mtV vs 1,392 mtV yoy.
- The group lost 380mtV of mainly ferro-vanadium production due to the Lockdown mainly at Vametco.
- **Cash cost at Vametco** fell remarkably to \$17.20/kgV despite lower unit production and the lockdown vs \$19.30/kgV a year earlier.
- **Vanchem** produced 431 mtV of output in H1 with 119 mtV in May and 97mtV in June 2020 highlighting how much better production is now running
- **Cash costs at Vanchem** were \$16.40/kgV, reflecting the low cost of processing stockpile material.
- **Bushveld Energy:** signed a surface sublease agreement and power purchase agreement for the Vametco mini-grid along with a debt financing term-sheet from a French Development Bank which needs to be underwritten by a South African institution.
- **Outlook:** Guidance is for production of 3,660-3,950 mtV and is 25-35% higher than last year.
 - **Vametco guidance:** 2,700-2,850 mtV at \$17.50/kgV) and US\$17.90/kgV.
 - **Vametco total cash costs** were \$23.90/kgV vs \$28.8/kgV a year ago a very impressive performance given the tough operating environment
 - **Vanchem guidance:** 960-1,100 mtV at \$18.40-19.00/kgV).
 - **Vanchem total cash costs** were \$22.50/kgV. We expect Vanchem costs to rise from here.
- Costs were helped by a weaker SA rand, though this has since strengthened slightly eroding some of the benefit seen through the first half.
- **Cash and cash equivalents:** \$24.6m as at 30 June 2020 vs \$34.0m at end December ensuring the company has sufficient cash facilities to withstand prevailing ferro-vanadium prices while continuing to invest in Vametco's Phase III expansion this year.
- **Mokopane (64%):** Management have deferred the Mokopane DFS by a year as Vanchem is able to process stockpile material and Vametco concentrates for now.
- The mine is one of the world's largest primary vanadium resources at 298mt JORC resource grading 1.41% V₂O₅ in-situ and 1.75% in magnetite and will eventually be used to feed the Vanchem processing plant.
- Fortunately for Bushveld there is sufficient ore at Vametco to feed Vanchem once the stockpiles at Vanchem have been worked through.
- **Bushveld Energy / Vametco mini grid:** Bushveld Energy is looking at self-generation options to feed the Vametco mini grid in South Africa.
- Vametco has aggregate loads of 21MW which are expected to increase to >50MW and would need >125MW of solar PV and 180MWh of VRFB energy storage.
- The group has permission to install the mini grid which should reduce power costs, enable the transition to a significantly lower carbon footprint and serve to demonstrate the effectiveness of VRFB 'Vanadium Redox Flow Battery' technology.
- **Bushveld's UET VRFB system** completed site acceptance testing in May 2019 with Eskom and was shut down. UET's sister company in China 'Rongke Power' delivered a new replacement system in Q1 to Eskom but has yet to commission due to Covid-19

delays. We expect the data collected from last year's trial combined with the new system to eventually lead to the rollout of VRFB systems to support substantial new wind and solar power generation in South Africa assisted by World Bank funds.

- **Prices:** Ferrovandium prices were 54% lower in H1 at US\$25.70/kgV vs US\$56.30/kgV yoy. Prices are \$24.45-25/kgV in Western Europe this week and are \$28-29/kgV in China
- Ferro-vandium prices were led lower in Europe where steel producers cut production due to stimulus delays. Globally steel production fell by 6% in the first half with producers cutting back on purchases of alloys and other raw materials.
- The construction industry was quick to cut and slow projects while many governments tried to continue with projects of national significance like HS2.
- Unfortunately the Lockdown closed most warehouses distributing steel across the world effectively forcing the few working construction projects to delay the structural element of their projects.
- Steel mills around the world slowed production through the lockdown as uncertainty over uncertain demand for structural construction but have since ramped up utilisation rates to feed stimulus projects.
- We further expect new stimulus in the UK, US and Eurozone to raise steel mill utilisation rates and alloy demand further from here.
- **Production sharing agreement:** Bushveld has signed a long-term production sharing agreement with Orion Mine Finance.
- The deal is designed to fund the Phase III expansion of Vametco to 4,200mtV pa and to repay other debt.
- The repayment will be 1.175% of Sales for 2020 and 2021 followed by 1.45% from 2022 for the life of the mine and is subject to a gross revenue floor
- Orion are also subscribing for a \$10-20m of new \$35m convertible loan notes being issued by the company to fund the first phase of Vanchem refurbishment and debt repayment.
- Bushveld has the option to repay up to 50% of the loan notes on any of the first three anniversaries and reduce the repayment rate accordingly.
- Both financings require consent from Nedbank where Bushveld holds \$22.2m worth of debt.
- **Debt conversion into equity:** Bushveld bought Vanchem from Duferco which has agreed to covert \$6.5m worth of the \$11.5m of convertible loan notes into Equity as per the agreement of 23/10/19. Bushveld is paying the remaining \$5m + (\$1.15m in interest) in cash.
- **Earnings:** We have adjusted our model according to the guidance and costs presented by the company. Our EBITDA forecast now shows a potential loss of \$10.8m for the full year leading to a \$18.9m pre-tax profit loss. This is partly driven by the deferral of revenues due to longer lead times from sales into China.
- Our NPV@5% valuation falls to 45.7p from 46.5p on the assumptions as presented in the table below.

Conclusion: Bushveld is an entrepreneurial and innovative company that continues to expand while cutting unit costs and rolling out new VRFB technology through its Vanadium Investment Program.

Management continue to drive growth in preparation for an expected upturn in prices which will come as structural steel production rises to meet demand for new stimulus projects.

New VRFB battery projects should also lead to new demand for vanadium in electrolyte supported by Bushveld's innovative financing structure for vanadium rental in the electrolyte.

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Recommendations are based on a 12-month time horizon as follows:

Buy - Expected return >15%

Hold - Expected return range -15% to +15%

Sell - Expected return < 15%