

# Bushveld Minerals\*

BMN LN

BUY

Target 14p

## Vanadium prices drive profits higher as management target expansion

### Stock Data

Ticker	NMN LN
Share Price:	9.5 pence
Market Cap:	£77m

Bushveld Minerals recently acquired control of the Vametco vanadium mine and process plant in South Africa. The deal paid for itself within four months of its acquisition and is significantly profitable. The company also have a stake in the Uis tin/lithium project in Namibia through Greenhills Resources as well as an integrated power project in Madagascar in Lemur Resources

**We have upgraded our target price to 14p from 11.6p on our revised cash flow analysis on higher forecast production and assumed higher vanadium prices over the next few months.**

### Price Chart



- Bushveld Minerals report impressive results from the acquisition of Vametco, the South African vanadium producer. Bushveld currently holds 45% of Bushveld Vanadium which owns 78.8% of SMC which owns 75% of Vametco Alloys with the other 25% owned by the BEE consortium. Bushveld Minerals is equity accounting for 26.6% of Vametco Alloys in these accounts and may move to consolidate its holding further in time.
- This, well timed, deal has paid off its acquisition cost and associated debt within an impressive four months of its acquisition.
- The team are looking to expand market share to >10% of global vanadium supply over the next 3-5 years in a move which could add significantly to production expanding nameplate capacity to 5,000tpa of FeV from 3,000 tpa currently.
- Vametco increased production by 16% last year to 2,804t of ferrovanadium which is mainly sold under the 'Nitrovan' product name representing a 3.7% share of global production and is looking to raise its market share of global vanadium supply to >10% in the next 3-5 years.
- The business produced some 1,441t of vanadium in the first six months to end June indicating that production is continuing at this rate.
- **Vanadium Prices:** have soared in recent weeks nearly doubling since June and more than doubling since last March.

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Vametco plant assuming 100%		2017	2018	2019	2020	2021
Price V205	\$/lb	6.40	5.46	5.46	5.46	5.46
Vanadium flake price	US\$/kg	30.80	25.25	25.25	25.25	25.25
Vanadium sales	kg	2,757	2,757	3,342	4,984	4,984
Sales	US\$m	80.67	66.13	80.17	119.55	119.55
Operating costs	US\$m	52.36	53.91	61.57	89.47	89.47
Operating costs	US\$/kg	18.99	19.55	18.42	17.95	17.95
Operating profit	US\$m	28.31	12.22	18.60	30.08	30.08
Pre-tax profit	US\$m	28.07	11.76	17.22	27.84	27.94
tax inc royalty	US\$m	9.06	4.35	7.45	12.96	12.96
Post-tax profit	US\$m	19.01	7.42	9.77	14.87	14.97
EPS	US\$/s	2.36	0.92	1.21	1.85	1.86
PE	x	5.2	13.4	10.2	6.7	6.6
EV/EBITDA	x	3.5	8.1	5.3	3.3	3.3

Figures based on 100% of Vametco plant. Bushveld currently equity account for 26.6% of the Vametco plant

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

**Bushveld Minerals cont...**

- We have assumed vanadium prices remain at elevated levels of around \$42/kg for some months to give an average of \$30.80/kg for the year up from \$25.25/kg previously but that prices will normalise in the last quarter.
- We are using \$25.25/kg as our longer term assumption for ferro-vanadium.
- These may well prove to be very conservative assumptions if China continues to enforce environmental restrictions causing the long term closure of a number of vanadium plants.
- **Costs:** While costs fell 16% to \$14.50/kg of vanadium last year vs \$17.23/kg in 2015 costs rose slightly to \$15.58/kg in the first six months of the year, though these costs remain at the bottom of the vanadium cost curve due to the higher grades mined by Vametco vs much of the rest of the industry.
- If Chinese vanadium producers are able to modify their plants to meet the new environmental regulations then we would expect prices to pull back from today's very high levels but for prices to potentially rest at higher levels than previously seen to pay for higher processing and capital costs. We suspect that some Chinese vanadium production may not come back onstream due to the cost of environmental compliance at related mines and process plants.
- **Vanadium deficit:** Bushveld see the current market deficit as very real as evidenced by the Chinese releasing stock of older ferro-vanadium into the market. Better enforcement of Chinese regulations on the quality of steel being used in construction combined with ongoing strong demand for steel is likely to increase demand for vanadium yet further at a time when European steel producers are also looking to increase capacity utilisation and raise production.
- **Barrier to entry:** Bushveld's previous feasibility study indicates that prices of over \$33/kg are required to stimulate new vanadium production to meet a pre-tax IRR of 24%. While some new incremental vanadium production may come in at lesser price increases it seems unlikely that any new mines and process plants would be built at this price level in our view. Most vanadium plants in China process grades of 1-1.1% material exacerbating their environmental issues and requiring yet higher price levels for new investment.
- **Bushveld process plant control room**



**Bushveld Minerals cont...**

**Bushveld vanadium mine**



- **FOREX:** A stronger South African rand has served to dampen the impact of higher ferro vanadium prices. Strengthening the Rand by around 7% eg from \$14/US\$ to \$13/US\$ knocks around 2p/s off our Bushveld valuation. We assume a stable rand of SAR14/US\$ over the life of the project. We could assume this will weaken but we prefer to use stable price and currency rates in our modelling.
- **Profit:** Bushveld Minerals reported a profit of £1.167m for the year ended 28 February 2017. The acquisition of Bushveld’s effective 26.6% stake in Vametco will radically change the company’s income outlook going forward as indicated in the company’s recent operational update. Further structuring of the group is likely to continue to change and develop the profit outlook for Bushveld from here.

**Vametco process plant and storage area**



- **Bushveld Energy (vanadium renox batteries)** are reported to be on plan to vindicate the IDC’s choice of vanadium for large-scale energy storage as one of the significant new industries to support in South Africa. This could mark a major milestone in the use of vanadium for large scale utility battery storage.

- **Greenhills Resources (49.5% interest in Dawnmin, which owns an 85% interest in the Uis Tin Project in Namibia):** Bushveld are looking to consolidate a critical mass of tin resource inventory and are implementing a pilot production programme and are exploring options for a potential listing of Greenhills Resources.
- **Lemur (coal and power generation in Madagascar) -** For Lemur this entails securing a power purchase agreement for a 60MW thermal coal power project as well as tying up partnerships with financial and EPC project involves securing an Independent Power Producer licence and a Power Purchase Agreement for a thermal coal fired power station next to the coal mine, thereby providing a captive market for the Imaloto project run-of-mine coal.
- Lemur have signed a MoU with PowerChina for the development of a 60MW thermal coal power plant in Madagascar. The development of the Imaloto project, including the mine and the power plant could generate ~US\$300m of new investment in Madagascar and increase the country's power supply by 15%.
- **Valuation:** We have carefully considered the impact of the rise in vanadium prices, the strength of the South African rand and the increase in FerroVanadium production in our modelling. We see significant potential for upside with higher prices over the longer term and if the South African rand weakens from here as it is likely to do. We have not assumed any reduction in unit costs to come from the increase in production though it would be reasonable to assume so.

**Conclusion:** We are excited to see vanadium prices take off but cautious in our revised valuation in case prices pull back for the fourth quarter. We see Bushveld as offering unusually good value for investors. Our revised earnings table is for 100% of the Vametco vanadium operations in which Bushveld currently hold just 26.6% though we expect this stake to change. The dramatic rise in vanadium prices should have a substantial impact on Vametco's profit through the second half as indicated in our revised numbers.

*\*An SP Angel mining analyst and nomad have visited the Vametco vanadium mine and processing facilities in South Africa.*

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