

Mining Flash Note

Bushveld Minerals*

BMN LN

Strong Buy
Valuation 58p

23 June 2020

Stock Data

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

Price Chart



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Vanadium price to recover on strong demand for structural steel for Stimulus projects

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.

- **Bushveld FY 2019 figures** are dominated by the positive revaluation of the acquisition of Vanchem (100%) for US\$55.8m in November 2019.
- **Production** of vanadium rose 15% yoy to 2,931mtV vs 2,559mtV due to an 11% increase in production at Vametco and two months of production at Vanchem.
 - o **Vametco:** production was 2,833mtV vs 2,560mtV in 2018 and guidance of 2,800-2,900mtV.
 - o **Vanchem:** production 98mtV from mid-November till end 2019 under Bushveld ownership
- **Cost of sales** fell to \$56.2m vs \$65.3m in 2018 due to lower vanadium sales volumes (2,392mtV in 2019 vs 2,573mtV in 2018).
- **Vametco Op costs** fell 5% to US\$18.11/kgV vs US\$19.11/kgV in 2018 and guidance of \$18.90-19.50/kgV due to a weaker S A rand and operational improvement
- **Sales** fell to \$116.5m from \$192.1m in 2018 due to a 34% fall in the average realised vanadium price.
- **EBITDA (group)** fell 68% to \$32.6m vs \$101.2m in 2018 due to the vanadium price fall partly offset by higher vanadium production and the reduction in cash costs.
- **Write up of Vanchem value:** Bushveld has written up the value of its Vanchem acquisition by \$60.6m eg by more than the cost of the deal \$55.8m. Vanchem was in business administration at the time of the purchase due to very low vanadium prices and a lack of longer-term high-grade vanadium concentrate supply.
- **Target price (NPV)** rises to 58p from 54p/s based on our NPV estimates.

Conclusion: . Bushveld looks well placed to benefit from an upturn in demand for rebar and structural steel for government and regional construction programs.

News on new Chinese infrastructure and housing construction continues to emerge while some \$15.9tn of stimulus spending has been announced around the world.

(Dec year end)		2018	2019E	2020E	2021E	2022E	202
FeV price	US\$/kg	81	54	29	40	40	40
Vanadium Production	mtV	2,560	2,833	4,049	5,432	6,168	7,645
Vanadium Sales	mtV	2,573	2,392	4,049	5,432	6,168	7,645
Sales*	US\$m	192.1	116.7	113.4	206.8	234.8	291.0
Cash Op costs	US\$m	-65.3	-56.2	-72.4	-88.7	-97.0	-114.5
Unit Cash Op costs*	US\$/kg	25.5	20.6	17.9	16.3	15.7	15.0
Operating profit	US\$m	95.2	22.2	13.0	86.4	103.6	138.5
Pre-tax profit	US\$m	86.6	83.2	10.0	82.3	101.9	137.1
Tax	US\$m	-37.6	-13.2	0.8	-18.6	-23.5	-32.1
Post-tax profit	US\$m	49.0	70.1	10.7	63.7	78.4	105.0
EPS	US\$/c/s	2.90	5.53	0.87	4.70	5.89	8.12
PE	x	5.7	2.6	20.2	3.8	3.0	2.2
EV/EBITDA	x	1.3	4.4	8.1	1.7	1.4	1.1
EBITDA	US\$m	101.2	36.3	19.6	95.7	114.5	149.6
Free Cash Flow (100%)	US\$m	32.2	-22.3	-25.8	25.5	55.9	99.9

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

*SP Angel act as Nomad and broker to Bushveld Minerals

Bushveld Continued...

- **Profits (post tax)** came in at US\$69.2m vs \$49.0m
- **Earnings (underlying)** fell to \$0.0012c vs \$0.029c in 2018. EPS including the writeup on the Vanchem acquisition came in at 5.51c vs 2.90c.
- **Cash and cash equivalents:** \$34.4 m at end March vs \$34.0m at end December 2019 and \$42.0m a year earlier
- **Debt:** \$18.6m after drawdown the ZAR250m Nedbank term loan and a ZAR125m revolving credit facility to give financial flexibility.
- **Five-year growth strategy:** for 8,400mtVpa capacity and a leading VRFB technology player.
- **Covid-19:** While the Coronavirus may continue to disrupt factories, projects and logistics around the world, the supply chain is open, customer orders remain robust and Bushveld has so far avoided declaring force majeure even through South Africa's 35-day lockdown.

While we expect further disruption, we feel bushveld is relatively well prepared to manage through localised outbreaks of COVID-19 should they occur in the region.

- **Guidance:** Bushveld reckons it can still meet its guidance despite the 35-day lockdown subject to any further COVID-19 disruption
 - Vametco: 3,000- 3,200mtV - cash cost \$17.20-17.70/kgV (ZAR 257-265/kgV)
 - Vanchem: 960-1,100mtV – cash cost \$16.30-17.30/kgV (ZAR245-260/kgV)
- **CAPEX 2020:**
 - **Total 2020 capex** ~\$8m (ZAR135m). This figure is lower than our previous expectation mainly due to deferment of work at Vanchem.
 - **Vametco 2020 capex:** \$3m, (ZAR55m) inc. \$0.6m (ZAR11m) of sustaining capital, \$2m (ZAR35m) for kiln off-gas project and \$0.24m (ZAR4m) for Phase 3 PFS for 4,200mtVpa by 2025 est. capex \$26m (ZAR430m)
 - **Vanchem 2020 capex:** \$5m (ZAR85m) of critical capex mainly in H2.
We suspect capital plans may be accelerated if conditional allow.
- **Q1:** Group production rose 34% to 871mtV in Q1 despite the Lockdown which ran from 27 March for 35 days.
 - **Vametco:** 652mtV vs 649mtV yoy. Vametco sales were 898mtV due to the sale of production from a strong Q4 when prices and demand were lower.
 - **Vanchem:** 219mtV. Sales of 182mtV during the quarter.
- **Op Costs:**
 - **Vametco operating cost** fell 8% to \$18.90/kgV vs \$20.50/kgV yoy due to higher production rate and lower SA rand
 - **Vanchem production cost** for the quarter was US\$18.50/kgV.
Management are focussed on reducing operating costs to rank alongside other world-class primary vanadium production units.
- **Net cash from operating activities** fell 50% to US\$22.3m
- **Vanchem acquisition:** cost \$55.8m fair value consideration reduced from \$68m
 - **Payment:** cash payment of \$30.7m, a convertible loan of \$23.0m plus a \$2.0m deferred consideration.
 - **Convertible:** The instrument is repayable at the holder's option in two tranches of up to \$11.5m each, after the first and second anniversary of Transaction with 5% interest payable thereafter.

- Three-kiln configuration adds flexibility and diversity of product with vanadium chemicals capacity.
- Vanchem three-phase refurbishment study for >4,200 mtVpa by 2025 through the three-kiln configuration.

Capex plan total (Vanchem): \$45m (ZAR750m) by 2025

- Phase 1: – 2020-2021 capex ~\$14m (ZAR234m) for 1,000mtV of sustainable production
- Phase 2: ~\$21m (ZAR355m) – 2021-2022 to raise production to 3,100mtVpa
- Phase 3 ~\$10m (ZAR171m) – 2023-2024 >4,200 mtVpa

- **Mokopane:** The acquisition of Vanchem allows Bushveld to more than double vanadium production at a fraction of the cost of its 2016 Feasibility Study.

The \$118m revaluation of the Vanchem plant under IFRS 3 falls far short of our overall estimate of its value when combined with longer-term concentrate feedstock from the new Mokopane mine.

- **Capex:** preliminary estimate \$22m (ZAR370m) including mine development and beneficiation plant (crushing, screening and dry magnetic separation) and associated surface infrastructure. Mokopane DFS will take 6-12 months to complete so we don't expect to see much cost for this till 2021.
- Mokopane mining licenses gives Bushveld mining rights for 30 years.

Brits & Vametco mines: can also feed ore/concentrate to Vametco and Vanchem if required giving greater security and flexibility to the operations.

- **Vanchem 'independent' valuation:**
- Vanchem was in business rescue, was not an open market transaction and fits well with Vametco and Bushveld's strategy. The key to Vanchem is Bushveld's ability to supply vanadium ore from Mokopane and also vanadium concentrates from the Vametco and Brits mines.
- 'IFRS 3 requires an acquirer to measure the cost of the acquisition at the fair value of the consideration paid, and measure acquired identifiable assets and liabilities at their fair values, with any excess of acquired assets and liabilities over the consideration paid recognised in profit or loss immediately.'
- The Gain on the Vanchem purchase is recorded as \$60.6m after costs driven largely by the \$115m valuation on property, plant and equipment plus \$6.1m on residential property and another \$7.5m of inventories.
- The gain on bargain purchase is treated as a permanent difference for tax purposes and will not attract corporate income tax.
- **Administrative expenses** included staff salaries of \$9.6m vs \$7.1m in 2018 for Head office
 - Bushveld Energy and Lemur and professional fees of \$7.6m vs \$1.9m, mainly attributable to transformational agent costs which amounted to \$3.5m + JSE IPO costs, and other regulatory fees of \$1m
 - Other costs of US\$3m with the key amount attributable to the take-on debtors on the acquisition of SMC for Vametco of \$1.9m
- **Tax:** US\$14.0m for 2019 vs \$37.6m in 2018 due to lower sales value
- The tax was offset by the tax refund of US\$5.0m received as a result of the conversion of SMC to a limited liability company causing the the deferred tax asset at SMC to be reversed.
- **Investing activities:**
 - \$30.7m Vanchem
 - \$4.4m in Avalon and Enerox

- \$3.6m deferred payment for Vametco acquisition to Yellow Dragon Holdings offset by interest generated on bank deposits of \$3.6m.
- Bushveld also completed due diligence to acquire a 24.9% stake in Enerox as part of an investment consortium, watch this space.
- The outlook for energy storage ‘remains strong, with cumulative installations of grid-connected battery energy storage predicted to reach 64.3 GW / 179 GWh in 2025.’ Though delays of several months are likely for our projects in South Africa.

- **Bushveld Energy:** We expect construction of the electrolyte plant to start next year for an initial 200MWh capacity of vanadium electrolyte.

We have assumed sales of 25MWh of electrolyte next year from the plant in East London, South Africa followed by 75MWh the year after rising to 750MWh in 2026.

If the market for VRFB batteries for grid storage takes off then we may see demand for electrolyte far exceed our early and hopefully cautious estimates.

VRFBs: management expect VRFBs to capture significant market share to support renewable energy systems and for grid power storage. We suspect they are right.

Recent news on a new 3GWh VRFB battery factory to be built in Saudi Arabia by EVERFLOW, a joint venture between Schmid Group and Nusaned (SABIC) a chemical subsidiary of Saudi Aramco supports our view that VRFB installations may be about to take off.

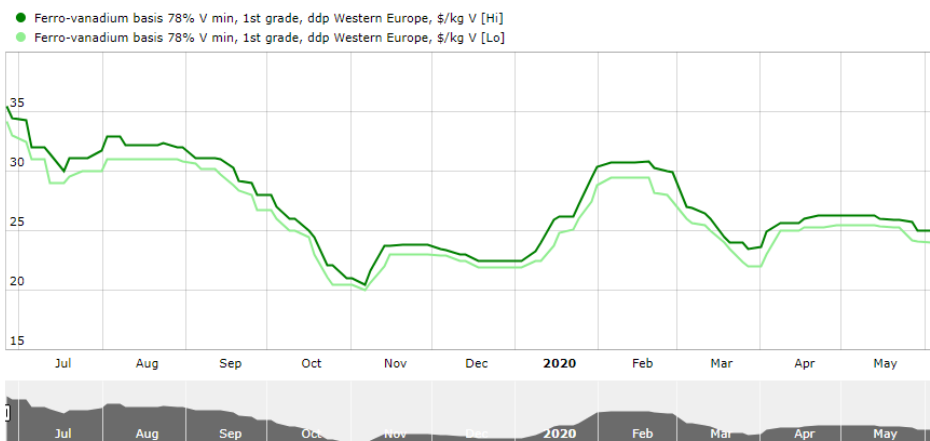
The Kingdom of Saudi Arabia is reported to be targeting the installation of 57.5GW of renewable energy capacity by 2030 (*Energy-storage.news*)

- **VRFB (Vanadium Investment Program ‘VIP’):**

VIP program acquired 8.71% in Invinity Energy Systems plc where the value of its holding has increased to £8.7m.

- Proposed consortium purchase of Enerox from CellCube.
 - Vanadium electrolyte plant in East London, South Africa, in partnership with the IDC Bushveld share of the capex is \$4m (ZAR68m) to 2022.
 - The electrolyte plant and Bushveld Mini Grid development are priority projects.
- **Vanadium price:**
 - Ferrovandium prices have been relatively stable this year considering the volatility seen in many other commodities. Vanadium prices have ranged from around \$30/kgV at the start of the year down to \$23/kgV and now at around \$24.5/kgV.
 - H1 2019: US\$56/kgV (FastmarketsMB)
 - H2 2019: US\$27/kgV (FastmarketsMB)
 - The price received by Bushveld was in accordance with FastmarketsMB pricing across Bushveld’s key markets but was lower than the price previously suggested. A discount is also applied to the price under Bushveld’s trader sales and marketing contract.

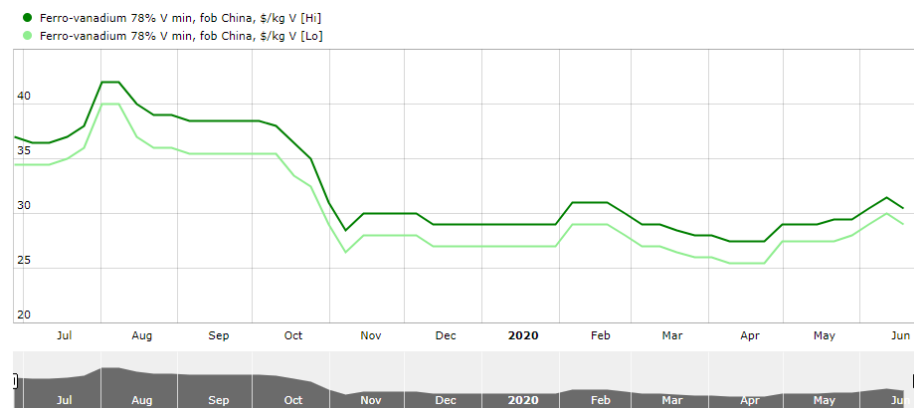
Ferrovandium \$/kgV Western Europe



Source: FastmarketsMB

- Bushveld is looking to ramp up sales into China due to strengthening demand in the region, higher prices, post-import duties. Some 50% of sales were previously sold into the US where we expect \$1tn of new construction-related stimulus to transform demand over the next few years.
- China’s new high-strength rebar standard introduced in late 2018 was designed to limit the use of inferior steels in construction. The standard eliminates low strength Grade 2 rebar and sets out specifications for three different high strength standards: Grade 3 (400MPa), Grade 4 (500MPa), and Grade 5 (600MPa). The new standards require 0.03% V for Grade 2 rebar, 0.06% V for Grade 3 rebar, and more than 0.1% V for Grade 4 rebar.
- China’s use of vanadium rose last year to 0.054kgV/t of steel in 2019 from 0.052kgV/tonne of steel in 2018 though there may still be significant non-compliance with the new regulations.

Ferrovanadium \$/kgV China



Source: FastmarketsMB

- We also see good potential for a significant rise in ferrovanadium prices driven by strong demand for structural steel for new construction in China.
- This may be replicated to a greater or lesser extent in the US, India, Europe and elsewhere as politicians move to restore economic growth following Coronavirus Lockdowns. It is widely accepted that construction expenditure is one of the best and probably fairest methods for restoring economic activity.
- **Vanadium supply / demand:**
 - **Demand:** for vanadium in China is expected to continue to increase this year due to new local and national infrastructure projects combined with better compliance with relatively new vanadium content levels in structural steel.

- **Supply:** primary vanadium supply remains restricted with high barriers to entry for most projects and ongoing environmental restrictions cutting secondary supply in China.
 - China is now using more higher-grade Australian iron ore which contains less by-product vanadium cutting this source of vanadium units in furnaces further.
 - Bushveld reports Chinese stone coal and other secondary vanadium producers are either at capacity or are uneconomic.

Conclusion: Bushveld looks well placed to benefit from our forecast substantial upturn in demand for structural steel for government and regional construction programs. News on new Chinese infrastructure and housing construction continues to emerge while some \$15.9tn of stimulus spending has been announced around the world (See Appendix 1 below).

**SP Angel acts as Nomad & Broker to Bushveld Minerals. The analyst holds shares in Bushveld Minerals.*

Appendix 1

Government Stimulus pledges

- **\$304bn - China Ministry of Finance has issued Rmb550bn (US\$77bn) of special purpose debt.**
- **+ another Rmb1,600bn (US\$226bn) is available for issue before the year end. Much of this will be for housing and connecting infrastructure**
- \$140bn - China PBOC buying CNY1tn of bank loans issued by local lenders to small firms this week in an effort to ease the flow of credit.
- \$56bn - The PBOC also announced a Rmb400bn (\$56bn) purchase loan program to boost available credit by supporting bank loans to small businesses.
- \$1.55tn – China - Bloomberg estimates a ‘fiscal impulse of more than 11% of nominal GDP’ which was estimated at US\$14.14tn
- We have previously assumed China at \$909m comprised \$344bn of China stimulus + \$565bn in special bonds for infrastructure by local authorities
- \$2tn - US fiscal package approved by Congress. US may add \$0.6t state aid for mortgage markets and travel industries
 - The House passed a \$484bn aid package to rescue small small businesses, hospitals (\$75bn) and coronavirus testing (\$25bn).
 - \$2tn US – Trump looking at \$2tn infrastructure fund
 - \$700bn – US + Fed rate cut to 0-0.25% last night. The \$700bn QE to buy Treasuries and mortgage-backed securities.
 - US Fed may soon start buying in up to \$750 billion of corporate debt and ETFs
 - US Fed has flooded all markets with dollar liquidity through repo and swap lines.
- US\$1.02tn - Japan - BoJ injecting US\$1.02tn into the economy through a variety of programmes. (will check if this is in addition to the Y117tn stimulus announced)
 - US\$1.1tn - 117tn-yen stimulus, funded partly by a second extra budget, will be on top of another 117tn package already rolled out takes total spending in Japan at 234tn yen (\$2.18tr) - 40% of Japans GDP. Japan to issue Y31.9tn in government bonds.
- \$825bn (€750bn) EU - European Commission aid package yesterday aimed at supporting EU nations hit by the pandemic.

- This is an expansion on the previous \$543bn (€500bn) EU Crisis Recovery fund backed France and Germany + \$963bn (€750bn) ECB scraps limits on sovereign bond purchases. ECB PEPP buying running at around €250bn
 - EU Finance Ministers have so far failed to agree on a strategy to mitigate the economic impact of the pandemic.
 - The pandemic emergency purchase programme (PEPP) and asset purchase programme (APP) have been reiterated with a cap of €750bn and €120bn, respectively.
 - The bank is reported to have used €100bn of the PEPP so far.
 - \$825bn (€756bn) Germany – Bundestag approved €156bn in extra borrowing and ~€600bn in emergency funds
 - **\$298bn Japan** parliament passed ¥31.9tn (\$298bn) second extra budget today to help struggling economy.
 - ¥117tn stimulus programme + ¥10tn as a coronavirus reserve fund
 - **\$934bn (£745bn) – UK Bank of England injects another £100bn (\$125bn)**
 - \$387bn (€304bn) France, \$200bn (€200bn) Spain, \$214bn (A\$320bn) Australia - RBA ready to buy bonds again.
 - US\$260bn - India representing 10% of GDP.
 - \$62bn - South Korea – The government unveiled a 76tn won (\$62bn) “New Deal” aimed at supporting the economy amid the pandemic focused on creating jobs and new industries through 2025. South Korea - New Deal will create jobs and foster new industries like 5G.
 - \$13.3bn - Saudi Arabia central bank will inject 50bn riyals (\$13.3bn) into the banking system on top of US\$43.7bn already pledged
 - \$78bn (C\$107bn) Canada, \$32bn, Singapore, \$22.6bn India, \$19.3bn HK, \$13.7bn South Korea, \$10bn Switzerland, \$8.4bn Italy, \$7bn NZ, \$3.5bn Ireland, \$2bn Taiwan, **Philippines further \$26bn proposed, Indonesia - adding \$43bn, Thailand creating a corporate bond fund.**
 - South African buys ZAR10.2bn (US\$119m) government bonds in May. Argentina to default on \$10bn of dollar debt issued till the end of the year.
 - **\$1,000bn - IMF available + \$12bn World Bank,**
- >15.9tn - Total stimulus reported.**

Figures may include some political double counting and some funds may not be spent depending on speed of economic recovery.

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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%