

Non-Independent Research

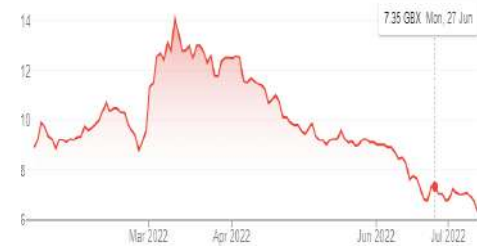
A MiFID II compliant note

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

1 July 2022

Stock Data

Ticker	BMN LN
Share Price:	6.79
Market Cap:	£87m



Results highlight rising production and transition into positive EBITDA

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 solar powered, Vanadium Redox Flow Battery mining grid.

- Bushveld report results to end December 2021.
- Bushveld reports a return to EBITDA profit in H2 2021 of \$3.3m as production rose and on higher vanadium prices
- The Group has now been EBITDA positive for the past 12 months.
- Cash and cash equivalents: \$15.4m at the year-end. Cash and cash equivalents at \$12.7m at end-March. Gross Debt: \$82.1m vs \$89.2m
- Investments include:
 - \$4.2m into growth at Vanchem
 - \$4.9m into BELCO electrolyte plant
 - \$10m investment into CellCube (indirect shareholding of 25.25%)
 - \$3.9m debt repayments
- Realisations:
 - \$3.5m from AfriTin Mining
 - \$12.7m from Invinity Energy Systems PI
- Bushveld recently commissioned Kiln 3 at Vanchem this month within budget and a production run rate of 2,600 mtVpa anticipated in Q4 2022.
- Bushveld remains on track to produce 4,200-4,400mtV which is weighted towards H2 as Kiln 3 adds to production
- Short term objective to increase production to a run rate of 5,000-5,400mtVpa by end 2022. Eg 2023 production should be around this level.

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(Dec year end)	US\$	2019	2020	2021	2022E	2023E	2024E
Vanadium price	\$/kg	55	25	37.6	35	38	38
Vanadium Production	mtV	1,859	2,685	3,592	4,310	5,718	7,737
Vanadium Sales	mtV	2,392	3,842	3,314	4,488	5,718	7,737
Sales ⁺	\$m	116.5	90.0	106.9	162.0	224.1	303.2
Cost of Sales	\$m	-45.8	-73.4	-83.4	-107.3	-131.7	-176.1
Admin costs	\$m	-38.1	-31.5	-20.9	-20.5	-25.2	-26.8
Other costs	\$m	-4.2	-5.5	-12.5	-17.1	-22.5	-30.4
Depreciation	\$m	-10.4	-17.9	-19.4	-18.5	-20.0	-20.0
Operating profit	\$m	22.3	-32.8	-29.3	15.7	47.3	80.2
Finance & other	\$m	1.9	-4.7	-11.3	-9.0	-10.4	-7.8
Pre-tax profit	\$m	83.3	-37.5	-46.8	6.7	36.9	72.4
Tax	\$m	-14.0	0.5	4.7	-2.0	-4.1	-12.0
Post-tax profit	\$m	69.2	-37.0	-42.1	4.7	32.8	60.4
EPS	\$/s	5.51	-	-4.22	-0.83	0.27	0.90
PE	x	6.4	-	-	-	45.4	13.5
EV/EBITDA	x	13.6	-	-	10.3	4.9	3.5
EBITDA	\$m	28.4	-20.4	-7.5	17.1	44.8	69.9

Source: SP Angel, Bushveld, Vametco & Vanchem

Bushveld Continued...**Bushveld route to 8,000mtVpa in four stage plan**

- The combination and optimisation of the work indicates a route to the production of 8,000meVpa for a total capex of US\$151m (ZAR2.3bn)
 - **Stage 1** involves the instillation of a new semi-autogenous mill for permanent and reliable feedstock to Vametco and Vanchem to enable further expansion to 6,800mtV.
 - **Stage 2** requires refurbishment of Kiln 2 to take Vanchem production to 3,600-6,500mtVpa and group production to 6,000-6,500mtVpa.
 - **Stage 3** refurbishes Kiln 1 at Vanchem to increase Vanchem production to 4,600-4,700mtVpa and group production to 7,000-7,500mtVpa
 - **Stage 4** increases kiln capacity to 3,400mtVpa at Vametco taking group production to 7,600-8,000mtVpa.
- The development of the above plans depends on management delivering sustainable cash generating production at a rate of 5,000-5,400mtVpa.
- The staged expansion program is also subject to sufficient funding and third-party validation of the project economics.
- Bushveld estimate costs should fall by >20% at Vametco and Vanchem at a run rate of 8,000mtVtpa.

Bushveld Energy is to be carved out as a standalone company focussing on the VRFB value chain

- BELCO electrolyte plant expected completion H1 2023
- Vametco hybrid mini-grid, completion expected in H1 2023.
- Capex: \$22.1m for 2022 \$9.0m already spent as at end-May including
 - Vametco US\$5.5m
 - Vanchem US\$8.5m
 - Bushveld Energy (BELCO) US\$8.1 million
- **Results:**
 - Production: 3,592mtV vs 3631mtV
 - Revenue: \$107m from \$90m a year earlier
 - Realised price \$32.2/kg vs \$23.4/kg
 - Cost of sales: \$83m vs \$73m
 - AISC costs: \$37.4/kg vs \$28.8/kg
 - Other operating costs: \$33m vs 32m
 - EBITDA: \$10m from \$15m
 - Depreciation: \$19m vs \$18m reflects increased investment
 - Operating loss: \$29m vs 32m
 - Share of loss in joint venture: \$4m .
 - Net financing expenses \$11.3m vs \$4.6m.
 - Tax: \$4.7m vs \$6.5m
 - Loss (post Tax): \$42m vs \$31m

- **Vametco hybrid mini grid** – funding for the EPC secured for 3.5MW solar PV and 1MW/4MWh VRFB 'Vanadium Redox Flow Battery' hybrid mini-grid project for Vametco.
- The mini-grid's total capital cost is ZAR64m (US\$7.1m) and will operate as an IPP 'independent power producer'. ABSA bank has approved a ZAR64m (US\$4.1m) loan to part fund construction.
- The 1MW/4MWh VRFB will be supplied by CellCube where Bushveld holds an indirect 25.25% interest.
- Bushveld has sold 26t of vanadium for the production of the electrolyte for the VRFB, though this is being converted into electrolyte overseas as Bushveld Energy's electrolyte plant is not yet ready for production.

Conclusion: Bushveld is a busy company with significant opportunity to take advantage of stronger demand for vanadium if new stimulus construction starts in China, the US, Europe and Ukraine.

Progress in the development and construction of new Vanadium Redox Flow Batteries should also serve to drive new demand for vanadium as the technology and its application become better understood, accepted and required for the support of wind and solar farms.

**SP Angel act as nomad and broker to Bushveld*

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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%