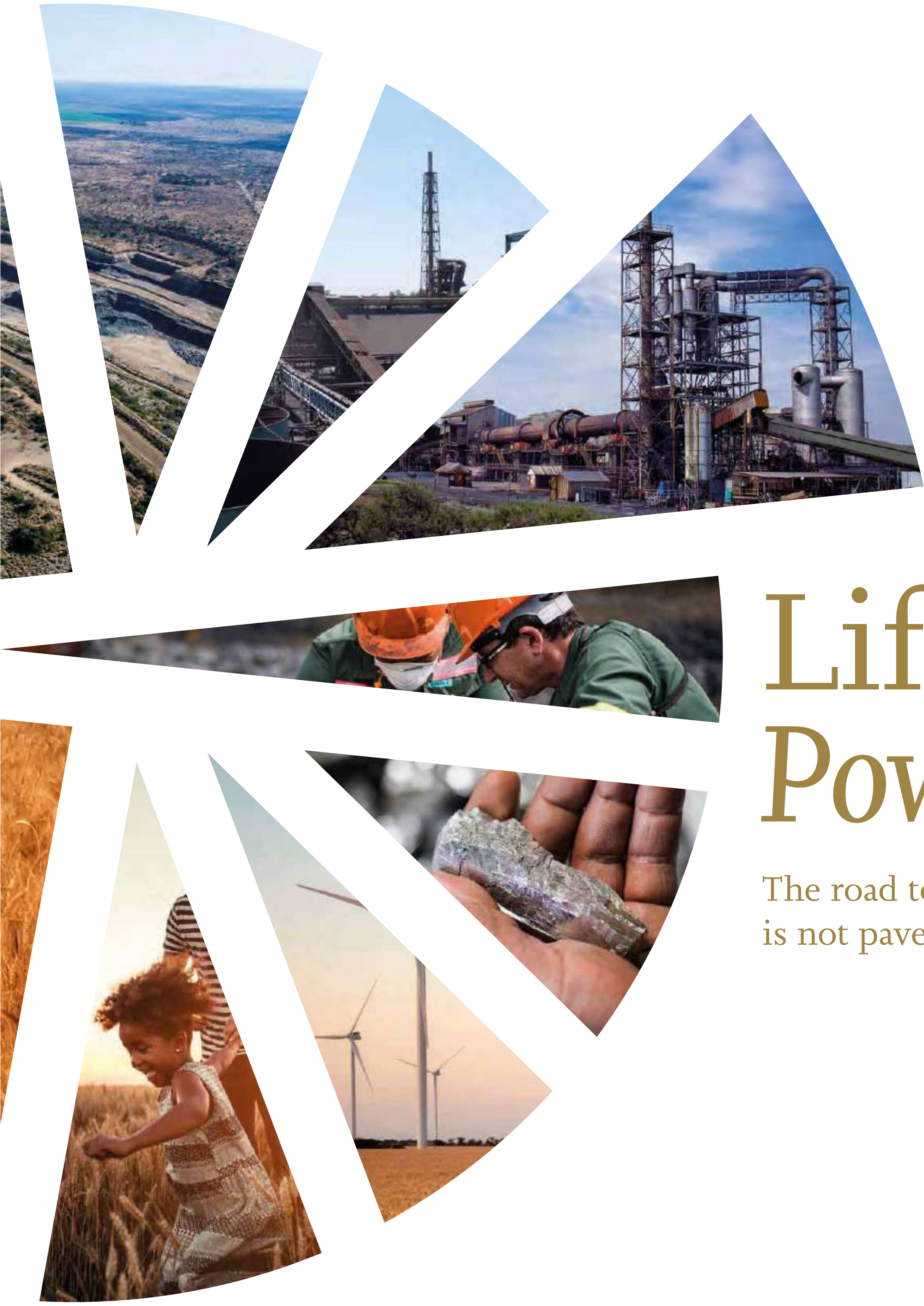
BUSHVELD MINERALS



Life. Powered.

The road to an *advanced* future is not paved with old ways.

December 2021

Annual Report & Financial Results

Bushveld Minerals is a low-cost, vertically-integrated primary vanadium producer, operating across the upstream and downstream value chain through Bushveld Vanadium and Bushveld Energy.

Bushveld produces diversified products for the steel, energy and chemical sectors, accounting for about three per cent of the global vanadium market in 2021.

Nitro Vanadium

Ferrovanadium

- Nitro Vanadium and ferrovandium have similar uses
- Nitro Vanadium strengthens steel more efficiently
- Strengthening mechanism allows steelmakers to use less vanadium in high-strength low alloy steels and reduce vanadium costs by as much as 40 per cent
- Reinforcing Bars
- Forgings
- High-Strength Sheet, Plates, Bars and Structurals
- Used as an additive in tool steels
- Enhances grain refinement (less alloy additions for same strength)
- Enhances strength and hardness

Vanadium Pentoxide Flake

- Intermediate product to make Ferrovanadium
- Vanadium aluminium master alloys for aerospace applications
- Specialised coatings for steel used in car manufacturing

CHEMICALS

Vanadium Pentoxide Powder

- Catalyst used in sulphuric acid production

Sodium Ammonium Vanadate

- Catalyst that aids in sulphur removal in scrubbers

Vanadyl Oxolate

- Used as a catalyst in diesel engines

Ammonium Metavanadate

- Used in fluorescent tubes
- Pigments in ceramics
- Intermediate product to make Ferrovanadium

Sodium Metavanadate

- Used in the pharmaceutical industry

Potassium Metavanadate

- Ceramics (blue)
- Petrochemical industry
- Paints
- Catalysts
- Corrosion inhibitor

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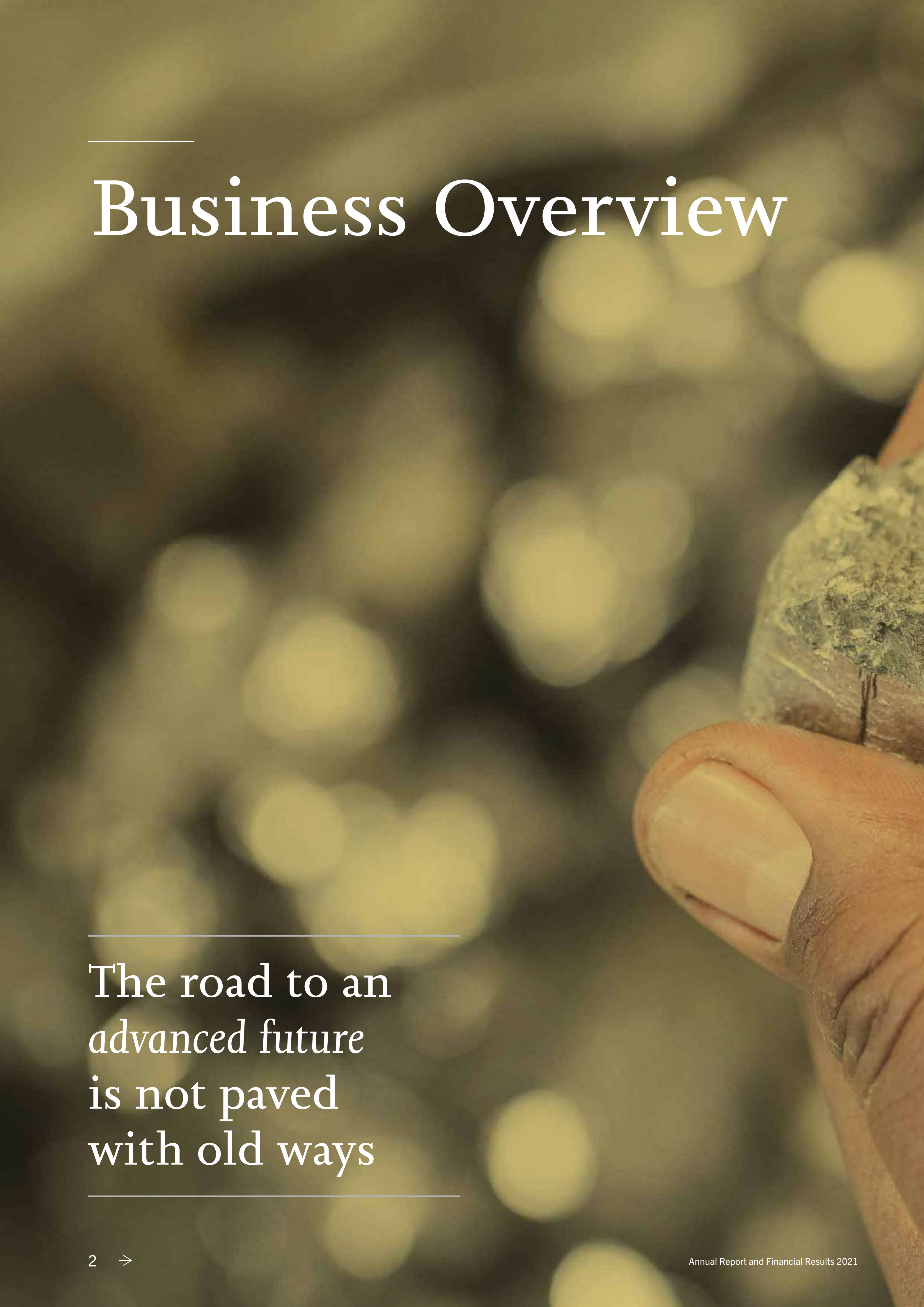
Supplementary Information

This report is also available at
www.bushveldminerals.com/financial-reports

Throughout this publication, the Boards are referred to collectively as the Board. In this Annual Report, the terms 'Bushveld Minerals Group', 'Bushveld', 'Company', 'Group', 'we', 'us', 'our' and 'ourselves' are used to refer to Bushveld Minerals Limited. The terms 'Vametco Mine and Processing Plant', 'Vametco Vanadium Mine' and 'Vametco' are used to refer to ' Bushveld Vametco Alloys (Proprietary) Limited'. The terms 'Vanchem Plant' and 'Vanchem' are used to refer to 'Bushveld Vanchem Proprietary Limited'. Cross-references refer to sections of the Annual Report, unless stated otherwise.



Business Overview

The road to an *advanced future* is not paved with old ways

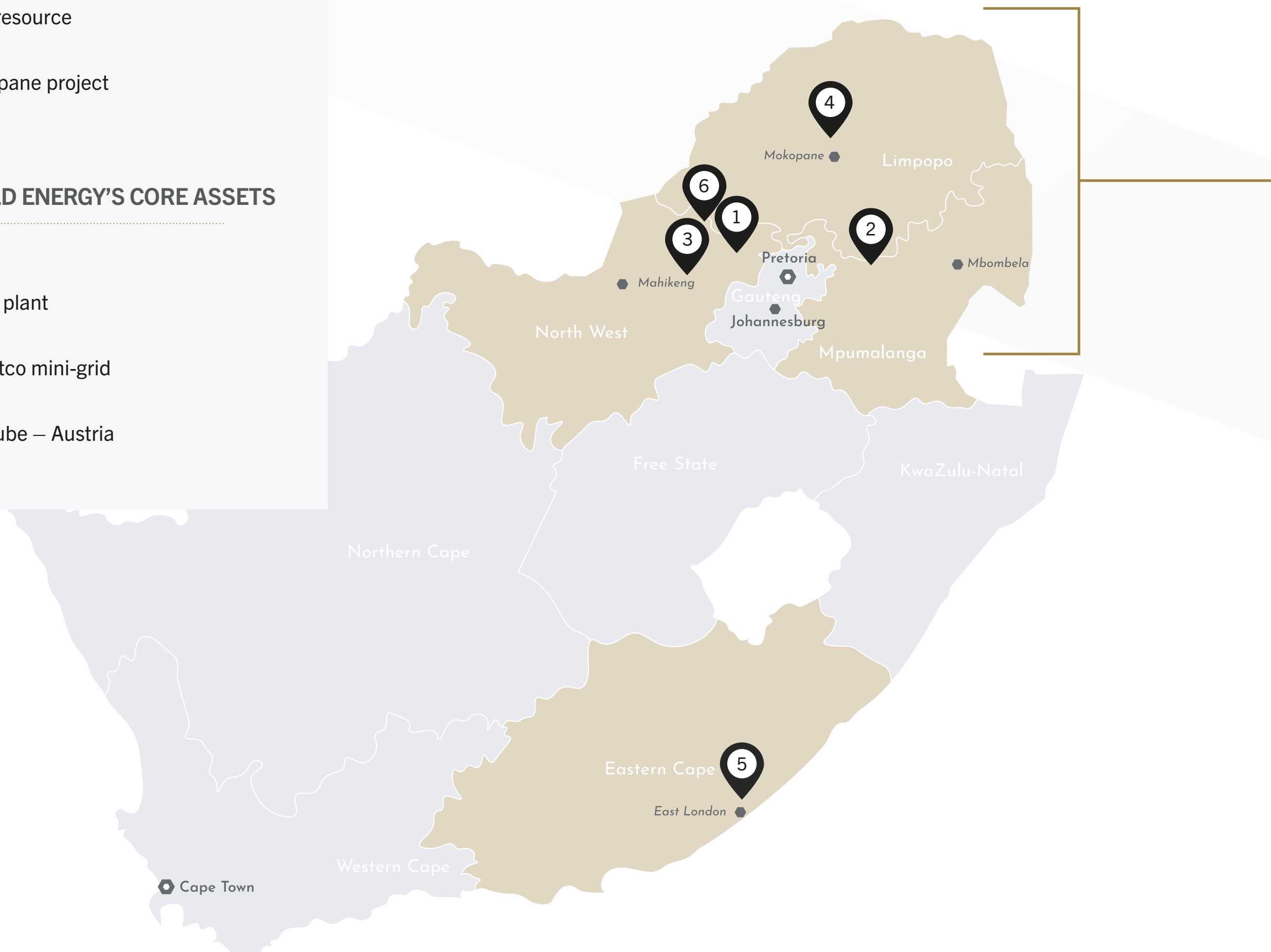
Where We Operate

BUSHVELD VANADIUM'S CORE ASSETS

1. Vametco mine and plant
2. Vanchem plant
3. Brits resource
4. Mokopane project

BUSHVELD ENERGY'S CORE ASSETS

5. Belco plant
6. Vametco mini-grid
7. CellCube – Austria



BUSHVELD VANADIUM

The Company's mining and processing assets are located in South Africa, which hosts the largest high-grade primary deposits of vanadium in the world.

The Vametco Mine, Brits Resource and Mokopane Project comprise a total JORC-compliant resource base of at least 548 Mt (100 per cent basis), including 74 Mt (100 per cent basis) of JORC-compliant reserves, representing some of the highest primary grades in the world.

Collectively, the Vametco and Vanchem plants provide Bushveld with a flexible and scalable low-cost production platform, enabling it to maintain a competitive position in the vanadium market.

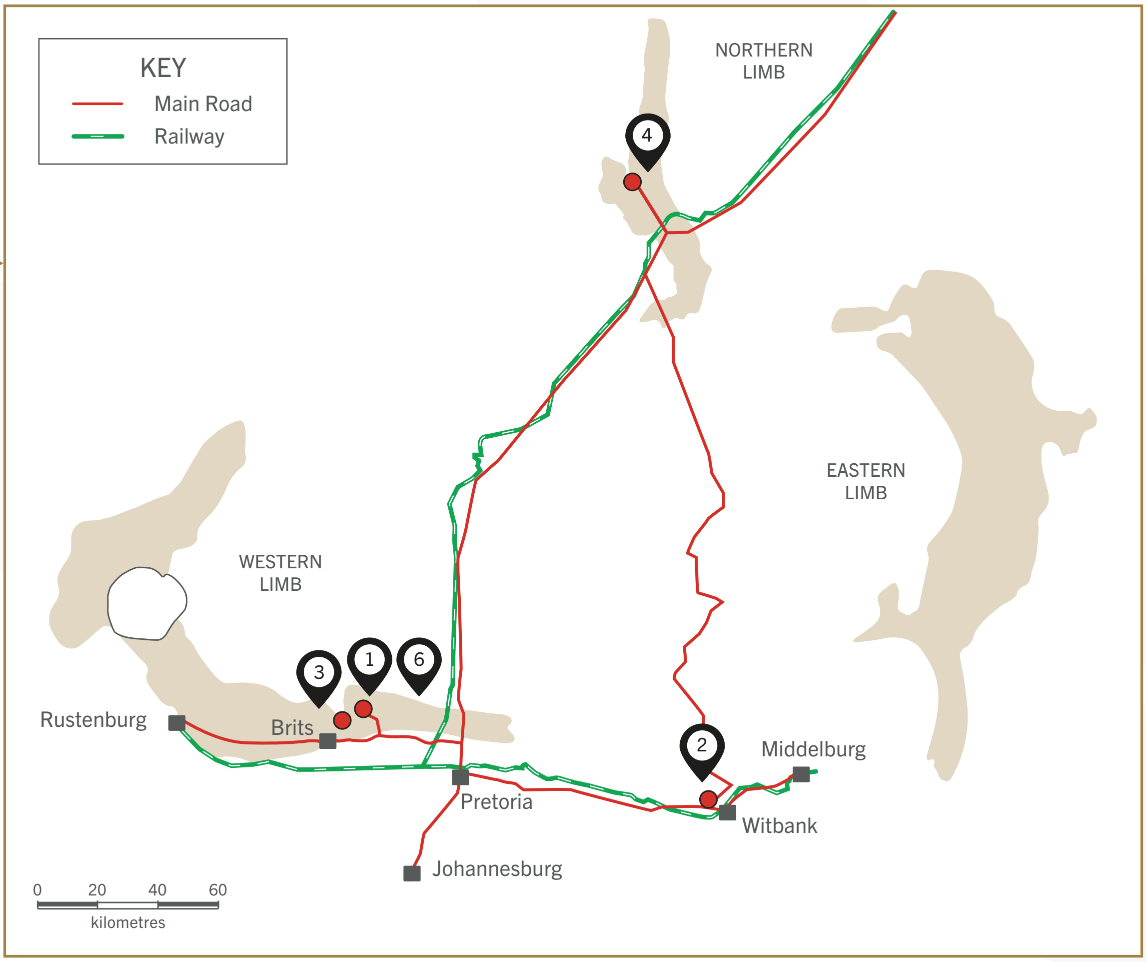
BUSHVELD ENERGY

Bushveld Energy's operations are located in South Africa, while its investment in the Vanadium Redox Flow (VRFB) Original Equipment Manufacturer (OEM) CellCube is located in Vienna, Austria.

The Bushveld Electrolyte Company (BELCO) 8 million litre electrolyte/200 MWh production plant under construction is located in East London, South Africa.

Bushveld Energy holds an indirect 25.25 per cent interest in CellCube, formerly known as Enerox.

The site for the construction of the 3.5 MW solar PV and 1 MW/4 MWh VRFB mini-grid project for Vametco is located at Vametco in Brits, South Africa.



Bushveld Minerals' Key Achievements

2012
Bushveld Minerals
Admitted to trading on AIM on 26 March 2012.

2013
Bushveld Minerals
Bushveld Vanadium Project platform established on an initial resource of 52 Mt.

2014
Mokopane
Licence extension for Mokopane Prospecting right approved.

2016
Bushveld Energy
Official launch of Bushveld Energy.

Cooperation Agreement signed with Industrial Development Corporation to determine the economic viability of VRFBs for use and manufacture in South Africa.

2017
Bushveld Vametco
Acquired a 26.6 per cent shareholding in Vametco, a vanadium mine and primary processing facility.

Bushveld Vametco
Increased shareholding in Vametco to 59.1 per cent.

Bushveld Minerals
Demerger of Afritin Mining Ltd.

2018
Bushveld Vametco
Increased its effective shareholding in Vametco to 74 per cent through a series of transactions.

Bushveld Energy
Started development of first commercial photovoltaic and vanadium redox flow battery mini-grid.

2019
Bushveld Vanchem
Acquired 100 per cent of Vanchem assets, a primary vanadium processing facility.

Bushveld Energy
Implemented its first rental contract with Avalon Battery Corporation.

Bushveld Energy
8.71 per cent investment into AIM-listed Invinity Energy Systems.

Bushveld Energy
Invested in Cellcube as part of an investment consortium.

2020
Bushveld Energy
Vanadium rental partnership with Invinity and Pivot Power (part of the French EDF Renewables).

Bushveld Energy
Established the Bushveld Electrolyte Company (BELCO).

Mokopane
Executed a 30-year mining right.

2021
Bushveld Energy
Commenced construction of the BELCO plant.

Bushveld Energy
Increased indirect interest to 25.25 per cent in Cellcube.

Bushveld Energy
Monetised Invinity Investment and realised ~US$13 million.

2022
Bushveld Vametco
Received ISO 14001:2015 Certification valid until March 2025.

Bushveld Vanchem
Commissioning of Vanchem's Kiln 3.

Bushveld Energy
Vametco Hybrid mini-grid achieves financial close.

Tribute to Professor Morris Viljoen

"A rich legacy for Bushveld Minerals."

Professor Morris Viljoen 1940-2021
Bushveld Minerals Technical Advisor

In 2021, we sadly lost Professor Morris Viljoen who was a technical advisor to Bushveld Minerals and who, more importantly, was one of the co-founders of VMIC (VM Investment Company), together with his twin brother Professor Richard Viljoen, Anthony Viljoen and Fortune Mojapelo.

VMIC, a principal investment and advisory company focusing on mining projects in Africa, laid the foundation for the establishment of Bushveld Minerals and AfriTin as fully operational mining companies. To be precise, the geological base on which Bushveld and AfriTin were built was the work of Professors Morris Viljoen and Richard Viljoen, "the Twins" as we came to affectionately call them.

Prof Viljoen will be remembered as one of the world's greatest geologists, having made an immense contribution to the field of geology and the mining industry. He will also be remembered as an academic father to many geologists and geoscientists in South Africa and the world over. More recently, he had become a pioneer of geo-tourism, where he documented and promoted South Africa's geological and mining heritage.

At Bushveld Minerals, we will remember Prof Viljoen for his illustrious career in the mining industry and will be forever grateful to have benefited from his deep knowledge, and passion for the sector. Simply put, there could be no Bushveld Minerals without him. Some of his most notable achievements over the decades he worked as a mining geologist are evidenced in his instrumental role in the generation and development of several exploration targets of which many have developed into advanced prospecting targets and operating mines today. These include the Mokopane Vanadium Project, Amalia and Blaaubank lode gold deposits, the Akanani/AfriOre Platinum Project, the Uramin Uranium Project and several others.

He also contributed valuable insights in optimised methods and techniques especially in the gold mining world. He will be remembered as a discoverer of Komatiites (a new class of ancient volcanic rocks in the Komati River valley in 1969) as part of his PhD which he did, together with his twin brother Richard. The term Komatiite has been adopted worldwide to describe such type of rocks.

Prof Morris Viljoen was also highly respected by his peers and was a fellow of the GSSA (Geological Society of South Africa) and other notable international geological and mining societies. He authored and co-authored geoscientific books and published close to eighty papers in scientific journals worldwide, and contributed to legacy projects of the 35th International Geological Congress held in Cape Town in 2016, where two books were produced and published. His contribution to developing skills within the sector is evidenced by the many geoscientists he trained during his tenure as Professor of Mining Geology at Wits University. He has supervised PhD and Masters students, some of whom work for Bushveld Minerals today.

The Bushveld Minerals family will miss him dearly for his unwavering support and wisdom. We will forever celebrate the rich legacy that he has left in our businesses.

May his soul rest in peace.

Our Approach

Our vision and mission drives our business model and our strategic decisions. It is underpinned by our values which inform the behaviour and standards expected of all our colleagues in the business. Together these determine how we identify and deliver our immediate and long-term strategic objectives and generate long-term sustainable returns for all our stakeholders.

OUR VISION

Become one of the world's most significant, low-cost, vertically-integrated primary vanadium platforms, with a diversified vanadium product portfolio.

OUR MISSION

Generate value in a safe and sustainable way for all of our stakeholders throughout the commodity cycle.

OUR VALUES

The Bushveld Minerals' shared values are the foundational DNA on which our business and brand are built. They were developed:

– Based on the agreed culture moves and the desired culture the organisation seeks to embed
– To guide the behaviour and decisions of all leaders and employees in the business
– To be the set of guiding principles of the desired culture.

We demonstrate care by focusing on safety first, having the courage to pioneer, learn, and adapt, collaborating as one team for shared success, behaving in a way that ensures we are trusted, and always striving to deliver excellence.

CARE

We care for the safety and health of our people, safety of our assets, environment and our communities

COURAGE

We are pioneering, curious, resilient and innovative

COLLABORATION

We collaborate for shared success by building unity through our shared purpose and effective communication

EXCELLENCE

We continuously strive for excellence through rigour, effort and deliberate planning, focused on the right performance outcomes

TRUSTED

We are trusted because we show integrity, aspire to deliver on our promises, and go beyond compliance

Bushveld Minerals. Life. Powered.

As our business grows and achieves significant growth milestones towards becoming a true leader in the global vanadium value chain, it's brand must also evolve and reflect our future ambitions of powering not only industry but people, communities and more sustainable ways of doing business.

We find our purpose in a quest to fuel human freedom in empowering better, safer and more sustainable living. We strive to do this by becoming one of the world's most significant low-cost, vertically integrated vanadium platforms. Backed by innovative thinking and disciplined expertise, we are committed to pulling a better future forward – ensuring that what we take from the earth goes back into it in the shape of progress.

OUR BRAND STORY:

The road to an advanced future is not paved with old ways. It is fuelled by the power of human possibility.

A less wasteful, more resilient tomorrow requires a shift. In thinking. In doing. Toward better systems, better structures.

One that does not leave us as culpable, or vulnerable.

At Bushveld Minerals we are committed to pulling this kind of future forward.

Bringing manufacturing, development, energy, and growth not just to life, but to lives.

Building. Not just structures, but sustainability. Powering. Not just progress, but people.

To fuel human freedom in advancing a better, safer, more durable existence for us all.

OUR LOGO

'Life powered' captures the power of human possibility, bringing manufacturing, development, energy, and growth not just to life, but to lives.

The new logo concept brings this story to life, whilst remembering where Bushveld came from. It leverages our existing tree symbol, displaying a modernised look and feel more aligned to future ideals. The updated look emanates freedom, innovation, and possibility – representing a life powered for all.

BUSHVELD
MINERALS

Our Key Strengths Drive Our Investment Case

Bushveld Minerals has, over the last decade, pursued a growth strategy that has facilitated the securing through acquisition of two world-class primary vanadium processing plants and the construction of an electrolyte manufacturing plant in South Africa for VRFBs.

After a period of consolidation and refurbishment of these acquisitions, Bushveld is now a well-established mid-tier vanadium producer. At the near term production rate of 5,000 mtVp.a to 5,400 mtVp.a. by the end of the financial year ending December 2022 – our currently funded production position – we have a business that is sustainable with an attractive cost proposition and good cash generation capacity.

Our asset base is scalable with potential to increase production above 5,000 – 5,400 mtV production run rate to 8,000 mtVp.a. over the medium to long term. This growth will be facilitated through the advancement of the feasibility and pre-feasibility studies at Vametco and Vanchem, respectively, which will require modest further capital expenditure relative to greenfield operations. The production growth potential is an opportunity to reduce unit costs further and can be done in incremental phases, each phase being value accretive with attractive internal rates of return per phase. The result is a large, low-cost primary vanadium producer with attractive cash generation potential through the vanadium price market cycles.

Our vertical integration strategy has seen us establish a meaningful role for the Company across the full value chain of the VRFBs that are set to play an important role in the growing energy storage market, driven by the tremendous global energy transition push. This strategy, which has been implemented with reasonably low capital intensity (relative to the upstream mining and processing activities) has created significant opportunities for the Company to capture economic value in this growing market sector, simultaneously supporting the growth and diversification of vanadium demand while positioning the Company as a key supplier of vanadium in this sector.

A GREEN COMMODITY FOR THE FUTURE WITH ATTRACTIVE FUNDAMENTALS

- Medium to long-term market fundamentals remain attractive.
- Vanadium demand is underpinned by its use as a strengthening alloy in steel sector, which is expected to drive demand growth at a Compound Annual Growth Rate (CAGR) of 2.7 per cent through to 2030[1].
- Vanadium increases the efficiency of the steel sector, while reducing greenhouse gas emissions.
- Vanadium demand from applications in VRFBs is expected to grow by a CAGR of 56.7 per cent by 2030[1].
- Supply is concentrated, constrained and limited new primary supply is expected from greenfield projects.

SOLID ASSET BASE

- The Company's 548 Mt (100 per cent basis) resource is one of the largest primary vanadium resource bases and offers significant growth potential. Bushveld Minerals' ore bodies comprise large, long-life, opencast deposits, with grades of 1.6 – 2.0 per cent V_2O_5 in-magnetite, which are among the highest in the world.
- The Group owns two of the world's four operating primary production processing facilities, which are low-cost and scalable operations. Vametco and Vanchem were acquired for significantly less than the cost of building a primary greenfield production facility of the same scale.
- Production platform with a diverse range of vanadium products which gives us production flexibility to maximise sales and profit margins based on product and market demand.

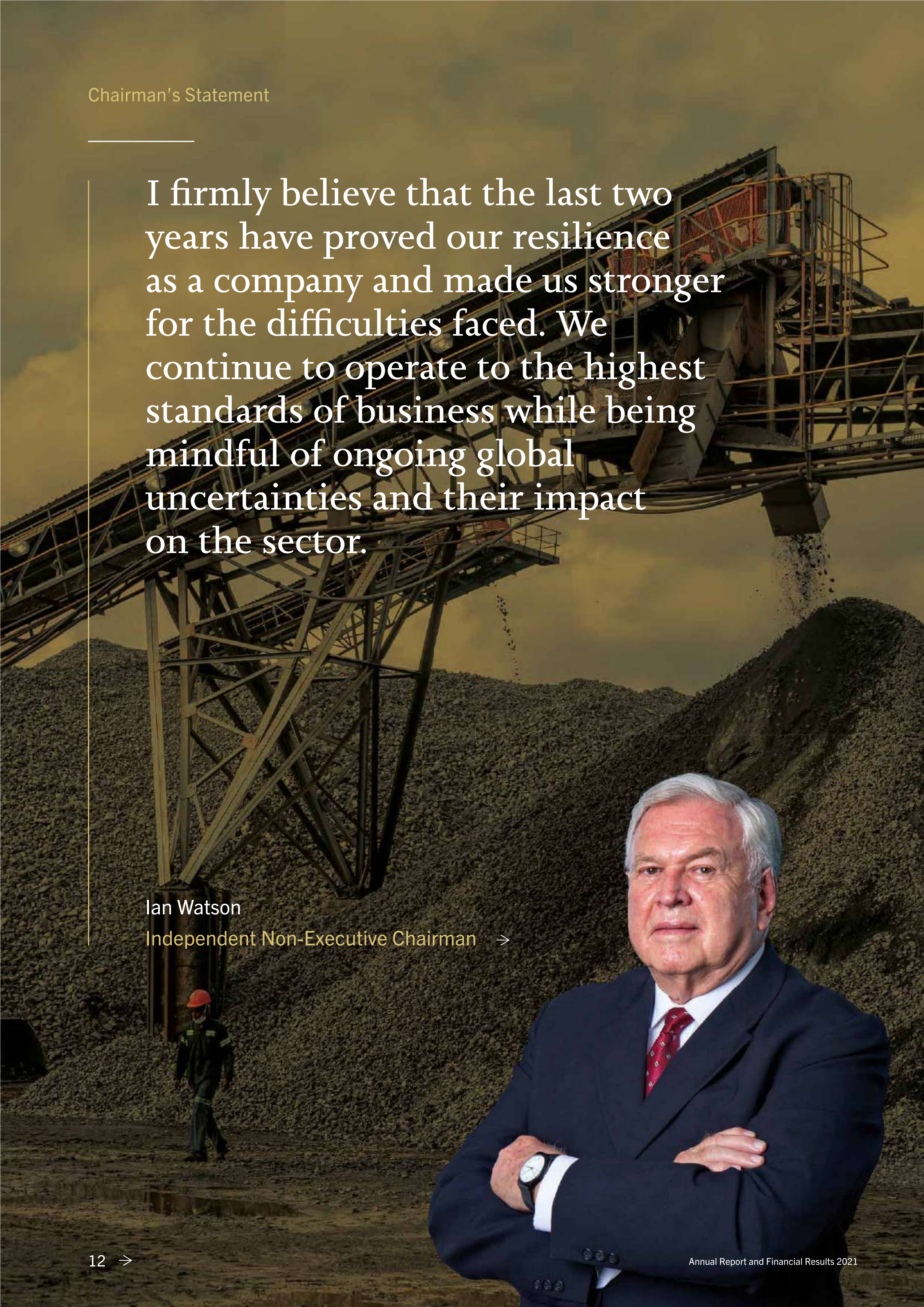
VERTICAL INTEGRATION

- Bushveld Minerals' vertical integration business model allows us to mine, process and manufacture vanadium-based products in a single value chain.
- The Company uses its low-cost scalable production base to build a significant downstream vanadium-based energy storage platform, thus participating in a rapidly-growing industry.
- Vertical integration is key, both to ensure future vanadium demand from energy storage and to unlock significant economic opportunities for the Company across its value chain.
- This includes BELCO, the construction of one of the largest publicly announced Vanadium electrolyte plants' outside of China with an expected initial capacity of 8 million litres of vanadium electrolyte per annum (using up to 1,100 Mtvp.a.) and capability to scale up to 32 million litres at the same location.
- The growth of the VRFB industry can support vanadium demand and contribute to minimising volatility in the vanadium price.
- The Group has diverse revenue streams coming from the steel, chemicals and energy markets, enabling it to maintain its solid position throughout the commodity cycle

SUSTAINABILITY – VALUE BEYOND COMPLIANCE

- Bushveld Minerals is dedicated to maintaining sustainable mining and processing practices across all of its operations and projects. This includes ensuring employees enjoy a healthy and safe working environment, that it operates in an environmentally and socially-responsible manner, and that it adds meaningful value to all stakeholders.
- The Company is committed to reducing the environmental footprint of its mining and processing operations by reducing the carbon intensity of its own operations. Achieved, through the implementation of renewable energy and VRFB storage solutions at its operations, the Company has commenced a journey to reducing the carbon footprint associated with its energy consumption.
- Bushveld Minerals' products play an important role in global decarbonisation efforts through its applications in both the steel and energy sectors.
- As a strengthening alloy in steel making (0.2 per cent of vanadium added to steel doubles its tensile strength), vanadium increases the efficiency of the steel sector, while reducing the carbon footprint of steel.
- Vanadium applications in stationary energy storage, through VRFBs, promotes the integration of renewable energy sources, while promoting the efficiency of electricity grids, thereby playing a key role in the energy transition. Further, the VRFB technology supports the global transition to clean energy and produces lower life cycle CO_2 emissions than competing storage technologies[2].
- The Company actively promotes the principles of the circular economy. It is scaling up the necessary technical and commercial parameters to ensure that vanadium in energy storage is re-used.

Sources:
1. Roskill, Vanadium Outlook to 2030.
2. Vanitec and Texas A&M study.



I firmly believe that the last two years have proved our resilience as a company and made us stronger for the difficulties faced. We continue to operate to the highest standards of business while being mindful of ongoing global uncertainties and their impact on the sector.

Ian Watson
Independent Non-Executive Chairman →

Resilient in challenging times

DEAR STAKEHOLDERS,

While 2020 was the year in which the COVID-19 pandemic plunged lives and business into turmoil across the globe and saw the implementation of emergency measures to keep businesses afloat, 2021 was the year in which those emergency measures were put to the test. As the constant state of flux became the new normal, it became apparent that companies had to adapt for unusual business contingencies.

Restrictions are now lifting around the world, facilitating a return to pre-pandemic life. Not only are we able to see loved ones and to cross borders, and with less onerous restrictions global logistics are improving and the productiveness of industries the world over has begun to escalate considerably. I firmly believe that the last two years have proved our resilience as a company and made us stronger for the difficulties faced. We continue to operate to the highest standards of business while being mindful of ongoing global uncertainties and their impact on the sector. These include but are not limited to the war in Ukraine, rising COVID-19 cases in China and North Korea, and soaring inflation in the US and Europe.

I applaud our employees for their stalwart commitment to the Company and our operations, ensuring that despite the ongoing impact of COVID-19 and the operational challenges at Vametco, our staff remained safe, and Bushveld adapted quickly and implemented several interventions, enabling the Group to finish the year strongly and make the upper end of our revised guidance for 2021 at 3,592 mtV.

As a result of the improved performance in the second half of the year, the Group generated a positive underlying EBITDA in the second half, but this was not sufficient to offset the EBITDA loss in the H1, and the Group ended the year with an underlying EBITDA loss of US$7.5 million and a loss before tax for the year of US$46.8 million (2020: loss before tax of US$37.7 million). The strengthening of the South African rand had a substantial effect on expenses and on underlying EBITDA. We made an operating loss of US$29.3 million, similarly impacted by the significant ZAR:US$ exchange rate movements and the net loss for the year was US$42.1 million, after net interest and non-cash adjustments, as detailed in the Finance Directors Review.

Furthermore, as we have improved maintenance and ensured operational stability, Bushveld is targeting to reach a Group production run rate of 5,000-5,400 mtVp.a. in the last quarter of 2022, following the commissioning of Kiln 3 in June 2022, which is now undergoing stabilisation and optimization, with ramping up expected to commence thereafter. Higher production, once the Group is producing over 5,000 Mtvp.a, will lead to lower unit costs, resulting in Bushveld achieving sustainable profitable performance throughout the cycle.

As such, we anticipate Group production for the year to be in the region of between 4,200 mtV and 4,400 mtV, between 17-23 per cent higher than 2021, with output weighted towards the second half.

We recently announced the key findings of the Vametco and Vanchem feasibility and pre-feasibility studies, the objectives of which are to increase and achieve a collective production of 8,000 mtVp.a. in the medium to long term. In contrast to the last few years where production growth was necessary to reach critical mass, we can be patient about this next stage.

Management intend to pursue the staged expansion plans, subject to the meeting of short-term performance targets and in a phased manner, once sufficient funding has been secured, accompanied by any necessary third-party validation of associated project economics.

We remain committed to our responsibility to ensure sustainable growth and provide returns to our investors, a consideration at the forefront of every company decision and are proud of the trust you, our shareholders, have placed in us to deliver this. I would like to thank Fortune Mojapelo, the Bushveld management team, and all our staff for their efforts to progress the Company and our operations over the course of the year.

I would like to pay tribute to Professor Morris Viljoen who sadly passed away in August 2021. Alongside his twin brother Richard Viljoen, he was a technical advisor to the Company and major contributor to the founding of Bushveld. His knowledge and expertise were unparalleled in his field and he will be sorely missed.

I have been privileged to have the responsibility of chairing the Board over the last ten years. In this time, I have witnessed the Company go from strength to strength, a small exploration company into a significant producer of vanadium no small achievement.

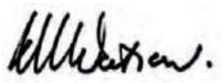
We have come a long way, from our kick off in 2012 when we listed on AIM as an exploration company with a diversified portfolio including vanadium, tin, coal, titanium and iron ore assets, and raised £5.5 million. We established a quality portfolio of tin assets, which we unbundled and listed as Afritin on AIM, enabling Bushveld shareholders to unlock value from its tin platform.

In this time, Bushveld acquired two brownfield processing plants for a modest acquisition cost, catapulting production over six years from zero in 2016, to about 3,600 mtV in 2021. We have also been at the forefront of pioneering a vertically-integrated vanadium value chain, including our ongoing construction of what will be one of the largest vanadium electrolyte plants with a capacity of 8 million litres of vanadium electrolyte (approximately 1,100 mtV).

Our other achievements include securing three large, high-grade opencast deposits, with a primary resource base of 548 Mt, one of the largest high-grade primary vanadium resources in the world. This gives us the confidence to pursue further growth in the years ahead, knowing that we have decades-long Life-of Mine ahead. All this has been achieved at the modest acquisition cost of approximately US$121 million, significantly less than the capital expenditure it would have required to develop our operational footprint from a greenfield state; plus further capital expenditure spent since acquisition.

On behalf of the Board I must thank Anthony Viljoen for his significant contribution to Bushveld Minerals over more than a decade of service. Anthony played a core part in the formation and shaping of the Company. I wish him all the best as CEO of AfriTin Mining Limited, which is rapidly developing its large-scale tin resources. In addition, I would like to I thank Jeremy Friedlander for his significant contribution to Bushveld with over a decade of service to the Company, helping provide vital guidance and leadership.

While I am sad to be leaving the Bushveld family, I welcome the new members of the Board including Kevin Alcock, Mirco Bardella, Jacqueline Musiitwa and David Noko. These Board appointments have been made to ensure that the Board's composition meets the high standards of corporate governance expected of AIM listed companies. I look forward to seeing the new heights to which I know they will take the Company.



Ian Watson
Independent Non-Executive Chairman
30 June 2022

Our transformation journey continues. With two of the world's four operating primary vanadium production facilities, a diverse product profile and significant growth upside, we are well placed in a market that will increasingly look to primary producers to meet its growing vanadium demand. While we remain committed to maximising the production capacity of our plants, our immediate short-term focus is to ensure that the production base is stable, sustainable and cash generating.

Fortune Mojapelo
Chief Executive Officer

Building a robust and stable operational platform for growth and stakeholder value

DEAR STAKEHOLDERS,

I am pleased to present this annual review statement at a time coinciding with the tenth anniversary of the listing of Bushveld Minerals Limited on the Alternative Investment Market (AIM) of the London Stock Exchange. In that time, we have successfully transitioned from an exploration company into a sizeable, margin-positive primary vanadium producer with global distribution networks, and significant growth potential.

We have achieved this transition through a brownfield strategy that has seen us acquire two of the only four operating primary vanadium processing plants in the world in 2017 and 2019, respectively. We have now invested significant refurbishment capital into the plants and their connection to some of the world's largest and highest primary vanadium grade deposits has allowed our assets to provide a low-cost production platform, with potential for further cost improvements. While the vanadium market remains volatile, our cost positioning in the market presents a sustainable cash generation opportunity over the cycle, which will be more clearly demonstrated once the Group is producing over 5,000 mtVp.a.

Since 2017, we have built an asset base with a net asset value of US$150 million, an achievement we are proud of as we started with a market capitalisation of US$20 million. We have achieved this by investing in excess of US$185 million in: 1) our acquisitions of Vametco and Vanchem, 2) refurbishment and expansion initiatives at the two sites, including the recently completed refurbishment of Kiln 3 at Vanchem and 3) investing in sustainable growth of the Bushveld Energy assets. We have grown this formidable asset base with a relatively heavy reliance on debt markets and very limited call on shareholders for equity financing.

2021 OVERVIEW

2021 began with significant challenges for Bushveld, impacted by the continued social and economic fallout from the COVID-19 pandemic. The South African commercial sector was further affected by a range of additional challenges, including periodical power supply shortages, and the severe disruption to local supply chains caused by the unrest in South Africa in July.

OPERATIONS

These contextual challenges compounded problems experienced at our operations, particularly in the early part of 2021, which related to operational plant stability on the back of no extensive annual maintenance shutdown being undertaken in 2020 due to the COVID-19 pandemic. In March 2021, a slower than expected ramp-up post a planned 35-day maintenance shutdown at Vametco affected production, further exacerbated by an unprotected industrial action that followed in April 2021.

Following the March 2021 annual shutdown at Vametco, the company has focused on operational stability, which is being achieved through several interventions. These include a rebasing of monthly production in line with historical performance rather than aspirational targets, increasing investments in maintenance and sustaining capital, and implementing a rigorous and proactive maintenance programme.

We have also embarked on a Bushveld culture journey to boost our aspirations towards operational excellence. This has entailed defining and cementing of our values and culture across the business, focusing on a philosophy of Care, Courage, Collaboration, Trust and Excellence.

This shift in approach has seen the Company produce solid successive quarterly performances since the shutdown in March 2021. Production in the second half of the year of 2,018 mtV was 28.2 per cent higher than the H1, illustrating our success in embedding improvements across all operations. I am pleased to report that this has continued into the current year and am delighted to announce the commissioning of Kiln-3 at Vanchem which will deliver production growth and result in lower unit costs at Vanchem.

We expect that as we continue to pursue incremental operational improvements and further emphasise our values and culture at Bushveld over a sustained period, the effects will begin to reflect in our guidance and production numbers. We have already seen an improvement in our safety record, although this is from a very strong baseline, as set out in the Safety section below.

Bushveld achieved production at the upper end of our revised guidance for the year ended 31 December 2021, with total Group production of 3,592 mtV. The higher throughput in the second half resulted in lower unit costs, with production cash cost (C1) for the year of US$24.0/kgV at Vametco and US$30.6/kgV at Vanchem, both in line with revised guidance.

While production performance improved, Group sales of 3,314 mtV were below production levels, owing to the challenges in international logistics channels arising from COVID-19, and the disruptions at local ports in July and August. This resulted in a buildup of finished products inventory.

	Unit	2021	12M 2021 vs 12M 2020
Group production	mtV[1]	3,592	-1.1%
Group sales	mtV[1]	3,314	-13.7%

While some of these logistical challenges have persisted into the 2022 year, we expect to meet our client obligations for the year.

FINANCIALS

The operational improvements post Q1 also translated into an improved financial performance, with a positive underlying EBITDA of US$3.3 million in H2 2021, which has been maintained into the 2022 financial year, compared with an H1 2021 underlying EBITDA loss of US$10.8 million.

The overall underlying EBITDA loss of US$7.5 million for the year, an improvement on 2020, was affected by the exchange rate movements that saw the Rand strengthen significantly from ZAR16.46/US$ to ZAR14.79/US$, resulting in a negative impact on costs and on underlying EBITDA amounting to US$11.6 million for the year on a like for like exchange rate with 2020. I am pleased to note that the trajectory of improved earnings has continued into 2022.

After depreciation of US$19.4 million, we made an operating loss of US$29.3 million (2020: loss of US$32.8 million), similarly impacted by the significant ZAR:US$ exchange rate movements. Net loss for the year was US$42.1 million after net interest of US$11.2 million and non-cash adjustments of US$6.2 million, as detailed in the Finance Directors Review.

The Group ended the year with a cash and cash equivalents position of US$15.4 million, as we prioritised significant investment including growth initiatives at Vanchem, Bushveld Energy investments and debt repayments.

More details on the company's financial performance are set out in the Finance Director's Review.

SAFETY

The Group recorded a 52 per cent improvement in the Total Injury Frequency Rate to 7.8 relative to the previous year (2020: 16.1), as a result of improved risk assessment and the implementation of mitigation measures. While these improvements are welcome, safety will continue to be an area of focus for Bushveld to ensure that we can sustain and continue a strong safety record.

SUSTAINABILITY

Bushveld Minerals has embarked on a journey to define and implement a comprehensive sustainability strategy. At the heart of this strategy is an overarching philosophy of going "Beyond Compliance", which requires an understanding and commitment to sustainability as core to our business and not a question of meeting regulatory requirements. The philosophy underpins our approach to environment management and engaging with social partners.

Our sustainability journey is in its early stages, defined with short-term (2021 – 2025) objectives to meet our regulatory compliance obligations and ensuring alignment/standardisation of practices across the business, followed by longer-term (2026 onwards) objectives that give effect to our "Beyond Compliance" ethos. Dedicated personnel have been brought into the business with executive leadership responsibility allocated for driving our ESG strategy going forward.

Our approach to sustainability is also defined along two important dimensions: (a) being clear about how we operate in a sustainable manner, and (b) articulating how our products and related solutions contribute towards global sustainability efforts.

In respect of the second, Bushveld Minerals is well placed to make a meaningful contribution to global decarbonisation efforts through its alloying products that reduce the carbon footprint of steelmaking, and through its electrolyte products used in large-scale long-duration energy storage systems that will support the energy transition through, among others, supporting greater penetration of renewable energy to the global energy mix.

GROWTH

Through the acquisitions and investments in our plants we have significantly increased our production by 36 per cent between 2017 to 2021 and Bushveld is now positioned as a significant global vanadium producer. While our current business model and production run rate is sustainable without the need for additional growth, we are in the process of ramping up to a production run rate of 5,000 – 5,400 mtV by the end of 2022, which will provide Bushveld further cash generation potential.

As outlined in the recently announced technical studies, the full production potential of our assets is much greater than the current production run rate, particularly in the wake of the commissioning of Kiln 3 at Vanchem in the second quarter of 2022. The studies provide a well-structured long-term incremental growth path to a production rate of 8,000 Mtvp.a., ensuring a permanent and reliable feedstock to both Vametco and Vanchem while reducing production unit costs.

The option to implement the growth path in phases that are each value accretive substantially reduces the upfront capital requirements. We can attain the incremental production more rapidly and generate additional cash flows after each phase, which can be leveraged for the next phase. As we have full flexibility in relation to this growth, any decision in this regard will be dependent on market conditions and subject to capital availability.

Further detail on the findings of the studies can be found in the operating assets section.

BUSHVELD ENERGY

The momentum of the energy transition away from fossil fuels to clean energy continued to grow in 2021 and was, in fact, given further impetus by the positive outcome of the COP26 climate change conference in Glasgow. Whilst forecasts of stationary energy storage deployments growth vary among analysts, they all point to substantial growth of the sector. Bloomberg New Energy Finance, for example, forecast that deployed energy storage installations around the world are will multiply by a factor of 122 to 2,850 GWh by 2040. Furthermore, Guidehouse Insights expects global annual deployments of VRFBs to grow at a compounded annual growth rate (CAGR) of 41 per cent over the next 10 years, reaching approximately 32.8 GWh in 2031.

The VRFB deployment forecast by Guidehouse Insights would equate to between 127,500 and 173,800 tons of new vanadium demand per year by 2031, according to Vanitec calculations based off Guidehouse's projection. That would be more than twice as much vanadium as is currently produced annually today.

This certainly presents a substantial opportunity for Bushveld Energy, the company's energy storage focused subsidiary whose mission is the advancement of VRFBs. Since inception in 2016, Bushveld Energy has made significant inroads in establishing the case for VRFBs in the growing energy storage market through its focus on key activities along the VRFB value chain structured along three key areas:

- Construction of the building for the vanadium electrolyte manufacturing plant in East London, South Africa, was completed in April 2022 and the Engineering, Procurement and Construction (EPC) contract is underway. The vanadium electrolyte manufacturing plant, targeting an initial capacity of 8 million litres, will be one of the largest plants outside of China.
- **VRFB Manufacturing:** We invested US$10 million this year to acquire an effective shareholding of 25.25 per cent into CellCube, a grid-scale and micro-grid energy storage battery manufacturer, headquartered in Austria, bringing our total investment to US$12 million.
- **VRFB Projects Deployments:** We completed the development and achieved financial closing for a 3.5 MW solar photovoltaic (PV) generation farm and 4 MWh of VRFB energy storage pilot project at Vametco Mine (the Vametco mini grid). Site clearing

has commenced and commissioning is targeted for H1 2023; 26 mtV of electrolyte for the battery has been secured from Vametco. The Vametco mini-grid will serve to demonstrate the technical and commercial viability of hybrid mini-grids using solar PV and VRFB technology and in the process open up opportunities for the deployment of such solutions in an environment that is increasingly encouraging self-generation for large energy users.

In addition, we identified captive opportunities within the Group of up to 120 MW of solar and 180 MWh of VRFB storage. These projects will also reduce the Group's reliance on Eskom, help control electricity cost increases and reduce the carbon footprint of our vanadium production, as part of a broader sustainability strategy.

We are pleased to have successfully defended the litigation initiated, during 2021, by Garnet Commerce Limited (Garnet), our partner in CellCube, against VRFB Holdings Limited (VRFB-H) and Enerox Holdings Limited (EHL), concerning an alleged breach by VRFB-H of the joint venture agreement in relation to EHL. Successfully defending this litigation which sought to challenge the indirect investment by Mustang plc into EHL, means the indirect investment by Mustang into EHL remains in place.

Notwithstanding the large opportunity presented by the energy transition for energy storage solutions and significant progress made by Bushveld Energy as summarised above, we recognise the complexity of a company spanning the vanadium value chain with operations that belong in different industry sectors and with different business models.

Having incubated Bushveld Energy and created the critical mass to ensure its success, we intend to carve out Bushveld Energy as a stand-alone company focused on the VRFB value chain. We believe that this will help to crystalise the value of Bushveld Energy and to position it in the capital markets to attract the appropriate energy-market focused institutional investors with an appetite and understanding of the energy proposition, while retaining the vertical integration proposition of Bushveld Minerals via a significant shareholding in the stand-alone energy company.

VANADIUM MARKET OUTLOOK

We remain bullish on the vanadium market. We believe the vanadium market is characterised by a structural deficit in the medium to long term, supported by robust and growing demand amidst a concentrated supply base with limited scope for meaningful supply growth.

Demand will continue to be anchored by the steel sector, underpinned by rising intensity of the use of vanadium within high-strength low-alloy (HSLA) steel. Away from steel, significant upside potential is anticipated for vanadium within VRFBs, as the requirement for energy storage applications for renewable energy sources increases, with decarbonisation and the energy transition fast becoming global themes set to remain relevant for the decades to come.

Vanadium supply is concentrated and increasingly constrained in its ability to respond to demand. Increasing utilisation levels of co-production steel plants, which account for more than 70 per cent of global vanadium supply, mean decreasing scope for co-producers to increase vanadium production, even in favourable steel market conditions, which are the key drivers of supply movements among co-producers. Meanwhile historical vanadium price volatility will, at least in the short term, continue to limit the availability of capital for developing greenfield vanadium projects.

This resulting structural deficit in the medium to long term points towards vanadium price upside relative to historical averages. In the short term, however, vanadium prices continue to be volatile, driven by the lingering impacts of the COVID-19 pandemic, especially in China where hard lock downs have continued to be imposed. The recent Russia-Ukraine conflict and global recession fears have also added to volatility.

The price volatility seen in 2020, 2021 and now in 2022 underscores the importance of being a low-cost vanadium producer and remains a core strategic focus for us as a company.

The Russia-Ukraine conflict puts a spotlight on the geopolitics of global vanadium supply, given the geographical concentration of supply with China and Russia accounting for 50 per cent and 17 per cent respectively. This places South Africa in a favourable position, with its massive high grade primary vanadium reserves. With two of the three operational plants in South Africa and scope to grow production on these, Bushveld has the opportunity to emerge as a key producer and supplier of vanadium in a global market.

OUTLOOK

We anticipate an encouraging 12 months ahead as we are on track to meet our Group production and cash cost guidance at the operations. This is supported by the commissioning of Kiln 3 at Vanchem which was completed in June 2022, and we anticipate to achieve a production run rate of 2,600 Mtvp.a during the last quarter of 2022.

Overall, we expect Group production of between 4,200 mtV and 4,400 mtV in 2022, with volumes weighted towards the second half as Kiln 3 is ramped up by year end, with lower production cash cost (C1) of: between US$22.7/kgV and US$23.5/kgV at Vametco and between US$27.7/kgV and US$28.4/kgV at Vanchem. Production guidance at Vametco is between 2,450 mtV and 2,550 mtV and at Vanchem it is between 1,750 mtV and 1,850 mtV.

We reported a strong start to the 2022 financial year, with another solid set of quarterly operating results in Q1 2022. Continuing on from the performance in 2021 and the underlying EBITDA profit in H2 2021, we have now successfully produced four quarters of consistent performance, building on the operational improvements and enhanced safety initiatives.

We believe Bushveld Minerals is now a solid, sustainable, margin positive business, and there stills remains a large opportunity to continue our overall growth programme.

CONCLUDING REMARKS

So, our transformation journey continues. With two of the world's four operating primary vanadium production facilities, a diverse product profile and significant growth upside, we are well placed in a market that will increasingly look to primary producers to meet its growing vanadium demand. While we remain committed to maximising the production capacity of our plants, our immediate short-term focus is to ensure that the production base is stable, sustainable and cash generating.

Following the commissioning of Kiln 3 and the expected resulting group production level of 5,000-5,400 Mtvp.a. by the end of 2022, the Company is in a good position to generate cash and positive margins, as one of the largest and most significant primary vanadium producers with a low cost production base and supplying approximately five per cent of the global market.

Our decision to carve out Bushveld Energy comes at a time when the business has generated sufficient critical mass to stand alone, albeit still linked to the upstream vanadium production platform. It also comes at a time of growing momentum behind the energy transition and long duration energy storage in particular. The positioning this will give Bushveld Energy in the market is incredibly attractive while helping simplify Bushveld Minerals' investment proposition as a vanadium producer.

If the above sounds like a reset of sorts, that is because it is – a reset aimed at:

a) consolidating our gains with the capital invested to date
b) building organisational capacity to successfully manage our assets
c) realising a sustainable cash generating business characterised by a stable and predictable low-cost production base with a secure balance sheet
d) unlocking the value linked to a downstream, sound and growing energy storage platform that is independently funded through energy focused public capital markets. The importance of the simplicity of the resulting investment proposition cannot be over-emphasised.

Supporting this reset are several important developments that I am pleased to announce, which will provide much needed support in this phase. These include the appointment of Lucas Msimanga as Director of Operations with effect from 1 June 2022, significant changes to our Board of Directors with four new appointments who bring a diverse and complimentary skill and experience set, and the appointment of Royal Bank of Canada (RBC) as a broker and financial advisor to the Company. I am delighted to welcome Lucas to the executive team. Lucas brings more than 20 years of operational leadership experience in the processing and metallurgy sector which is important for operations whose downstream processing/ metallurgical processing accounts for the vast majority of our production processes. RBC brings breadth and depth of capital markets advisory and support to the Company at a crucial time in our development.

GRATITUDE

Finally, I would like to sincerely thank each and every employee and contractor. Each and every one of you is an invaluable cog in our business and your care, courage and commitment has been fundamental in ensuring the continued success and development of Bushveld Minerals in 2021. I am privileged to work alongside you all and look forward to many years of continued service.

I must also thank Jeremy Friedlander, Anthony Viljoen and of course, Ian Watson, who have been serving on the Board since IPO and during which time they played an important role through a transformative period of the company. Their guidance and leadership over the last decade has been invaluable. Michael Kirkwood will be appointed acting chairperson at the next Annual General Meeting (AGM), while the company continues its search for a permanent chairperson. We are pleased to welcome and look forward to working with the new directors as the company continues its growth path and evolution.

Fortune Mojapelo
Chief Executive Officer
30 June 2022

Bushveld Minerals' Vertical Integration Business Model

Capturing demand opportunities across the vanadium value chain.

Bushveld Minerals is a vertically-integrated producer of vanadium products that are sold to various end user sectors. The Company's operations consist of open-cast mining and complex metallurgical processing that combine pyrometallurgy and hydrometallurgy to produce high-value final vanadium products that are applied in various sectors, including the steel, aerospace and chemical sectors.

Most of the world's vanadium occurrence is hosted in magnetite deposits where the highest reported in-concentrate grades are approximately 3 per cent V_2O_5. This invariably lends them to vertically-integrated operations. As such, the majority of the economic rent for vanadium production lies in metallurgical processing (from concentration onwards), which accounts, in the case of Bushveld's Vametco operations whose concentrate grades are ~1.7-2.0 per cent V_2O_5, for more than 75 per cent of the unit production costs of vanadium.

Yet vanadium processing facilities are capital intensive, as illustrated by Bushveld Minerals' Mokopane vanadium project, of which the pre-feasibility study, conducted in 2016, suggested a capital expenditure of US$300 million for a mine and plant producing ~5,300 mtVp.a. from a deposit grading an average of 1.75 per cent V_2O_5. Co-production steel- or pig-iron facilities (producing a vanadium-rich slag) are even more capital intensive relative to primary processing facility.

The capital intensity of vanadium processing presents a significant barrier to entry for new entrants, even where deposits are high grade. Moreover, the volatility of the vanadium price means that even those deposits with the requisite grades supportive of the development of primary processing face challenges in securing capital for their development.

It is this context that has shaped Bushveld's business model, which is built around two key pillars:
a) A brownfield development strategy – taking advantage of existing facilities that could be acquired and refurbished for a modest capital spend relative to greenfield development; and
b) Leveraging primary processing infrastructure to develop further downstream, relatively capital light value-accretive product opportunities.

BROWNFIELD STRATEGY

Bushveld Minerals' brownfield strategy, adopted in 2017, recognised the high-capital intensity of primary vanadium production and sought to identify existing facilities that could be refurbished or retrofitted into primary production facilities at a modest cost. The strategy also recognised that, even for high-grade deposits with an attractive cost position, the high volatility of vanadium prices combined with the relative obscurity of the commodity to date would translate into difficulties in raising requisite financing to develop greenfield processing facilities.

As reported, the Company has developed a portfolio of mining and processing facilities ramping up to a combined production base of 5,000 – 5,400 mtVp.a. for a combined investment of ~US$185 million and has recently announced feasibilities studies estimating a capital spend of an additional US$150 million to increase production further to ~8,000 mtVp.a, a production level that would cost more than twice as much to establish through a greenfield strategy. The Company has been able to leverage cash flows from the brownfield assets further underscores this approach.

DOWNSTREAM DEVELOPMENT

Having developed its primary vanadium processing platform with flexibility, scalability and a range of vanadium products, Bushveld is well positioned to develop further downstream opportunities along the vanadium value chain, where there are opportunities to:

a) Develop and produce high-margin niche vanadium products; and
b) Identify and develop new vanadium market opportunities with scope to broaden and strengthen the vanadium demand profile and support a more stable vanadium price outlook.

Of the emerging demand opportunities, Bushveld was among the first to recognise the significant opportunity presented by the

growing stationary energy storage sector, where vanadium redox flow batteries (VRFBs) are poised to play a meaningful role, provided they could address two significant hurdles, namely:

- **Security of supply** – The massive, but uncertain, growth in the energy sector's demand for vanadium may create more market volatility, if not matched with timely supply expansion. A World Bank Group Minerals for Climate Action report estimated that the production vanadium, and other key minerals including graphite, lithium and cobalt, would need to increase by nearly 500 per cent by 2050, to meet the growing demand for clean energy technologies. It estimates that over 3 billion tons of minerals and metals will be needed to deploy wind, solar and geothermal power, as well as energy storage, required for limiting further global warming to below 2 degrees. Meanwhile, the uncertain timing of that demand makes industry-wide production expansion challenging thus limiting the emergence and scope of new production.
- **Security of cost** – Vanadium's high price volatility and its role as the sole mineral in the manufacture of VRFBs makes input costs more important than in other industries, such as steel. While price spikes, such as the one seen in 2018, are profitable for producers and may well provide additional business opportunities, they could undermine the energy storage industry before its maturity.

It is Bushveld's view that providing solutions to these hurdles requires a vertically-integrated business model that combines an upstream scalable low-cost vanadium production with a downstream energy storage platform. The integration allows for brownfield scale up of vanadium production in support of the VRFB industry, while a low-cost production base provides scope for supply of vanadium at price levels and through supply models that are supportive of VRFB market penetration while delivering margin to the vanadium production. Unlike the lithium-ion industry that has a well-established manufacturing ecosystem with large multi-billion Original Equipment Manufacturers that are now looking to vertically-integrate upstream to secure supply of the key raw materials, the VRFB industry is still nascent. This calls for an active role by the larger vanadium producers to support the development of the VRFB ecosystem, while the nascency of the sector presents significant opportunities for vanadium producers to capture a greater share of the downstream value chain.

BUSHVELD ENERGY CARVE OUT

To unlock the energy storage opportunity for VRFBs, Bushveld established Bushveld Energy Limited to develop and implement a strategy to drive for greater adoption of VRFBs by addressing the above-described hurdles, with a focus on three key activities along the VRFB value chain:

1) Electrolyte production, sales and rentals;
2) Project development targeting long duration large scale energy storage opportunities; and
3) Investments in the VRFB manufacturing as a catalyst to draw needed capital to scale manufacturing capacity.

In parallel, through the vanadium producers association, Vanitec, Bushveld Energy has led efforts for vanadium industry-wide support to the VRFB opportunity an effort that has mobilised substantial interest and support from producers with several adopting a vertical downstream integration strategy into VRFB manufacturing.

The Company's approach has been to leverage its position to mobilise other role players to create critical mass including other vanadium producers, capital providers, energy project developers, and regulators among the most significant.

The continued success of Bushveld Energy, however, requires:

a) increasingly dedicated management focus;
b) increasing capital investments; and
c) a positioning in the capital markets that gives it the best opportunity to attract energy markets' focussed capital and to crystalise its significant value.

It is for these reasons that Bushveld Minerals has taken the decision to carve out Bushveld Energy into a stand-alone VRFB-focussed energy storage play, while retaining a significant shareholding in the resulting Company. More than resolving the growing capital allocation tensions within the Group, this approach will give Bushveld Energy the best platform and support to succeed while retaining the vertical integration model that remains key to success of VRFBs.

Bushveld Minerals' Strategy

BUSHVELD MINERALS

Build a sustainable, cash-generating, low-cost production platform, comprising:
- high-grade, open-cast and low-cost primary vanadium mines; and
- refurbished scalable brownfield processing facilities.

Use our large, low-cost primary production platform to develop further downstream value-accretive opportunities that maximise our share of the value chain.

Incubate and build a leading downstream vanadium-based energy storage platform, creating value as a manufacturer of electrolyte, a project developer and investor across the Vanadium Redox Flow Battery (VRFB) value chain.

BUSHVELD VANADIUM

BUSHVELD ENERGY

	2021 ACHIEVEMENTS	2022 OBJECTIVES
Health and safety	– Reported zero fatalities, two lost time injuries and no new cases of occupational health. – Maintained the necessary safety measures required in a COVID-19 constrained environment, while ensuring minimal disruption to the operations.	– Ensure a safe environment for all employees and contractors through deliberate housekeeping and asset integrity programmes. – Ensure that all hazards are fully understood, and risks are assessed, through reviewing and updating all safe operating and maintenance procedures. "Building safety into work".
Financial	– US$15.4 million cash and cash equivalents held at 31 December 2021 (2020: US$50.5 million). – Initiated the identification of Group cost savings. – Identified procurement cost savings of between US$2.5 million to US$4 million starting from 2022. – Successfully negotiated the removal of the Production Financing Agreement (PFA) ringfenced funds and allocated the funds to the refurbishment of Vanchem's Kiln 3 to ensure sustained growth in production. – Disposal of Invinity shareholding US$12.7 million to facilitate the funding and following of our investment rights/obligations in CellCube, the Bushveld Energy investment. – Disposal of Afritin shareholding US$3.5 million, funds were used for general corporate purposes. Reduced debt excluding IFRS movements by US$15.2 million: – Retired legacy acquisition payment structures • US$1.7 million payment to Evraz • US$11.5 million Duferco convertible and interest through conversion of US$9.0 million into equity and US$2.5 million cash payment • US$2.2 million Duferco working capital – Started amortising the Nedbank RCF and paid approximately US$2.2 million (ZAR33 million) – Repaid US$1.1 million as capital repayment to Orion for the PFA. – Offset by capitalisation of the Orion convertible interest of US$3.5 million and the impact of IFRS 9 on Orion PFA of US$4.7 million.	– Continue to build operational capacity, financial resources, and business processes and systems. – Rolling out and implementing the Group's Cost Savings Programme to cut costs by between US$2.5 million to US$4 million. – Review the near and long-term funding of the Group as the Revolving Credit Facility matures in November 2022 and the US$35 million Orion convertible loan notes matures in November 2023. – Completing the funding the remaining capital requirements for Vanchem's Kiln 3. – Returns to shareholders – remains a long-term objective as part of our capital allocation. – Balance the capital allocation to maximise shareholder value of Bushveld Energy's projects as we prepare to carve it out of the Group.
Operational	– Achieved annual production of 3,592 mtV, at the upper end of 2021 guidance of between 3,400 mtV and 3,600 mtV. – Annual sales 3,314 mtV, impacted by challenges in international logistics channels arising from COVID-19, the unrest in South Africa and disruptions at local ports. – Completed technical studies at Vametco and Vanchem in Q4 2021 in order to identify an optimal growth path.	– Commissioned Vanchem's Kiln 3 in June 2022, to increase Vanchem's annual production from 1,100 mtV to an annual production run rate of 2,600 mtV by the end of 2022. – Conduct a safe and effective annual shutdown in June 2022 to ensure that Vametco reaches its full potential in 2023 with a standard 21-days shutdown period. – Achieve annual steady state Group production run rate of 5,000-5,400 mtV by the end of 2022.
	– Began building an 8 million litre electrolyte/200 MWh production plant. – Acquired an indirect 25.25 per cent interest into CellCube, an Austria-based VRFB OEM, supporting the Company's sales and manufacturing growth. – Commenced site clearing for the construction of the 3.5 MW of solar PV and 1 MW/4 MWh VRFB mini-grid project for Vametco and secured 26 mtV of electrolyte for the battery from Vametco. – Started developing self-generation options for all of Bushveld's existing and future electricity needs of up to 125 MW of solar PV and 180 MWh of storage.	– Scale up the vanadium electrolyte rental product with new contracts. – Secured the funding for the engineering, procurement and construction of the Vametco mini grid in June 2022. Expected to be completed in H1 2023. – Building an 8 million litres electrolyte/200 MW production plant – construction of the building is nearly complete. Expected to enter into operation in H1 2023.

Group 3-year Performance Indicators

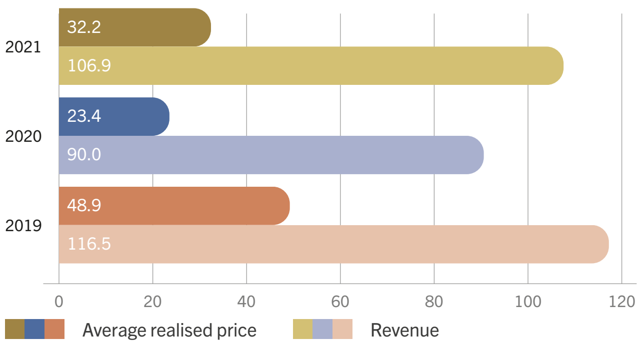
Revenue versus average realised price

Group Revenue of US$106.9 million (2020: US$90.0 million) an increase of 19 per cent as a result of improved average realised price of US$32.2/kgV in 2021 relative to 2020 (2020: US$23.4/kgV).

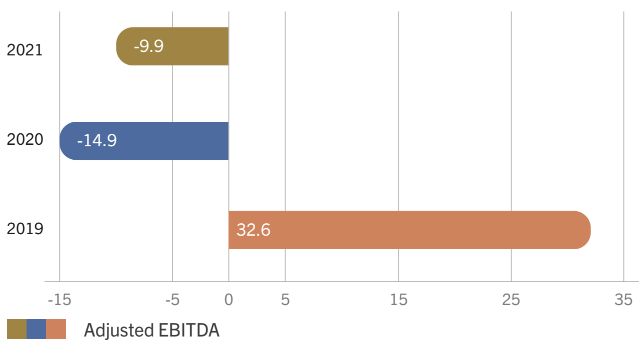
Adjusted and Underlying EBITDA KPI

Adjusted EBITDA loss of US$9.9 million, Underlying EBITDA loss of US$7.5 million (2020: US$14.9 million) an improvement on 2020. Impacted by the strengthening of the Rand during the period giving a net adverse exchange impact of US$11.6 million on Underlying EBITDA. Adjusted EBITDA is EBITDA, excluding the group's share of losses from joint ventures and the remeasurement of financial liabilities. Underlying EBITDA is Adjusted EBITDA excluding impairment charges.

Revenue (US$ millions)/average realised price US$/kgV



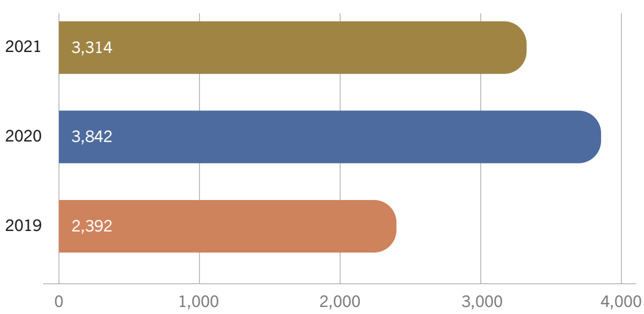
Adjusted EBITDA (US$ millions)



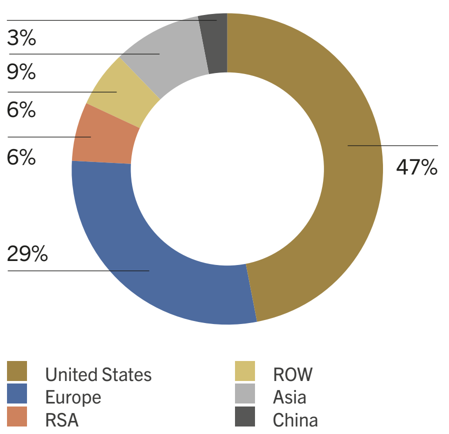
Sales

A 14 per cent decrease in 2021 sales volume relative to 2020, impacted by challenges in international logistics channels arising from COVID-19, the unrest in South Africa and disruptions at local ports during H2 2021. Sales to the United States increased from 34 per cent in 2020 to 47 per cent in 2021.

Sales (mtV)



Group sales by region %



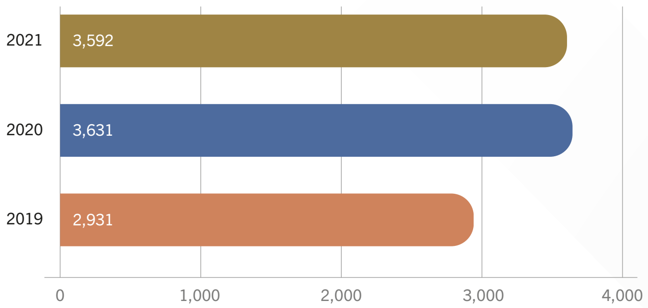
Production KPI

2021 Group production was marginally lower than 2020 by 1.1 per cent, impacted by the operational challenges and unscheduled stoppages at the beginning of the year.

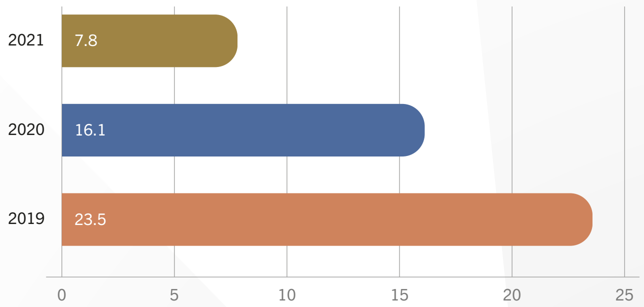
Total Injury Frequency rate (TIFR)

Group TIFR was recorded at 7.78 in 2021 representing an improvement of 52 per cent relative to 2020 (2020: 16.06).

Production (mtV)



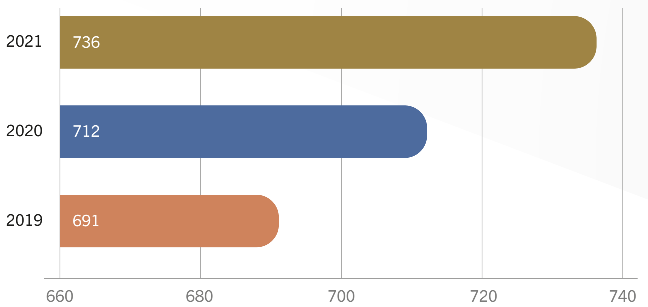
Group Total Injury Frequency Rate



Employees

Bushveld employed 736 people in 2021. A three per cent increase on 2020, as a result of capacity building at Vanchem.

Number of employees



KPI Group's key performance indicators

Vanadium Market Overview

As economies around the world began to recover from the devastating impact of the COVID-19 pandemic, industry pundits anticipated demand for vanadium to improve in 2021.

As economies around the world began to recover from the devastating impact of the COVID-19 pandemic, industry pundits anticipated demand for vanadium to improve in 2021. This expectation was fuelled by the fact that the vanadium market was, at the start of 2021, in a slight deficit of 317mtV, with supply at 119,750 mtV. Demand did indeed grow during the period under review, driven by a rebound in global steel production and consumption, excluding China, although demand was robust in the first part of the year. Though still relatively small vanadium consumption in the energy storage sector also witnessed growth, as more projects were implemented.

Vanadium demand in 2021 was approximately 120,067 mtV with the steel production and vanadium redox flow battery (VRFB) markets accounting for 92 per cent and two per cent of the vanadium consumption, respectively.

Prices traded in a fairly broad range, with the average price for the year being US$34.31kgV (2020: US$24.99/kgV) for the London Metal Bulletin in Europe, US$34.86/kgV (2020: US$28.83/kgV) for Ryan's Notes in North America and US$33.52/kgV (2020: US$25.36/kgV) for the Asian Metals in China. In the final quarter of 2021, vanadium traded at an average price of US$32.33/kgV. While this is, 38.1 per cent higher than the previous year, it is marginally lower than long-term historical average vanadium prices.

VANADIUM MARKET FUNDAMENTALS

Supply

Vanadium supply is concentrated – by type of production and geography.

The most common occurrence of vanadium is in vanadium and titanium bearing magnetite ore bodies from which vanadium is extracted either directly (primary production) or indirectly as a vanadium rich slag during steel-making or pig-iron production (co-production):

- Co-production – where a vanadium-rich slag is produced by steel plants processing vanadium-bearing magnetite ores.
- Primary production – where vanadium is produced as the primary product directly from processing vanadium bearing magnetite ores.

Co-production is the most significant source of vanadium supply, accounting for an estimated 73 per cent of production in 2021. Most of these steel slag producers are situated in China, and are operating at close to full capacity. Their economics are driven by steel and iron prices and not by the vanadium market.

Primary production was estimated at 17 per cent of global supply in 2021. The main producers are Bushveld Minerals and Glencore in South Africa, and Largo Resources in Brazil. These three companies have large reserves of high-grade ore and the ability to bring more tonnes to the market at a low production cost.

Apart from vanadium bearing magnetite ores, some vanadium production, also derives from secondary sources (secondary production) Secondary production is the recovery of vanadium from such as fly ash, petroleum residues, alumina slag, and from the recycling of spent catalysts used in crude oil refining. Secondary vanadium production It accounted for approximately 10 per cent of global supply in 2021. It is Being dependent entirely on other industries for its feedstock, it can only increase production if more spent catalysts are available.

In 2021, global vanadium supply increased to 119,750 mtV from 116,128 mtV in 2020.

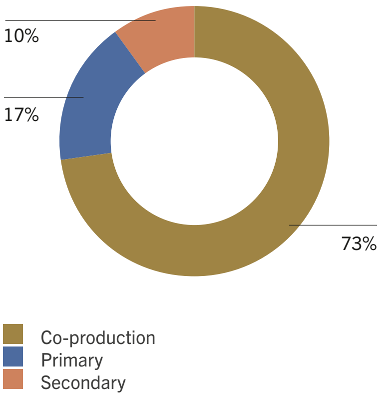
The world's top vanadium producer, China, accounted for 61 per cent of global vanadium supply in 2021. Most of its vanadium was derived from co-production as most slag producers are Chinese steel mills. Russia is the second-largest producer and South Africa the third-largest, accounting for 17 per cent and seven per cent of 2021 supply, respectively.

Like most ferroalloys, vanadium has been and still is largely exposed to the market characteristics of steel and more specifically to the Chinese steel industry. Although Chinese steel production fell by three per cent relative to 2020, due to the country's COVID-19 mitigation measures, the world's largest steel producer accounted for 53 per cent of the world steel production at 1,033 Mt in 2021.

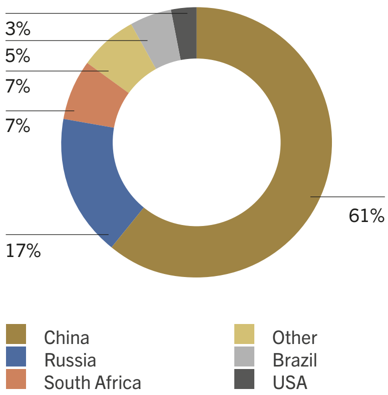
New vanadium supply may be triggered by the gradual implementation of International Maritime Organization's (IMO) 2020 standard that introduces a new limit on sulphur emissions for ships operating outside designated emission control areas. The cutting of sulphur in bunker fuel would increase the volume of recycled spent oil catalysts. According to Wood Mackenzie, this increased vanadium supply could either displace projects with weaker economics or create a larger and more durable surplus. Nevertheless, secondary production is limited by both the availability of the necessary feedstock and the high costs of production.

Opportunities for growth in vanadium supply can be considered across three categories: capacity expansions of current producers, re-commissioning of production plants that have been mothballed, and greenfield project development. Capacity expansions have the highest probability of realisation, with the lowest capital requirements and fastest path to production. New greenfield projects face the most significant hurdles and the longest development timelines. Most of the recent greenfield projects announced for development are of a co-production or multi-commodity nature, suffer from relatively low grades and require significant capital and a relatively stable and higher price outlook than recent prices indicate.

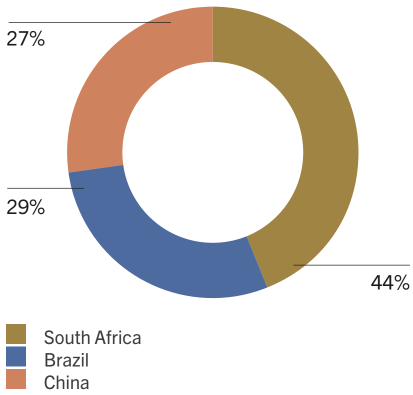
2021 Production by source



2021 Production by country



2021 Primary production



Demand

Global vanadium consumption increased by approximately seven per cent to 120,067 mtV in 2021 from 112,157 mtV in 2020.

The steel industry accounted for 92 per cent[1] of total vanadium demand in 2021. It is expected to continue underwriting vanadium demand, led by China which accounts for about 60 per cent[3] of global vanadium consumption and whose growing intensity of use of vanadium in its steel sector thus maintaining positive vanadium demand momentum.

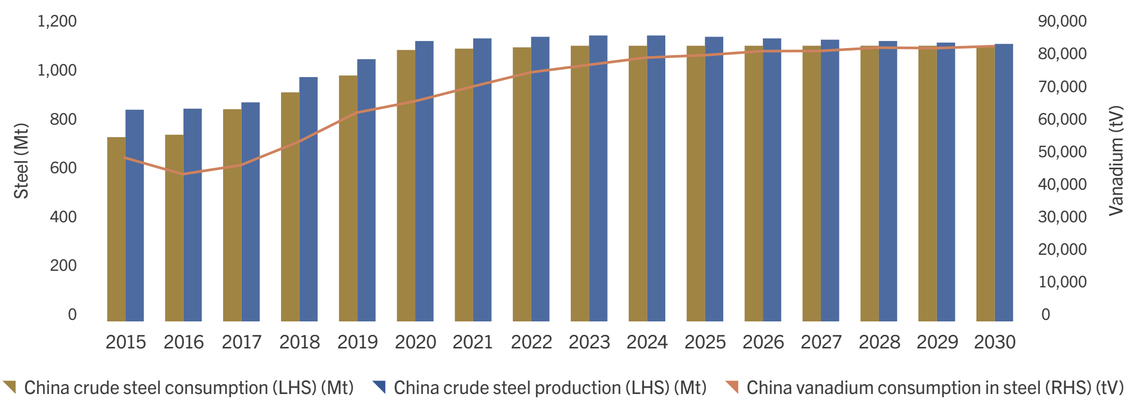
Notwithstanding regulation-driven growth in Chinese intensity of use of vanadium, China's vanadium usage intensity, at 63 g/t of crude steel, still lags that of the developed economies in Europe, Japan and North America at 80 g/t. This suggests further support for demand even in a market expecting peak steel production later in 2022. Consumption of the metal from the steel sector is forecast to rise by 2.8 per cent in 2022 to 113,100 mtV. In the medium term Wood Mackenzie forecasts that vanadium demand in the steel market will grow at a CAGR of about 3.1 per cent through to 2030, when it is expected to reach approximately 136,000 tonnes by 2030.

The VRFB sector has the potential to create an additional large market for vanadium and transform the commodity into a prime energy metal. VRFB development could also support the development of new magnetite greenfield projects, producing high-purity vanadium pentoxide or trioxide for battery use.

In addition, as the requirement for energy storage for renewable energy sources increases, demand for vanadium from this sector is expected to increase over the coming years. While forecasts vary for energy storage market growth, they all agree on substantial if not exponential market growth, driven by the energy transition to greener energy. Similarly, forecasts for the market penetration of vanadium redox flow batteries (VRFB's) in this sector vary. Yet even the more conservative estimates see vanadium demand from the energy storage fundamentally shifting vanadium demand in the future. Still, the question is how quickly this demand actualises, in a stationary energy storage industry that, while seeing increasing momentum, is still nascent. The growth in the number of large scale vanadium redox flow batteries being commissioned or developed in recent years is encouraging in this respect. Examples include Sumitomo 51MWh VRFB installation in 2021, as a follow up to a 60MWh installation in 2015, and Rongke Power's 800 MWh project in Dalian, China, to mention a few.

According to Guidehouse Insights, global annual deployments of VRFBs are expected to reach approximately 32.8 GWh in 2031. This presents significant growth with a CAGR of 41 per cent across the forecast period.

China Crude Steel and Vanadium Consumption



Source: Roskill, Vanadium: Outlook 2030

1 Wood Mackenzie, Noble steel alloys short-term, Outlook May 2022

VANADIUM PRICE AND OUTLOOK

The outbreak of war in Ukraine in February 2022 led to volatility in the vanadium market. This compounded an already tight market and resulted in vanadium prices spiking in March and into early April.

2021, saw challenges presented by global logistical delays which affect the supply chain which contributed to the irregular prices in North America relative to prices in Europe and China. In February 2022, supply disruptions generated by the Russia-Ukraine conflict resulted in increased buying of Chinese ferrovanadium. This trend continued through April and trade data shows that ferrovanadium exports rose to 934 t (gross) in April, up 176 per cent year-on-year. The majority of these shipments have been destined for the Netherlands, Japan and South Korea.

Ferrovanadium prices rose rapidly through February and early March, driven by the combination of tight supply and market volatility. European ferrovanadium prices averaged at US$45.3/kgV in Q1 2022 and Chinese ferrovanadium prices averaged at US$46.4/kgV, which was an increase of 41 per cent and 28 per cent on the previous quarter, respectively. These factors hit the North American market most severely, where prices were anomalously high in March at US$73.50/kgV, representing a premium of over 18per cent over regions.

China's ongoing battle against COVID-19 and strict lockdowns has led to a weaker macroeconomic outlook, however, even with the reduction in the demand forecast as expected by Wood Mackenzie, a small deficit is expected this year.

In the VRFB space, there have been further announcements for developments not just in China but also in the North American and African markets. Wood Mackenzie maintains its previous forecast for annual VRFB installation capacity to rise to 1.5 GWh in 2024, which equates to 7.1 ktV consumption in 2024.

From 2024, Wood Mackenzie expects the market to enter a surplus as new greenfield projects come on-line and will outpace demand growth. It is worth noting that Wood Mackenzie assumes that all new projects announced will come into production, which may be an overly bullish assumption. This surplus is expected to peak in 2025-2026 and the market should gradually rebalance supported by growing demand due to higher intensity of use of vanadium in steel and as well as demand from vanadium redox flow batteries.

Overall, we retain our in-house view that supply remains concentrated and constrained with only limited new supply expected from primary greenfield projects, while co-production is still mainly driven by steel and iron ore fundamentals. As a result, primary producers of vanadium remain best positioned to meet the growing vanadium demand in the medium term.

A GREEN COMMODITY FOR THE FUTURE

Vanadium's benefits to a greener, more sustainable society include its contributions as an alloy in high-strength, low-alloy steels, primarily used in construction. A recent study quantified this benefit as equivalent to the annual CO_2 output of the Philippines or annually "planting approximately 260 million trees." Its use as the critical mineral in energy storage coupled with electricity generation from renewable energy sources, further positions vanadium as a green commodity for the future.

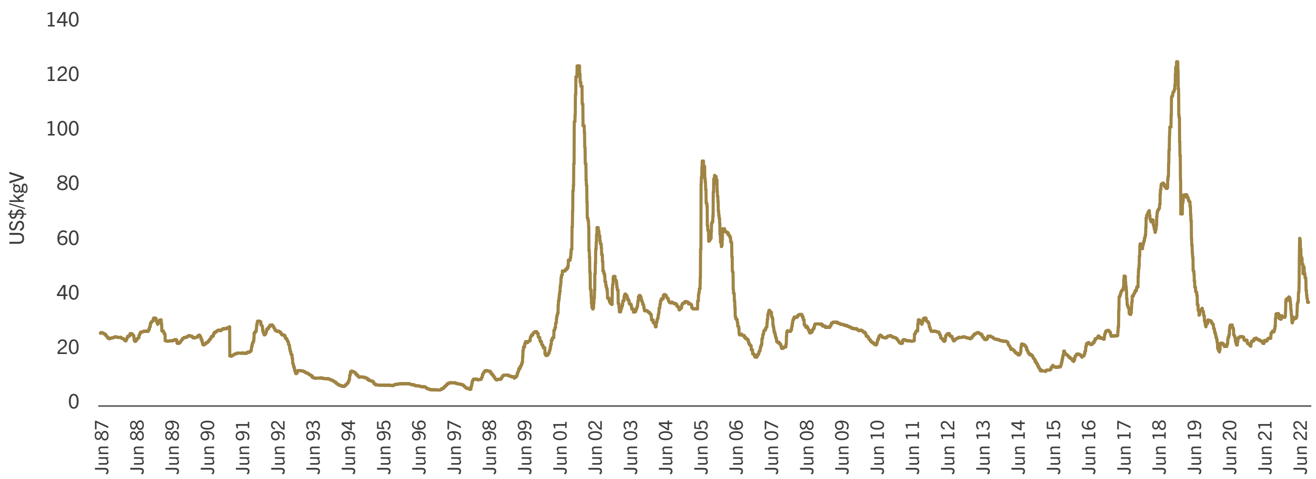
In the aerospace sector, vanadium has long been used to ensure low density, high strength, and strength at high operating temperatures which is essential in aero-engine gas turbines and airframes. Development of new titanium alloys continues and grades containing 8, 10 and 15 per cent vanadium have even higher strengths. They have the potential to make important contributions to weight reduction and fuel efficiency in the aircraft of the future.

One of the key green applications of vanadium, with even more potential future upside, given the energy transition, is in VRFBs used for grid energy storage. VRFBs are safe and have a long lifespan, enabling them to repeatedly charge/discharge over 35,000 times for a lifespan of over 20 years. They also have a lower manufacturing carbon footprint than lithium-ion batteries.

Bushveld Minerals is building its own VRFB solar mini-grid at the Vametco mine. This will decrease the Company's carbon footprint, as it will reduce CO_2 emissions by more than 8,000 metric tonnes per year (and nearly 200,000 tonnes of CO_2 over the life of the project).

Sources:
1. Wood Mackenzie, Nobel Steel Alloys, Short term, Outlook May 2022
2. World Steel Association, 2021 global crude steel production totals
3. Bloomberg, December 2021, June 2022
4. Texas A&M Study

FeV historical LMB price US$/kgV



London Metal Bulletin, price as at 10 June 2022

The Case for Vanadium Redox Flow Batteries in Energy Storage

The energy sector is undergoing a fundamental transition, both in the extent of electrification and the overwhelming trend toward renewable sources of energy.

The importance of electricity is increasing, a critical factor of the "energy transition" and the path to net zero carbon emissions. Electricity's share of global energy consumption is expected to continue to grow at a rapid pace, doubling from 10 per cent in 1980 to 20 per cent today to over 40 per cent by 2050. At the same time, renewable energy is displacing the predominance of fossil fuels in energy generation. These two changes have enormous implications, not only for global energy production, but for all minerals involved in energy related value chains.

Electricity is much more difficult to "store" than other types of energy, and the acceleration of demand is further increasing the need for stationary storage, such as large batteries. On top of that, the variability of renewable energy sources such as solar, wind and tidal, further exacerbates the daily misalignment between electricity production and consumption.

Both aspects increase the need for stationary energy storage, especially long-duration storage (four or more hours per day). Storage is essential to support the growth in electricity demand while enabling the energy transition to a carbon neutral world. Thus, energy storage is now one of the most dynamic and rapidly advancing sectors in the broader technology industry, recognised for its ability to fundamentally reshape the power system.

ENERGY STORAGE MARKET

According to Bloomberg New Energy Finance, global stationary energy storage installations will grow 122-fold from 2018 to 2040, rising from 17 GWh to 2,850 GWh by 2040.

Unsurprisingly, investment into battery technologies is also accelerating. Mercom Capital reported that in 2021 corporate funding of battery storage companies reached US$17 billion, compared to US$6.5 billion in 2020 and US$2.8 billion in 2019, almost tripling each of the past two years.

VRFBS FOR ENERGY STORAGE – AN OVERVIEW

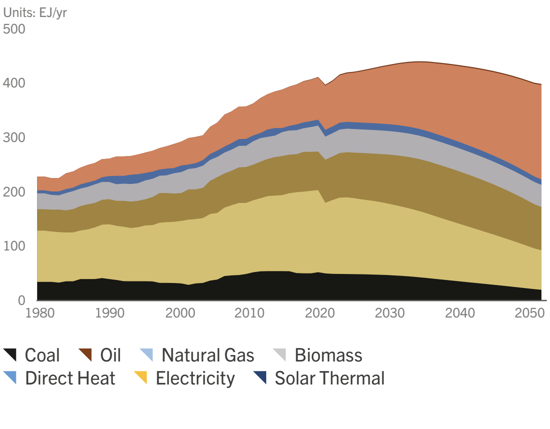
Bushveld Minerals supports the demand growth of mined vanadium through Bushveld Energy, a subsidiary that participates in the global value chain for energy storage. It is doing this through the construction of a vanadium electrolyte plant and investment in Vanadium Redox Flow Battery (VRFB) companies and manufacturing. In addition to this, Bushveld has an energy storage project development business focused on the African market, an area traditionally under-served but which offers immense growth potential.

The VRFB is the simplest and most developed flow battery in commercial operation. The technology is durable and has a long lifespan, low operating costs, is safe in operation, and has a low environmental impact in manufacturing. Furthermore, the vanadium used in the batteries can be easily recycled. The storage system can work in tandem with other technologies to fill demand in a growing energy storage market.

Advantageous features of VRFBs include:

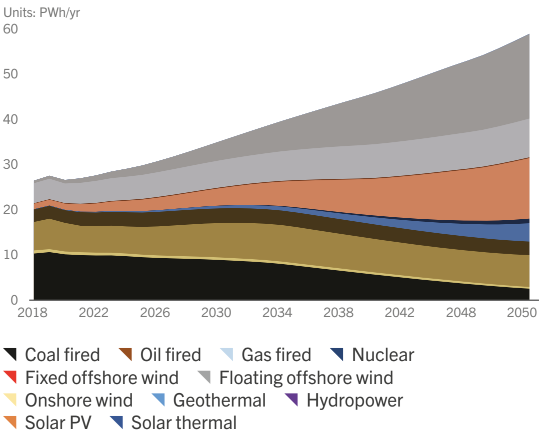
– Long-lifespan, with ability to charge/discharge more than 35,000 times for over 20 years;

World Energy Demand by Carrier



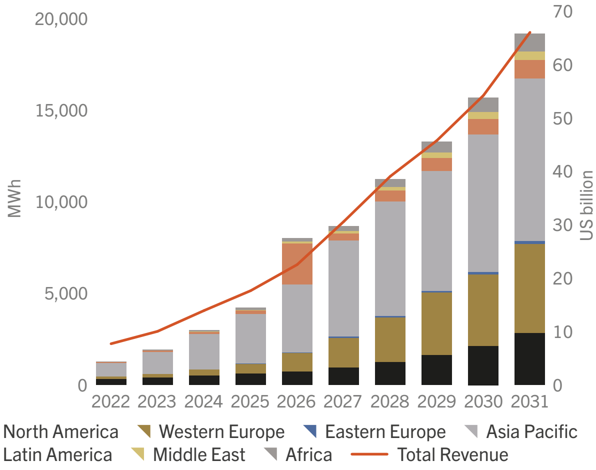
Source: DNV GL Energy Transition Outlook 2020, IEA 2019

World Electricity Generation by Power Station Type



Source: DNV GL Energy Transition Outlook 2020, IEA 2019

Annual Installed Utility-Scale VRFB Battery Deployment Energy Capacity and Total Revenue by Region, All Application Segments, World Markets: 2022-2031



Source: Guidehouse Insights

- 100 per cent depth of discharge, allowing the entire battery to be used all the time;
- Lowest cost per kWh at long duration, lower than Li-ion batteries, when fully used at least once daily;
- Safe, with no fire risk from thermal runaway;
- Very fast response time of less than 70 milliseconds; and
- No chemical cross-contamination as only one battery element is used, a unique feature among flow batteries.

In addition, VRFBs have existing supply chain synergies with industries such as vanadium mining and vanadium chemicals production. These existing capabilities and facilities can be expanded to produce more vanadium or recycle existing electrolyte.

Despite the many advantages, as a technology in the early stages of commercialisation, VRFB markets still face commercial challenges. Misconceptions about costs and comparisons based purely on upfront rather than lifetime costs are significant barriers for VRFBs. Furthermore, a historical market for short duration storage has positioned Li-ion batteries as a dominant incumbent battery technology. Increasing understanding, reaching economies of scale and developing innovative funding solutions to overcome these barriers will lead to VRFBs' continuous growth in the storage industry.

As VRFBs solely rely on vanadium as a mineral and because the chemistry itself does not degrade from usage, either the vanadium or the entire electrolyte in VRFBs can be re-used, creating an opportunity to devise innovative financial solutions, such as electrolyte rental. Such innovation increases the circularity of vanadium and the sustainability of VRFB technology. Furthermore, these solutions accelerate adoption of VRFBs at commercial scale by reducing the upfront capital costs, while creating new economic opportunities for vanadium producers.

VRFBS FOR ENERGY STORAGE MARKET

Global deployment of VRFBs is starting to accelerate due to increasing demand for long-duration energy storage. According to Chengde Steel, Chinese vanadium demand from energy storage is expected to rise to at least 9,100 t of vanadium pentoxide (V_2O_5) equivalent in 2022 from 3,640 t in 2021, on the back of increasing energy storage projects. According to Guidehouse Insights the market is already in excess of 1 GWh per annum in energy capacity, with Asia Pacific leading significantly. By 2031, it is estimated that Asia Pacific will reach around 14.5 GWh of annual VRFB energy capacity, out of a global demand of 32 GWh.

Nevertheless, Bushveld remains bullish on the demand for energy storage in Africa, with South Africa as an excellent example of that growth.

- Bushveld Energy's development of the 3.5 MW solar PV plus a 1 MW/4 MWh VRFB hybrid mini-grid project for Vametco, the first of its kind in South Africa, demonstrates the case for VRFBs in energy storage. This project will serve as a VRFB reference site for the mining industry, utilities and other users of the technological benefits of long-duration VRFB systems coupled with renewable energy.
- The country's Integrated Resource Plan (IRP 2019) has a dedicated allocation for over 2000 MW in new energy storage during this decade. The Department of Mineral Resources and Energy (DMRE) and IPP Office have noted standalone storage procurement of the 513 MW IRP allocation.
- Eskom battery procurement programme for 350 MW/1600 MWh is underway with the first 199 MW/833 MWh in tenders signed.
- Many municipalities and private customers, especially mining companies, are increasingly considering storage to off-set Eskom's load shedding.

Overview of Vanadium Redox Flow Battery Technology

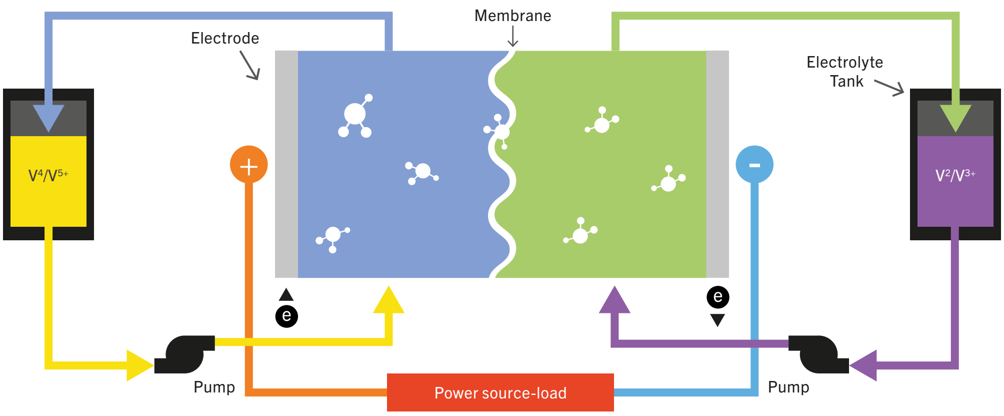
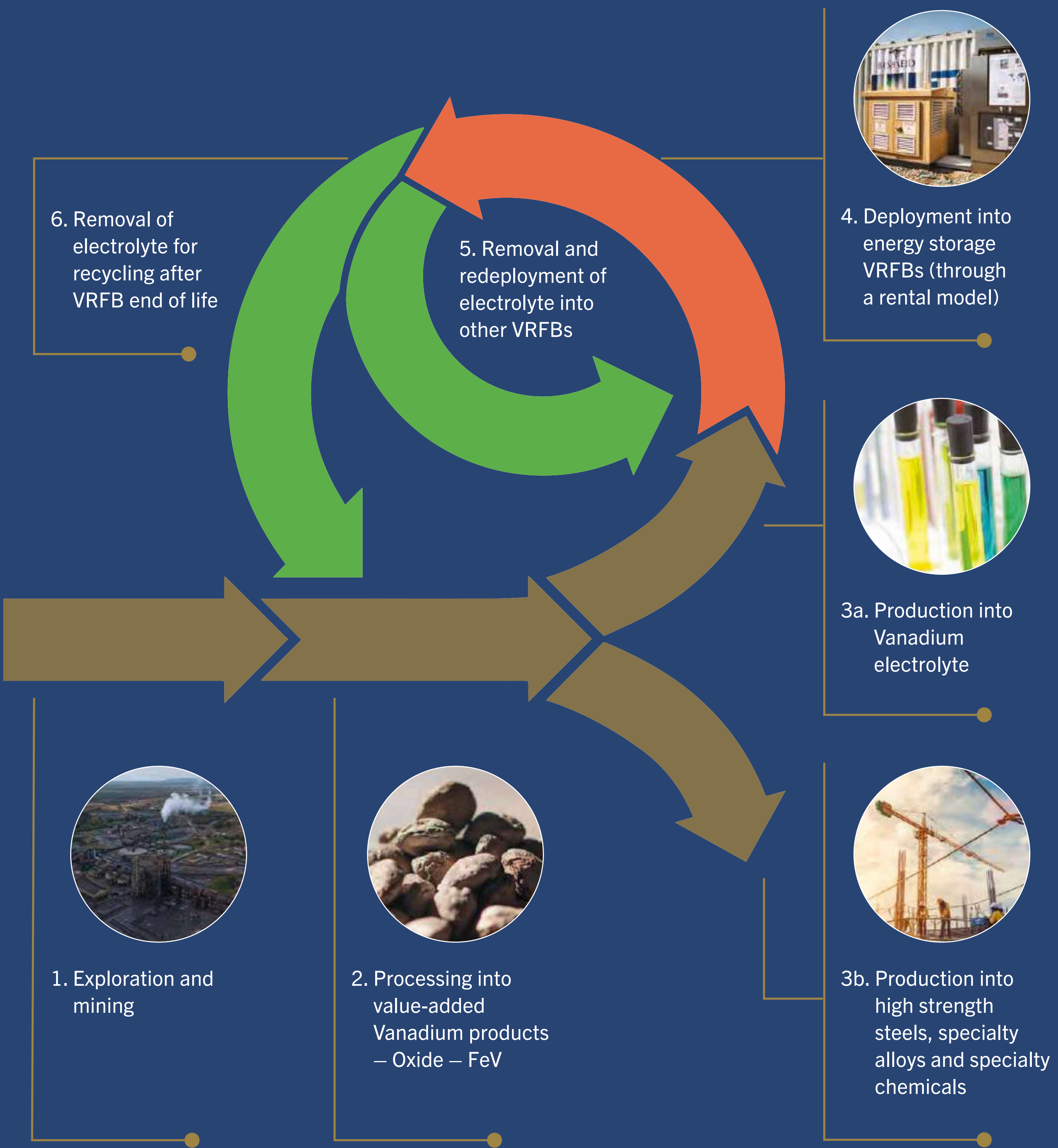


Illustration: Bushveld Energy

The VRFB technology is well-suited for a vanadium-based circular economy



Cost containment sets base for growth

1. OVERVIEW

The 2021 underlying result shows improvement from 2020, despite the continuation of the pandemic as we delivered an underlying EBITDA loss of US$7.5 million, up US$7.4 million from the 2020 underlying EBITDA loss of US$14.9 million (underlying EBITDA is adjusted EBITDA excluding impairment charges. Adjusted EBITDA is EBITDA, excluding the group's share of losses from joint ventures and the remeasurement of financial liabilities). Foreign exchange had a material impact on costs during the year, with the Rand strengthening from ZAR16.46/US$ to ZAR14.79/US$ in that period. This gave rise to a net adverse exchange impact of US$11.6 million on underlying EBITDA. Excluding the adverse exchange rate impact then we would have achieved a positive underlying EBITDA profit of US$4.1 million for the year on a like for like exchange rate with 2020.

Our operational and financial performance in 2021 is however a story of two halves. In the H1, underlying EBITDA amounted to a loss of US$10.8 million, primarily due to a stronger ZAR: US$ exchange rate on costs and exacerbated by weak production performance at Vametco in the first four months. In the second half of the year, the Group achieved an underlying EBITDA profit of US$3.3 million on the back of a strong production performance at both Vametco and Vanchem and a higher realised price. This positive profitability has been maintained into the 2022 financial year to date.

Recognising the potential significant impact of the movement of the ZAR: US$ exchange rate on our results, we are constantly reviewing our hedging policy, and we will be better placed to implement this once we attain steady state production in 2023.

The Group reported revenue of US$106.9 million (2020: US$90.0 million), driven by a higher average realised price of US$32.2/kgV (2020: US$23.4/kgV) and offset by lower sales.

We made the decision to rebase our plans by reducing our production guidance for the year, implementing the changes that were required to stabilize production and provide the platform for growth. This entailed increasing investment in maintenance and sustaining capital, to help our operations to achieve stability and support the anticipated volume increase in the 2022 financial year.

Overall, we recorded a Group production for the year of 3,592 mtV, just shy of the upper end of the 2021 guidance of between 3,400 mtV and 3,600 mtV.

Whilst continuing with the various cash conserving measures put inplace to protect the balance sheet during 2020, we remained firmly focused on our strategy to sustainably increase production. As part of our capital allocation process, we prioritised the refurbishment of Vanchem's Kiln 3 as it provided the Group with the most rapid route to near term production growth. We successfully negotiated with Orion Mine Finance (Orion) to lift the Production Finance Arrangement (PFA) capital ringfence, allowing us to reallocate US$17.8 million of the PFA funding from Vametco to finance the refurbishment and expansion of Vanchem. Further details of the growth path are set out in the section on Operating Assets and Operational Review.

The commissioning of Kiln 3 was completed within budget post year-end in June 2022, with focus now on plant stabilisation and optimization. The Group's ability to achieve its future production profile is predicated on the Kiln 3's successful increase in production during the first three to four months following commissioning, as it ramps up. This will enable the Group to reach its targeted steady state production run rate of 5,000 – 5,400 Mtvp.a. in the last quarter of the 2022 financial year. This is a significant increase from our production of 3,592 mtVp.a. in 2021 and supports our guidance of between 4,200 – 4,400 mtVp.a. for the 2022 financial year.

During the year, the Duferco loan of US$11.5 million was settled by way of US$2.5 million in cash and US$9.0 million by the issue of shares.

Approximately US$12.7 million was realized in the H1 of 2021 from the sale of the investment in Invinity Energy Systems Plc (Invinity), earning an overall profit of approximately US$7.7 million on the original investment of US$5.0 million. We invested US$10 million of the proceeds to increase our investment in VRFB manufacturer CellCube (previously referred to as Enerox GmbH), which resulted in an indirect interest of 25.25 per cent in CellCube.

The Company sold its 4.76 per cent shareholding in AIM-listed Afritin Mining Limited and realised a total of approximately US$3.5 million. The proceeds of the sale were used for general corporate purposes.

	Unit	H1 2021[1]	H2 2021[1]	FY 2021	FY 2020
Revenue	US$m	47.0	59.9	106.9	90.0
Cost of sales	US$m	(43.3)	(40.1)	(83.4)	(73.4)
Other operating and administration costs	US$m	(14.5)	(18.9)	(33.4)	(31.5)
Adjusted EBITDA	US$m	(10.8)	0.9	(9.9)	(14.9)
Impairment charges	US$m	–	2.4	2.4	–
Underlying EBITDA	US$m	(10.8)	3.3	(7.5)	(14.9)
Average foreign exchange rate	US$m	14.54	15.02	14.79	16.46
Group production	mtV[1]	1,574	2,018	3,592	3,631
Group sales	mtV[1]	1,608	1,706	3,314	3,842
All-In Sustaining Cost (AISC)	US$/kgV[1]	39.7	35.2	37.4	28.8
Average realised price	US$/kgV[1]	29.2	35.1	32.2	23.4

1 Unaudited.

2. INCOME STATEMENT

Analysis of results

Income statement summary as adjusted from "statutory" primary statement presentation

	US$ 2021	US$ 2020
Revenue	106,857,285	89,988,078
Cost of sales	(83,387,087)	(73,394,608)
Other operating and administration costs	(33,357,130)	(31,534,410)
Adjusted EBITDA	**(9,886,932)**	**(14,940,940)**
Depreciation	(19,395,496)	(17,866,153)
Operating loss	(29,282,428)	(32,807,093)
Remeasurement of financial liabilities	(1,902,172)	–
Share of loss in joint venture	(4,351,356)	–
Net financing expense	(11,248,712)	(4,654,258)
Other non-operating costs	–	(206,066)
Loss before tax	(46,784,668)	(37,667,417)
Income tax charge	4,671,255	6,570,026
Loss after tax	(42,113,413)	(31,097,391)

Revenue

Group Sales of 3,314 mtV were 13.7 per cent lower than in 2020 due to challenges in international logistics channels arising from COVID-19, the unrest in South Africa and disruptions at local ports in July and August. Over the course of 2021, we saw a recovery in the Vanadium price to the average London Metal Bulletin of US$34.4/kgV, despite ongoing concerns about COVID-19. This recovery meant that the lower sales were offset by a higher average realised price in 2021 of US$32.2/kgV (2020: US$23.4/kgV) resulting in higher revenue for the group of US$106.9 million (2020:US$90.0 million). The logistical challenges resulted in the Company being unable to ship some of the product produced during 2021, resulting in a build-up of inventory throughout the logistics chain (stock at site, transit to Port, sea-borne and in-country warehouses) of 278 mtV which is included in the cumulative inventory at year end of 832 mtV.

The geographic split of Group sales in 2021 was 47 per cent (2020: 34 percent) to the United States, 29 per cent to Europe, 3 per cent to China and 21 per cent to the rest of the world. We expect the geographic mix to shift as Kiln 3 comes online in 2022 with the resultant wider product mix.

During the year, Bushveld took advantage of the robust vanadium demand and higher prices in the United States by diverting a larger portion of its sales to the Unites States. As a result, sales to the United States increased due to increased vanadium demand from the North American steel and aerospace industries on the easing of the pandemic lock down regulations and opening up of economies. We are pleased to have been able to supply into our framed contracts in the US despite these challenges.

Cost of sales

The cost of sales excluding depreciation for the period was US$83.4 million (2020: US$73.4 million), primarily due to the negative impact amounting to approximately US$8.5 million of the stronger ZAR:US$ exchange rate on costs in 2021. The balance of the increase is largely attributable to an overall increase in costs at both Vametco and Vanchem, as detailed below:

- Increase in maintenance costs to US$16.5 million (2020: US$12.1 million) to sustain the plants, production volumes and improve operational stability.
- Increase in energy and raw material costs to US$40.7 million (2020: US$38.5 million).

- Increase in mining costs due to waste stripping of US$5.4 million (2020: US$3.2 million) associated with bringing the Upper Seam project online in September 2021.
- The Group cost per unit sold (including sustaining capex) of US$37.4/kgV increased by 30 per cent (2020: US$28.8/kgV), mostly due to the cost factors mentioned above and lower sales volumes.

The Group focused on the commissioning of Kiln 3 at Vanchem along with associated downstream refurbishments. As a result, Vanchem production personnel costs increased in line with expectation as we implemented the plan in anticipation of the commissioning scheduled for May 2022. The time lag between the upfront expenditure required ahead of the planned increase in production was a contributing factor to the higher Group cost of US$37.4/kgV (including sustaining capital) relative to 2020 (2020: US$28.8/kgV). We continued with our cost-reduction measures as the Group maintained its focus on embedding the synergies across Vametco and Vanchem to grow production organically.

During the H1 of the year, we carried out a 35-day planned maintenance shutdown at our main operating asset, Vametco, which was followed by a slower than expected ramp up and a 10-day industrial action. The combination of these factors and a step change in our approach to a more sustainable production delivery resulted in a rebasing of our production profile for the year.

The rebasing of production had a negative impact on unit cost of production, with the fixed costs, accounting for approximately 45 per cent of total costs, being absorbed off a lower production volume.

Group production of 2,018 mtV in the second half was an improvement and 28.2 per cent higher than H1 2021 (H1 2021: 1,574 mtV) on the back of the operational improvements implemented after the production target rebasing.

	2021	2020
Total Cost		
Cost of sales (direct) US$	(83,387,087)	(73,394,607)
Operating costs and admin US$	(33,357,130)	(31,534,411)
Other non-operating costs US$	–	(206,066)
Total income statement cost excl. depreciation US$	(116,744,216)	(105,135,084)
Total units sold (mtV)	3,314	3,842
Cost income statement per Unit sold (excl. Depreciation) US$/kgV	35.2	27.4
Sustaining capital US$		
Total cost including US$	(7,192,393)	(5,375,610)
Sustaining capital US$	(123,936,611)	(110,510,694)
Cost per unit sold including		
Sustaining capital US$/kgV	37.4	28.8
Average exchange rate ZAR:US$	14.79	16.46
Total revenue		
Revenue US$	106,857,285	89,988,078
Average price realised US$/kgV	32.2	23.4

Cost-saving programme

We continued with the cost-savings programme (CSP) introduced in 2020. The CSP is aimed at ensuring continued competitiveness throughout the commodity cycle while enhancing our product offering to markets across the geographies and industries in which we compete. The Group performed a diagnostic analysis for an addressable baseline procurement spend of around U$55.0 million. The process was concluded in February 2022. The outcome was targeted annualised cost savings of US$2.5 million-US$4.0 million over a 12 to 24 month period from February 2022. While, going forward, growing production is expected to contribute to further lowering of costs through fixed cost dilution, management will continue to seek broader cost saving opportunities to improve the company's unit cost performance even further.

Other operating and administration costs

Group administrative expenses increased by US$1.1 million at US$20.9 million (2020: US$19.8 million). On a like for like exchange rate basis the costs would have reduced by US$2.0 million, demonstrating the success of the cost containment measures we initiated in 2020.

Administrative expenses included staff salaries of US$10.8 million (2020: US$8.1 million) for both the operations and head office administration and management staff. Since the costs are not directly attributable to the cost of production, they are recorded under administrative expenditure based on industry practice. The operation salaries amounted to US$4.8 million (2020: US$4.7 million), whilst the shared service and change to head office division (including directors 'fees), amounted to US$5.1 million (2020: US$3.5 million). The increase in head office staff costs is as a result of the employment of key employees to manage the operations as part of shared services. Professional fees were maintained at US$5.9 million (2020: US$6.0 million), Included in professional fees are costs incurred of US$1.1 m for legal fees for the litigation surrounding the Enerox Investment. On account of the successful defense against the litigation a portion of the legal costs have been recouped post year end.

Administrative expenses by nature	Dec 2021 US$	Dec 2020 US$
Staff costs	10,746,322	8,146,473
Depreciation of property, plant & equipment	392,669	256,926
Professional fees	5,860,976	6,017,782
Other	3,894,325	5,361,992
Total administrative expenses	20,894,282	19,783,176

Impairment losses of US$2.4 million (2020:US$0) was a result of the impairment of US$0.5 million Intangible asset and US$1.9 million plant and equipment.

Other mine operating costs include social commitments and obligations at both Vametco and Vanchem costs decreased by US$1.5 million to US$3.2 million (2020: US$ 4.7 million). The idle plant costs of US$3.4 million (2020:US$4.2 million) mainly reflects the 35-day maintenance shut down during the Q1 of 2021. Selling and distribution costs increased by US$1.6 million to US$6.4 million (2020: US$4.8 million) as a result of increased commission paid which is a consequence of increased revenue in 2021 compared to 2020. The distribution costs also increased due to longer holding times as a result of logistical issues experienced in 2021.

Adjusted and Underlying EBITDA

The Adjusted EBITDA reconciliation shown below illustrates the impact of the increase in vanadium prices from prior year, offset by the costs analysed above.

	US$
2020 Adjusted EBITDA	(14,940,940)
Revenue changes	16,869,207
Operating cost changes	(22,013,462)
Inventory movement	10,198,263
2021 Adjusted EBITDA	(9,886,932)

Adjusted EBITDA is a factor of volumes, prices and cost of production. This is a measure of the underlying profitability of the Group, widely used in the mining sector. Underlying EBITDA removes the effect of impairment charges.

	Dec 2021 US$	Dec 2020 US$
Revenue	106,857,285	89,988,078
Cost of Sales	(102,782,583)	(91,260,760)
Other operating and administration costs	(33,357,130)	(31,534,411)
Add Depreciation and Amortisation	19,395,496	17,866,153
Adjusted EBITDA	(9,886,932)	(14,940,940)
Add: Impairment losses	2,438,889	–
Underlying EBITDA	(7,448,045)	(14,940,940)

Other non cash costs

IFRS 9 – Remeasurement of financial liabilities

The PFA was subject to remeasurement under IFRS 9. This resulted in a non-cash impact to the income statement of US$1.9 million (2020: £nil) remeasurement adjustment and US$2.8 million (2020: £nil) notional interest and a resultant increase in the loan of US$4.7 million.

Share of loss of VRFB JV

Our underlying investment in Celllcube, through VRFB holdings Limited (VRFB) is accounted for as an investment in Joint Venture. As such we recognise our portion of the loss recognised in Cellcube for 2021 which amounted to US$4.4 million.

Deferred Tax

Charges for deferred tax in 2021 amounted to a net deferred tax benefit of US$5 million, compared to a net deferred tax benefit of US$6.6 million in 2020 (restated). The deferred tax benefit arises from the unwinding of the liability over the life of the assets.

Deferred Tax on Vanchem acquisition

In 2019, the Group acquired assets in Vanchem which resulted in a recognition of a gain on bargain purchase of some US$60,6 million in the Group accounts and around US$85 million in the subsidiary accounts under IFRS 3 (Business combination). Based on IAS 12-Income taxes, a deferred tax liability of R333 million (c.US$23.7 million) should have been raised with a corresponding charge to tax on the income statement.

The liability which has no cash impact will unwind over the life of assets with a credit to 2020 income statement on the tax line of R89 million (c.US$6.1 million) and a credit in the 2021 income statement on the tax line of R76 million (c.US$4.8 included in the US$5 million mentioned above). The overall impact of the adjustment in the 2021 accounts is a deferred tax liability of R167 million (c.US$10.5 million), a debit of retained earnings brought forward of R243m (c.US$16.6 million) and a current year credit to the P&L of R76m (c.US$5.2 m). The prior years in the balance sheet have been restated to reflect these changes and more details can be found in notes 15 and 35 of the financial statements.

3. BALANCE SHEET ASSETS

Assets

Non-current assets related to intangibles and property, plant and equipment remained broadly flat relative to 2020 and changes were mainly due to depreciation in the year. Our investment in VRFB transferred from Current assets (Refer to note 16 of the financial statements for further detail). A deferred tax asset was raised for the assessed loss incurred during the year, (refer to note 15 for further details).

The decrease in Group cash and cash equivalents was as a result of US$15.4 million (2020: US$50.5 million) was primarily due to the capital spend on growth projects at Vanchem, VRFB investment and the construction of our plant in East London.

The movement in fair value is as a result of the Group realising its investments in AfriTin and Invinity. AfriTin realised approximately US$3.5 million and Invinity US$3.5 million in 2021.

Equity and liabilities

Total current and non-current liabilities of US$149.9 million (2020 US$153.5 million) reduced by US$4.2 million from the prior year. The positive impact of the settlement of the Duferco loan of US$11.5 million of which US$2.5 million was cash and US$9 million settled through the issue of 66,892,037 shares, partial repayment of Nedbank of US$2.2 million as well as Orion US$1.1 million, were offset by the US$4.76 million IFRS9 impact on the Orion financing loan, US$3.5 million Orion convertible interest, and interest accrual on the PFA for the Q4 2021 which was only due and payable in Q1 2022.

Net debt

The net debt reconciliation below outlines the Group's total debt and cash position.

	2021 US$	2020 US$	Difference US$
Gross Cash and Cash Equivalent	15,432,852	50,540,672	-35,107,806
Nedbank Revolving Credit Facility	(5 821,082)	(8,636,535)	2,815,453
Convertible Loan Notes – Duferco	–	11,585,068)	11,585,068
Production Financing Agreement – Orion Mine Finance	(33,511,742)	(30,105,886)	-3,405,856
Convertible Loan Notes Instrument – Orion Mine Finance	(37,313,976)	(33,073,699)	-4,204,277
Other	(999,950)	(845,588)	-154,362
Leases	(4,485,312)	(5,002,144)	516,832
Net Debt	(66,699,209)	(38,708,248)	-27,990,961

* Production financials agreement of US$33.5 million includes US$4.76 million fair value adjustment and notional interest.
* Convertible loan note of US$37 million comprises of US$35 million Capital and amortised interest.

4. CASH FLOW STATEMENT

The table below summarises the main components of cash flow during the year.

	Year ended 31-Dec-21 (audited) US$	Year ended 31-Dec-20 (audited) US$
Operating loss	(29,282,428)	(32,807,093)
Impairments	2,438,890	–
Depreciation and amortisation	19,395,496	17,866,153
Changes in working capital and provisions	(5,022,120)	1,253,029
Taxes paid	394,069	(3,452,492)
Cash (outflow) from operations	(12,076,093)	(17,140,404)
Sustaining capital	(7,192,393)	(5,375,610)
Free cash flow	(19,268,491)	(22,516,014)
Cash from other investing activities	(9,965,907)	(7,943,222)
Financing activities	(7,049,147)	47,433,269
Cash (outflow)/inflow	(36,283,545)	16,974,034
Opening net cash flow	50,540,672	34,011,557
Foreign exchange movement	1,175,725	(444,919)
Closing net cash	**15,432,852**	**50,540,672**

Net cash from operating activities was an outflow of US$12.1 million (2020: US$17.1 million), an improvement from the previous year driven by Adjusted EBITDA. Capital expenditure and investing activities for the year were US$17.2 million (2020: US$13.3 million), an increase of US$3.9 million from 2020 mainly due to investing activities as explained below. The Group ended the year with a cash balance of US$15.4 million, (2020: US$50.5 million), the net outflow arising from, inter alia, higher capital expenditure and repayment of loans.

Investing activities

Investing activities were driven by capital expenditure growth with property plant and equipment expenditure of US$19.5 million, up US$9.3 million from 2020. This was mainly as a result of Kiln 3 capital expenditure of US$4.2 million and construction of the bushveld electrolyte plant of US$4.9 million. In addition to above, payments were made for the deferred consideration owed to Evraz of US$1.7 million, Duferco deferred consideration of US$2.2 million, Investment in CellCube of US$10 million. The costs were offset by finance income to the value of US$1.0 million for the year as well as the disposal of the US$12.7 million investment in Invinity and US$3.5 million investment in Afritin.

Capital expenditure to sustain and grow our production

In line with our rebasing, we substantially increased sustaining capital at Vametco, in order for our operations to achieve stability and support the volume increase in the 2022 financial year as outlined below.

Capital Expenditure

	2021 US$(million)	2020 US$(million)	Outlook 2022 US$(million)
Vametco	**4.5**	**4.4**	**5.5**
Growth	0.6	2.6	–
Environmental/ Legal Compliance	0.2	–	0.6
Sustaining	3.7	1.8	4.9
Vanchem	**7.7**	**3.6**	**8.5**
Growth	4.4	–	4.5
Environmental/ Legal Compliance	2.6	3.4	2.4
Sustaining	0.7	0.2	1.6
Bushveld Energy	**4.9**	–	**8.1**
Growth	4.9		8.1
Total Capex	**17.1**	**8.0**	**22.1**

- The Group remained firmly focused on our strategy to sustainably increase production, prioritising the refurbishment of Vanchem's Kiln 3. During 2021 the Group spent US$17.1 million 2020:US$8.0 million on sustaining and growth capital. The total spend was comprised of the following:
- US$3.9 million sustaining capital at Vametco, mainly comprised of medium- and long-term maintenance capex.
- US$4.2 million growth capital for the refurbishment of Kiln 3 at Vanchem. Vanchem's production scale up to a run rate of 2,600 Mtvp.a. by the end of the 2022 financial year. The balance to be incurred during 2022.
- US$4.9 million growth capital for BELCO electrolyte plant.

Financing activities

Financing activities of US$7.0 million comprise of the loan repayments of US$2.2 million on the Nedbank RCF and US$2.5 million Capital repayment of the US$11.5 million unsecured convertible loan note held by Duferco as well as US$1.7 million interest on the Orion PFA. As explained above the balance of US$9.0 million which was due for

repayment was settled by the issue of 66,892,037 new Bushveld shares. This was offset by the receipt of US$1.3 million from the Industrial Development Corporation (refer to note 25) for BELCO.

5. FINANCIAL RISK

The main financial risks faced by the Group relate to the availability of funds to meet business needs (liquidity risk), the risk of default by counterparties to financial transactions (credit risk), fluctuations in interest and foreign exchange rates and commodity prices (market risk). These factors are more fully outlined in the notes to the accounts. They are important aspects to consider when addressing the Group's going concern status. We proactively manage the risks within our control. There are, however, factors which are outside the control of management, specifically volatility in the ZAR: US$ exchange rate as well as the vanadium price, which we do not currently hedge, and which can have a significant impact on the cash flows of the business. As mentioned earlier, implementation of a hedging policy will be considered when we attain steady state production and have a wider range of products for sale in 2023.

6. GOING CONCERN AND OUTLOOK

We manage liquidity risk by ensuring that the Group has sufficient funds for all ongoing operations. Our philosophy is to maintain a low level of financial gearing, given exposure to the vanadium price and exchange rate fluctuations.

As part of the annual budgeting and long-term planning process, the Board reviewed and approved the Group's budget and cash flow forecasting through to 2023. The forecast is amended in line with any material changes identified during the year. Equally, where funding requirements are identified from the cash flow forecast, appropriate measures are taken to ensure these requirements can be satisfied. In particular, a capital allocation framework is applied which prioritises maintenance and regulatory capital funding requirements.

We also closely monitor our working capital and regularly produce cash forecasts and analyse sensitivities to different scenarios, including, but not limited to, changes in commodity prices and different production profiles from the Group's producing assets. We have a pricing committee which considers commodity pricing outlook, taking into account industry analysts forecasts as well as inhouse intelligence.

Our future production profile in our forecasts is predicated on Vanchem Kiln 3 being commissioned during the H1 of 2022. Kiln 3 has been commissioned and is undergoing stabilisation and optimization, with ramping up expected to commence thereafter. The annual production run rate is forecast to ramp up to 5,000-5,400 Mtvp.a. in the last quarter of the 2022 financial year and we remain comfortable that Kiln 3 will be at the forecast run rate by the end of year.

The Nedbank Revolving Credit Facility (RCF) of ZAR125 million available to Vametco is subject to financial covenants which are EBITDA-driven. The application of IFRS 9 on the Orion PFA resulted in an increase in accounting interest, over and above the actual interest paid which comprised the calculation of the net interest to debt covenant. Nedbank has approved the waiver of the covenants for the December 31, 2021, and we are confident of passing the 30 June 2022 reporting period. The term of the RCF ends in November 2022 and since August 2021, we have been paying approximately US$0.44 million (ZAR7.0 million) per month towards the RCF. of which approximately US$2.65 million (R42.0 million) has been paid post the year end

Although the start of the 2022 financial year has been challenging for Vanchem, as Kiln 1 battled with repairs and maintenance, we are encouraged by the positive production run rate at Vametco and the profitability that is coming through from that operation. The plant at Vametco is currently down for its annual planned shutdown during June 2022 and has generally performed well and is benefitting from the operational stability initiatives we embarked on during 2021. Whilst we have experienced logistical challenges with our sales, we have retained our customer relationships as the Group sells and distributes around 85 per cent of its product as frame contracts.

We continue to prioritise financial stability through cost containment, conserving cash and adhering to a clear capital allocation framework, to ensure the Group's resilience through the operating cycle. Accordingly, the Directors continue to adopt the going concern basis in preparing the consolidated financial information. Further information on the Directors going concern assessment is contained in the accounting policies.

Tanya Chikanza
Finance Director
30 June 2022

Operating Assets and Operational Review

Bushveld Minerals owns one of the largest, high-grade primary vanadium resource bases in the world, with all of its mining and processing assets situated in South Africa. The Company's vanadium resource comprises three mineral assets: the Vametco Mine, Brits resource and the Mokopane project. The Group's principal vanadium processing facilities are the Vametco processing plant (Vametco), in which the Company first acquired an interest in April 2017, and the Vanchem plant (Vanchem), a primary vanadium-producing facility acquired in November 2019.

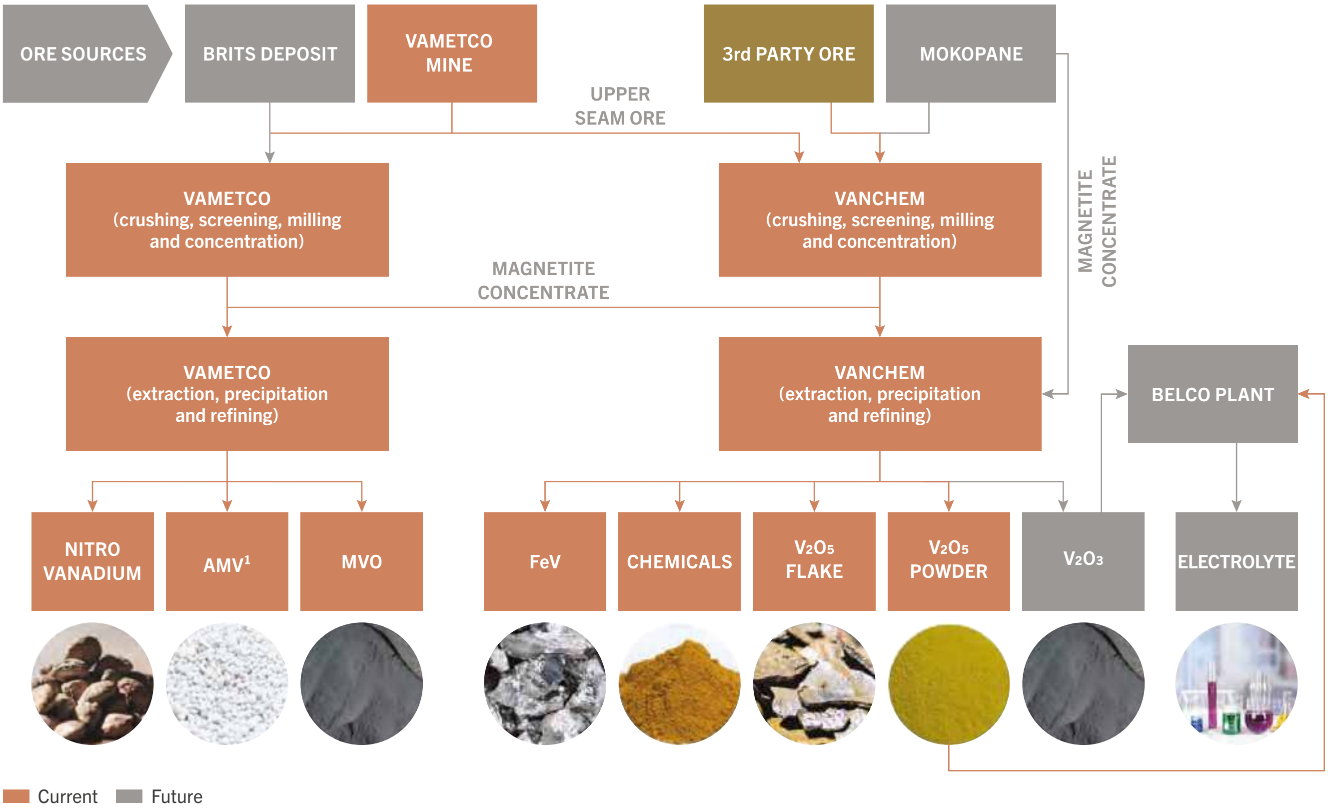
The two processing plants provide a flexible, scalable production base, with synergies and product diversification between both the plants that provide for maximum market penetration, a significant competitive edge. From an operational perspective, these plants are classified as "one flowsheet", with the ability of Vametco to produce concentrate as feedstock to Vanchem. Intermediate products (Ammonium Metavanadate (AMV), Modified Vanadium Oxide (MVO) can be introduced into each respective plant's flow sheet.

Vametco is an integrated mining and processing plant located eight kilometres north-east of Brits in the North West Province of South Africa. The mine has a new order mining right for vanadium and other associated minerals over a portion of the remaining extent of Portion 1 of the farm Uitvalgrond 431 JQ and Portion 1 of the farm Krokodilkraal 426 JQ in Brits. Vametco operates an open-pit mine which supplies ore to a vanadium processing plant located on the same property.

Vanchem is a primary vanadium-processing facility with a beneficiation plant located at the Ferrobank Industrial Park in Emalahleni Local Municipality at Mpumalanga Province, in South Africa. It produces vanadium pentoxide, ferrovanadium and vanadium chemicals and is capable of producing vanadium trioxide. Vanchem has been using ore acquired with the operation in 2019, supplemented with limited concentrate from Vametco. The Upper Seam Project, commissioned in Q4 2021, together with selective third party sources of ore will now be supplying Vanchem with a significant proportion of ore requirement for the foreseeable future.

PROCESSING

Vametco's processing plant receives ore from the co-located Vametco Mine. Vametco utilises the standard salt-roast and leach process to produce a steel-alloying vanadium carbon nitride product called Nitro Vanadium. Vanchem also uses the salt-roast beneficiation process. The process involves the following stages:



1. Vametco's AMV can be sent to Vanchem to produce FeV and V_2O_5, and Vanchem's AMV can sent to Vametco to produce Nitro Vanadium.

Vametco
Processing
(step 1-3 similar to Vanchem)

- **Step 1:** Crushing, milling and magnetic separation to produce a magnetite concentrate with average grades of approximately 2.0 per cent V_2O_5;
- **Step 2:** Salt-roasting of the concentrate. The concentrate is roasted with sodium salts in a kiln at approximately 1,150°C to form a water-soluble sodium vanadate material;
- **Step 3:** Leaching and purification, with dissolution of roasted vanadium concentrate in water, purification, and precipitation of vanadium through the addition of ammonium sulphate followed by drying and then processing in a reducing environment to produce a MVO product; and
- **Step 4:** Nitro Vanadium production: the MVO is briquetted and fed into a shaft induction furnace in a nitrogen atmosphere to produce Nitrovan, which is used as a micro-alloy in steel production.

Vanchem
Processing
(step 1-3 similar to Vametco, except Vanchem does not do crushing)

- **Step 1:** Milling and magnetic separation to produce a magnetite concentrate with average grades of approximately 1.65 per cent V_2O_5 in-magnetite;
- **Step 2:** Salt-roasting of concentrate. The concentrate is roasted with sodium salts in a kiln at approximately 1,150°C to form a water-soluble sodium vanadate material;
- **Step 3:** Leaching and purification, involving dissolution of roasted vanadium concentrate in water, purification and precipitation of vanadium through the addition of ammonium sulphate, followed by drying and then processing in a reducing environment to produce an AMV product;
- **Step 4:** The AMV is de-ammoniated and melted to produce vanadium pentoxide flakes – a primary product. The AMV is also used in other processes to produce a spectrum of vanadium chemicals; and
- **Step 5**: Vanadium pentoxide is reduced by aluminium in the aluminothermic process in the presence of iron to produce ferrovanadium – a primary product.

VAMETCO

2021 operational performance

Vametco achieved an annual production of 2,453 mtV, which was eight per cent lower than in 2020, due to lower production in the H1 of the year. The weaker performance in the H1 of the year was due to a slower than expected ramp up post the completion of a planned 35 day maintenance shutdown along with an unprotected industrial action in April 2021.

Thus, from April 2021, our primary focus shifted to increasing maintenance investment and sustaining capital to ensure the reliability of mining and plant equipment. Moreover, we implemented greater discipline in our proactive maintenance practices, instilled an organised and sequential maintenance methodology, introduced process controls for the technical team, and invested substantially in our people development strategy. Since the implementation of these measures we have seen stable and consistent production at Vametco which has carried on into the H1 of 2022.

Vametco achieved a production cash cost of US$24.0/kgV and a total cash cost of US$32.2/kgV, which was impacted by the stronger ZAR:US$ exchange rate, lower production, and increased expenditure on costs such as planned maintenance.

Table 1: Operational highlights for Vametco (on a 100 per cent basis)

Description	Unit	2021	2020	2021 vs 2020
Vanadium (Nitro Vanadium plus FeV) produced	mtV	2,453	2,654	-7.5%
Weighted average production cash cost[1] (C1)	US$/kgV	24.0	18.3	31.1%
Weighted average total cash cost[2]	US$/kgV	32.2	23.3	38.2%

1. Includes direct costs of production. Excludes depreciation, royalties, movements in finished goods inventories and selling, general and administrative expenses.
2. Includes direct costs of production, selling, general & administrative expenses and cash outflows on sustaining capital and growth capital. Excludes depreciation, royalties, movements in finished goods inventories and sales commissions.

2021 CAPITAL EXPENDITURE

Sustaining capital expenditure required for maintaining and sustaining Vametco was US$3.9 million mainly reflecting the 35-day maintenance shut down during the Q1 of 2021. Growth capital expenditure for the year was US$0.6 million.

2022 OUTLOOK AND CAPITAL EXPENDITURE

The continued operational stability experienced since Q1 2022 and the renewed focus on safety resulted in a solid production, as reported in the Q1 2022 operational update and bodes well for the 2022 Vametco production guidance of between 2,450 mtV and 2,550 mtV and cash cost (C1) guidance of between US$22.7/kgV and US$23.5/kgV (ZAR346.9/kgV and ZAR358.7/kgV). Vametco will operate at a steady state production run rate of 2,800 mtVp.a. by the end of the year.

Total capital expenditure for 2022 is estimated at circa US$5.5 million, with most of the cost being Rand-denominated, and includes:

- circa US$4.9 million of sustaining capital;
- circa US$0.6 million of environmental capital.

VANCHEM

2021 operational performance

Vanchem achieved an annual production of 1,138 mtV, which was 15 per cent higher than in 2020, as a result of Vanchem ramping up production in 2020 and running at capacity in 2021.

Vanchem achieved a C1 production cash cost of US$30.6/kgV and a total cash cost of US$42.2/kgV, impacted by the stronger ZAR:US$ exchange rate and growth capital on refurbishment of Kiln 3.

- The unit cost of production reflects the weighted average cost across all various product categories. Unit costs vary across these product categories. Nitro Vanadium is produced at Vametco converting Vanchem ammonium metavanadate on a toll treatment basis. Chemical products, including specialist V_2O_5 powder are produced at higher unit cost than that of V_2O_5 flake and FeV.

Table 2: Operational highlights for Vanchem (on a 100 per cent basis)

Description	Unit	2021	2020	2021 vs 2020
Chemicals	mtV	187	137	36.5%
Flake	mtV	284	418	-32.1%
FeV	mtV	509	434	17.3%
Nitro Vanadium	mtV	158	–	100.0%
Total production	mtV	1,138	990	15.0%
Weighted average production cash cost[1] (C1)	US$/kgV	30.6	22.4	36.7%
Weighted average total cash cost[2]	US$/kgV	42.2	29.9	41.1%

1. Includes direct costs of production. Excludes depreciation, royalties, movements in finished goods inventories and selling, general and administrative expenses.
2. Includes direct costs of production, selling, general & administrative expenses and cash outflows on sustaining capital and growth capital. Excludes depreciation, royalties, movements in finished goods inventories and sales commissions.

THE UPPER SEAM PROJECT

The Upper Seam project was developed to supply ore to Vanchem (magnetite in ore > 70 per cent, V_2O_5 grade in magnetite > 1.65 per cent). The project consists of crushing, screening and dry magnetic separation. The plant was commissioned in the last quarter of 2021 with the final installation of the dry magnetic separator completed in December 2021. During commissioning and ramp-up, ore quality was at times below requirements due to heavy rain and mining constraints, which resulted in operational challenges post milling and concentrating, in the Vanchem kiln, affecting recoveries. The project team optimised the plant performance during February 2022 to meet Vanchem ore specification requirements and the Vanchem milling plant has been reconfigured to treat Upper Seam ore more efficiently.

2021 CAPITAL EXPENDITURE AND REFURBISHMENT OF KILN 3

Sustaining capital expenditure required for maintaining and sustaining Vanchem was US$0.7 million and US$2.6 million environmental and legal compliance capital.

In 2021, Bushveld renegotiated the terms of its Production Finance Agreement (PFA), which enabled the reallocation of funding, to the value of US$17.8 million, to the refurbishment and expansion of Vanchem from Vametco. This project included the refurbishment of Kiln 3 for US$4.2 million and US$0.2 million for growth studies.

Kiln 3 will enable Vanchem to produce at a steady state production run rate of up to 2,600 mtVp.a. by the end of 2022.

2022 OUTLOOK AND CAPITAL EXPENDITURE

The refurbishment and commissioning of Kiln 3 was completed in Q2 2022. Stabilisation and optimisation of Kiln 3 is currently underway and it is expected to achieve a production run rate of 2,600 mtVp.a. by end of 2022.

Kiln 3 will more than double Vanchem's production run rate once fully ramped up. Accordingly, Vanchem's production guidance of between 1,750 mtV and 1,850 mtV is weighted towards the second half of the year, and production cash cost (C1) guidance is between US$27.7/kgV and US$28.4/kgV (ZAR422.8/kgV and ZAR433.5/kgV.

Total capital expenditure for 2022 is estimated at circa US$8.3 million, with most of the cost being Rand-denominated and includes:
- circa US$1.6 million of sustaining capital;
- circa US$2.4 million of sustaining environmental capital and;
- circa US$4.5 million of growth capital of which US$3.7 million will go towards Kiln 3.

GROWTH PROJECTS

Feasibility and pre-feasibility studies at Vametco and Vanchem were completed to determine the nature and scope of growth beyond the current production run rate of 5,000-5,400 mtVp.a. They provide a well-structured long term growth path to 8,000 mtVp.a., ensuring a permanent and reliable feedstock to both Vametco and Vanchem. The growth plans will only be pursued subject to:
- The meeting of short-term performance targets to deliver sustainable cash generating production at the production rate of 5,000-5,400 mtVp.a.; and
- In a phased manner, with sufficient funding secured, accompanied by any necessary third-party validation of associated project economics.

HIGHLIGHTS

The Group has the significant opportunity to increase production by approximately 50 per cent to 8,000 mtVp.a. is achievable at the Company's existing operations. The production increase requires growth capital expenditure of approximately US$151 million (ZAR2.3 billion based on a R15.29 US$:ZAR exchange rate). The optimal expansion plan was determined by prioritising from the highest to lowest IRR and NPV, resulting in staged expansion plan namely:
- **Stage 1** – Vametco – Installation of a Semi-autogenous (SAG) Mill to establish a permanent and reliable supply of feedstock for both plants in advance of further capacity expansion.
- **Stage 2** – Vanchem – Refurbishment of Kiln 2 to increase production at Vanchem to between 3,600-3,700 mtVp.a. (and Group production to between 6,000-6,500 mtVp.a.).
- **Stage 3** – Vanchem – Refurbishment of Kiln 1 to increase production to between 4,600-4,700 mtVp.a. (and Group production to between 7,000-7,500 mtVp.a.).
- **Stage 4** – Vametco – Increase single kiln capacity to 3,400 mtVp.a. (and Group production to between 7,600-8,000 mtVp.a.).

Stage 1 establishes a sustainable and reliable supply of concentrate feedstock (up to 6,800 mtV) for both plants in advance of further capacity expansion with the balance of ore, when required, being supplied through development of Mokopane, Brits or third party ore. The SAG Mill investment at Vametco will provide concentrate to enable Vanchem growth, whilst intermediate products (AMV, MVO) can also be shared between the plants.

The option to implement the growth path in stages substantially reduces the upfront capital requirements, and results in incremental production being quicker to generate additional cash flows after each stage, which can be leveraged for the next phase. The product diversification and the flexibility arising from the expansion allows for maximum market penetration.

The growth plans to expand beyond 5,000-5,400 mtVp.a. will be pursued:
- Once the short-term performance targets on delivering a sustainable cash generating production at the production rate of 5,000 – 5,400 mtVp.a. have been achieved; and
- In a phased manner, once funding has been secured, accompanied by any necessary third-party validation of associated project economics.

As a result of higher volumes and operational efficiencies, the Company has estimated that at full operational production of 8,000 mtVp.a., C1 costs per Kg/V produced at Vametco and Vanchem would fall by approximately 20 per cent respectively, compared to 2021.

The expansion considers the synergies between Vametco and Vanchem and treats them almost as an operational entity with one flowsheet. The expansion of Vametco provides concentrate to enable Vanchem growth, whilst intermediate products (AMV, MVO) can also be shared between the plants.

The expansion provides superior operational flexibility at Vanchem due to availability of multiple Kilns.

BRITS

The Brits Project hosts high-grade vanadium mineralisation in several magnetite layers. The mineralisation, which is outcropping, is a continuation of the Vametco strike. The project offers a potential extension of Vametco's Life-of-Mine and a cost-effective source of near-surface ore for the Vametco plant. Drilling has shown lower seam weighted average grades of 0.6 per cent V_2O_5 in-whole rock and 1.6 per cent V_2O_5 in-magnetite, which are among the highest grades in the world. A Competent Person's Report (CPR) was published in January 2020. Brits has the potential to provide additional feed tonnage for Vametco and, if required, concentrate feed for the Vanchem plant, based on the installation of the SAG mill, as outlined in the studies.

Brits Project comprises of three different companies in which Bushveld Resources Ltd holds interest in their assets ranging between 51 per cent and 74 per cent, and the three companies are Caber Trade and Invest 1 (Pty) Ltd, Great 1 Line Invest (Pty) Ltd and Gemsbok Platinum (Pty) Ltd.

Caber Trade and Invest 1 (Pty) Ltd (Caber Trade), in which the Company holds an interest of 51 per cent, which, as previously reported, had a mining right application refused by the Department of Mineral Resources and Energy (DMRE) in 2020. Caber Trade lodged an appeal against the decision and has recently been advised that the process has been concluded with the DMRE refusing the appeal. The Company is considering its options. The Caber Trade properties were not included in the CPR, and the refusal of the mining right has no impact on the mineral resource statement.

Great 1 Line Invest (Pty) Ltd (Great 1 Line), is the prospecting right holder of Portion 3 of farm Uitvalgrond 431 JQ, and an interest of 62.5 per cent is held through Bushveld Resources Ltd. This is the property on which the Mineral Resource estimate contained in the 2019 CPR is based on. Bushveld Minerals Limited has been granted Section 11 of the Mineral and Petroleum Resources Development Act (MPRDA) for acquiring control of Sable Platinum Mining Pty Ltd for Prospecting Right Reference Number: NW 30/5/1/1/2/11124 PR, held through Great Line 1 Invest (Pty) Ltd and was executed in May 2021.

The company has also applied for Section 102 of the Mineral and Petroleum Resources Development Act (MPRDA) and waiting for approval to incorporate Prospecting Right Reference Number: NW 30/5/1/1/2/11069 PR into NW 30/5/1/1/2/11124 PR.

A renewal for the Prospecting Right NW 30/5/1/1/2/11124 PR for Portion 3 of the Farm Uitvalgrond 431 JQ has been granted. This prospecting right had expired on the 3rd of November 2019.

Gemsbok Magnetite (Pty) Ltd (Gemsbok), is the prospecting right holder of the remainder of farm Doornpoort 295 JR. Bushveld Resources Ltd holds 74 per cent interest in this company Environmental Authorisation for Gemsbok was granted and currently waiting for the granting of the prospecting right renewal submitted to the DMRE.

MOKOPANE

Mokopane is located on the central portion of the Northern Limb of the Bushveld Complex. The project is in the Mokopane District of Limpopo Province of South Africa, approximately 65 km west of the provincial capital, Polokwane and 45 km northwest of Mokopane town. The project includes one of the world's largest primary vanadium resources, with an average grade of 1.80 per cent V_2O_5 in-magnetite.

Licensing

On 29 January 2020, the DMRE in South Africa executed a 30-year mining right in favour of the Company's subsidiary, Pamish Investments No. 39 (Pty) Ltd (Pamish), over five farms: Vogelstruisfontein 765 LR; Vriesland 781 LR; Vliegekraal 783 LR; Schoonoord 786 LR; and Bellevue 808 LR.

Ownership

While the Mokopane mining right is subject to Mining Charter II regulations, the Company is committed to adhering to Mining Charter III regulations in respect of host community and employee shareholding requirements. In accordance with Mining Charter III, a carried of five per cent of the equity in Pamish, will in due course, be transferred to the Bakenberg community. Bushveld Minerals' interest in the Mokopane Project will accordingly reduce from 64 per cent to 60.8 per cent, while Izingwe's shareholding will reduce from 36.0 per cent to 34.2 per cent. Pamish has further committed to allocate an additional five per cent to an Employee Share Ownership Participation Scheme once the mine is operational, which will result in Bushveld Minerals ultimately holding 57.6 per cent and Izingwe 32.4 per cent.

Geology, Mineral Resources and Reserves

The Mokopane deposit is a layered orebody along a 5.5 km north-south strike, dipping at between 18 and 24 degrees west. The project comprises three adjacent and parallel magnetite layers, namely the Main Magnetite Layer (MML), the Main Magnetite Layer-Hanging Wall (MML-HW) layer and the AB Zone.

The Mokopane Project has a 298 Mt JORC-compliant Resource, including 28.5 Mt Reserves and a weighted average V_2O_5 grade of 1.41 per cent in-whole rock and 1.75 per cent in-magnetite.

A Combined Inferred and Indicated JORC Compliant Mineral Resource of 298 Mt runs across three parallel overlying magnetite layers with grades ranging from 1.6 per cent to over 2.0 per cent V_2O_5 as follows:

- MML: 52 Mt @ 1.48 per cent V_2O_5 (1.6-1.8 per cent V_2O_5 in-magnetite);
- MML-HW & Parting: 233 Mt @ 0.8 per cent V_2O_5 (1.5-1.6 per cent V_2O_5 in-magnetite); and
- AB Zone: 12 Mt @ 0.7 per cent V_2O_5 (greater than 2.0 per cent V_2O_5 in-magnetite.

An Ore Reserve of 28.56 million tonnes (Mt) of MML mineralisation was estimated as mineable supporting a minimum 30-year Life-of-Mine.

The Company's vanadium resource base currently consists of three mineral assets: Vametco, Brits and the Mokopane project. Together, the three deposits constitute a 548 Mt (100 per cent basis) JORC-compliant resource, including 74 Mt (100 per cent basis) of JORC-compliant reserves. The resource vanadium grades are some of the highest primary grades in the world. These high-grade deposits are located on the Bushveld Complex, which hosts the world's largest primary vanadium resources. Bushveld Minerals seeks to establish a portfolio of vanadium resources for future development in potential partnerships as the supply deficit deepens and it becomes clearer that primary production is key to addressing this shortfall.

Currently, the Vametco mine is the sole internal source of feedstock into the two treatment plants at Vametco and Vanchem. The significant Vametco resource ensures that the Vametco plant has a secure feedstock source for a period significantly in excess of 30 years. Vametco's Upper Seam project is currently providing feedstock to Vanchem as an Ore Product after dry magnetic separation. In the medium-term to longer term, Vanchem feedstock will be sourced from combinations of enhancements to the Vametco mining and concentrate facilities to increase concentrate production, the development of the Mokopane Project and third-party sources. Currently, Vanchem is acquiring high quality ore recovered from a significant disused steel plant stockpile situated in close proximity to Vanchem which should provide some 10,000 tpm of ore for up to 5 years. South Africa has significant resources of vanadiferous magnetite ore, with little incentive to export. Therefore, third party sources will continually be considered as feedstock into Vanchem provided the pricing thereof meets or beats the cost of internal sources.

Outlook and capital expenditure activities for 2022 include

Bushveld is reviewing the business case at Mokopane. This review will consider commencing mining operations at a much-reduced level (producing a dry magnetic separation ore product for transport to Vanchem, which has milling and dry magnetic separation production capacity). It would allow for scaling up as necessary, as Vanchem's production capacity grows and third party sources are phased out. This analysis could, of necessity, affect the scope and nature of the DFS which has been planned at Mokopane for the commencement of mining activities.

BUSHVELD ENERGY

In 2016, Bushveld Minerals established Bushveld Energy, an 84 per cent-owned energy subsidiary, Bushveld Energy Limited (Bushveld Energy), with the objective of driving greater adoption of VRFBs in the global energy storage market. This was based on the view that the success of VRFBs in capturing a significant share of the energy storage market rests on solving for two critical factors:

(a) security of supply; and
(b) vanadium price volatility – factors that low- cost primary producers are best placed to address.

With these two factors addressed, the global opportunity for VRFBs is significant. Bushveld Minerals recognised the proposition of VRFBs for Bushveld as two-fold:

– It provides scope for growing and diversifying the demand profile of vanadium; and
– It presents attractive commercial value for Bushveld along the VRFB value chain.

The company's activities along the value chain are described below:

VANADIUM ELECTROLYTE MANUFACTURING AND LEASING

Electrolyte manufacturing

Bushveld Electrolyte Company "BELCO" is located in East London, South Africa, established in 2020, with 55 per cent ownership by Bushveld Energy and 45 per cent by the Industrial Development Corporation (IDC). With a targeted initial capacity of 8 million litres of vanadium electrolyte (using up to 1,100 tons of pentoxide equivalent) and capability to scale up to 32 million litres at the same location, the electrolyte plant is the largest publicly announced plant outside of China.

The plant is designed to take vanadium oxide from Bushveld's Vanchem operation as the preferred feedstock provider. Oxide from Bushveld Vametco or non-Bushveld suppliers can also be used.

Construction is progressing well with production expected to commence in H1 2023 with an eventual ramp-up to 8 million litres per annum. In addition, BELCO is currently undergoing a qualification process for its electrolyte with VRFB companies in preparation for electrolyte sales.

Electrolyte rentals

As previously announced, Bushveld Energy has partnered with various entities in pioneering the structure, design and supply of vanadium electrolyte rental products for the VRFBs. This included the successful deployment of vanadium electrolyte rental product in industrial-scale batteries. As announced on 7 September 2020, Vanadium Electrolyte Rental Limited (VERL), signed a 10-year contract with Pivot Power in the United Kingdom, part of EDF Renewables, for the rental of the electrolyte in Pivot Power's 5 MWh flow battery, supplied by Invinity and delivered to Pivot Power's project at the Energy Superhub Oxford. While the electrolyte was produced at a third-party facility, it used high purity vanadium pentoxide sourced from Bushveld's Vanchem facility. The battery is now operational and Invinity and Pivot Power have announced work to develop a 40 MWh VRFB project.

Furthermore, Bushveld Energy has continually articulated the strategic initiative to scale-up the rental product through an off-balance sheet funding structure to match the global growth in energy storage and VRFBs.

Electrolyte reprocessing

In Q1 2021, Bushveld Energy completed the successful reprocessing of 4,400 litres of unusable electrolyte at Vanchem. The aim of the project was to determine whether the existing facilities at Vanchem can be used to process the spent electrolyte into a saleable final product. Part of this aim was to make sure that the reprocessing of the electrolyte had no physical impact on the current process and that it did not impact the final product (AMV, V_2O_5) quality. The vanadium present in the spent electrolyte received at Vanchem was successfully recovered, with an initial recovery rate of 92 per cent, which was consistent with the overall recovery seen by the Vanchem plant under normal conditions. This is significant, differentiating VRFBs from other battery technologies like lithium-ion that require establishment of separate recycling facilities for batteries at the end of life.

Partnering with VRFB Original Equipment Manufacturers

By partnering with VRFB Original Equipment Manufacturers (OEM) Bushveld Energy intends to play a catalytic role in mobilising third-party capital to assist VRFB manufacturers to scale-up their sales and capacity to meet the fast- growing demand for long-duration energy storage solutions. The catalytic role is tied to the unique position of a low-cost primary producer to address risks associated with security of supply of vanadium and the vanadium price volatility.

In line with this strategy, Bushveld Energy made two significant strategic equity investments in Invinity Energy Systems Plc (Invinity) and CellCube (previously referred to as Enerox GmbH) a grid scale and micro-grid energy storage battery manufacturer, headquartered in Austria. As importantly, Bushveld leveraged its investment to mobilise more third-party capital into these companies.

During the period under review, Bushveld exited its shareholding in Invinity. The successful listing of the company, its growth in sales and delivered projects and the additional capital it was able to raise after Bushveld's initial US$5 million investment, entrenched Invinity as a significant player in stationary energy storage. It also proved the success of Bushveld's strategy by achieving all the objectives of our investment. This included the ability to exit at US$7.7 million profit for our shareholders.

CellCube is a grid scale and micro-grid energy storage battery manufacturer, headquartered in Austria.

Update on the outcome of Court Case

As previously reported on the 14 July 2021, Garnet Commerce Limited (Garnet), a 50 per cent joint venture partner of Bushveld Energy in CellCube, commenced litigation in the English High Court against VRFB Holdings Limited (VRFB-H), a holding company for the investment by Bushveld Energy into CellCube, via the joint venture company Enerox Holdings Limited (EHL).

As advised on 8 March 2022, VRFB-H successfully defended its position. The judgment outcome vindicated the position that the investment by Mustang in VRFB-H was entirely appropriate and that VRFB-H did not violate the any agreements. Accordingly, the investment by Mustang into VRFB-H, and the investment by VRFB-H into EHL, continue to be in place.

As with its investment in Invinity, Bushveld Energy is supporting the growth of CellCube, with most of the capital coming from other investors.

Deployment of VRFBs

The Vametco mini-grid

Bushveld Energy has developed a commercial solar plus storage mini-grid project for Vametco, with 3.5 MW of solar PV and a 1 MW/4 MWh VRFB. The mini-grid will operate as a funded independent power producer (IPP). The project at Vametco is part of Bushveld's strategy to demonstrate the commercial viability of long-duration VRFB systems when paired with renewable energy. It will also use locally-mined and beneficiated vanadium, demonstrating the ability to achieve higher local content in South Africa than any other storage technology. The success of the Vametco mini-grid opens the door for more and larger such projects in a South Africa whose energy policy is supporting self-generation projects for large energy users. According to the South African Photo-voltaic Association, the current pipeline of such projects awaiting registration exceeds 5,000 MW.

Post year end, the company announced that it had secured funding for the engineering, procurement and construction (EPC) of the Vametco hybrid mini-grid.

A shareholders agreement was signed between Bushveld Energy and NESA Capital as strategic equity partners in the development and funding of the project. NESA is expected to take the majority of the project and provide 60 per cent of the equity. Bushveld Energy will hold 40 per cent of the equity and recognise a development fee as revenue from the project upon financial close. Furthermore, ABSA Relationship Banking approved a ZAR64 million (approximately US$4.1 million) loan to part fund the construction of the mini-grid project.

Site clearing for construction commenced in Q1 2022 and the project is expected to be completed during the H1 of 2023.

The overall cost of the project is expected to be R113m (US$7.25 million) and the EPC is provided on a turnkey basis. The project is expected to be completed during the H1 of 2023, when it will be one of the first solar mini-grid projects in Africa with long-duration storage financed off of the customer's balance sheet as a standalone Independent Power Producer.

The hybrid mini-grid project will supply over 10 per cent of Vametco's electrical energy and will demonstrate the technical and commercial capability of hybrid mini-grids using solar PV and VRFB technology at grid parity. While Vametco sold 26 mtV for the production of electrolyte for the VRFB, it has not used any of its own capital for the project.

In addition, the hybrid mini-grid project will contribute towards reducing the carbon footprint of Bushveld's mining and processing operations. It will cut CO_2 emissions by more than 8,000 metric tonnes per year (and nearly 200,000 tonnes over the 25-year life of the project). This will be a positive contribution towards South Africa's low-emission strategy and Bushveld Minerals' environmental, social and governance (ESG) objectives.

Captive opportunities

Bushveld Energy is targeting captive opportunities within Group of up to 120 MW of PV and 180 MWh of storage. These projects will also reduce the Group's reliance on Eskom, help control cost increases of energy costs and reduce the carbon footprint of its vanadium production, as part of a broader, long-term ESG strategy.

2022 outlook and capital expenditure

At the time of writing, Bushveld Energy is focused to:

- Progress construction of the BELCO electrolyte plant and qualification of electrolyte, with completion targeted for H1 2023;
- Commence construction of the Vametco mini-grid, with completion of construction targeted in H1 2023;
- Initiate feasibility studies for the captive opportunities within the Group of up to 120 MW of PV and 180 MWh of storage and continue developing a pipeline of external projects in southern Africa;
- Continue scaling up our electrolyte rental product, both with new

contracts and off-balance sheet financing to support the contracts; and
– Support CellCube, together with the other shareholders of EHL, to enable it to capitalise on the rapidly-growing global energy storage market.

Total capital expenditure for 2022 is estimated at circa US$8.1 million, with most of the cost associated with growth initiatives.

NON-CORE INTERESTS

Additional investments in coal, coal-to-power and tin

Coal – Lemur Holdings

Lemur Holdings (Lemur), a wholly owned subsidiary of Bushveld Minerals, is developing an integrated power project, the Imaloto Power Project, in the southwest of Madagascar. According to the 2019 CPR update, the project boasts a 136 million tonne coal resource. The project also consists of an initial 30 MW (scalable to 60 MW) mine-mouth coal-fired power station and over 500 km of a 138 kV transmission line.

The Imaloto Power Project is in its advanced stages of development with most of the key studies complete and key agreements in place. In 2018, Lemur executed a binding 30-year 25 MW Power Purchase Agreement with the state-owned utility, JIRAMA, as well as a concession agreement with the government of Madagascar, which gives it the right to build, own, operate and supply 60 MW of power, as well as build the transmission line. Lemur has four exploration permits and one exploitation permit for the coal mine, covering a total area of about 81.25 square kilometres. The mine will supply all the coal required by the power plant.

Lemur's energy projects are strategically located in the least-developed but mineral-rich southern region of Madagascar, which currently does not have a power grid and is almost entirely powered by isolated generators. In addition to substantially increasing the generation capacity in Madagascar, the initial capacity of electricity supplied by the Imaloto Power Project will provide baseload power and form the basis for a power grid for the region.

Progress Update

The travel restrictions imposed in Madagascar since the beginning of the COVID-19 pandemic in March 2020 had a negative impact project development activities. Notwithstanding the travel restrictions, Lemur completed all the field studies, including confirmatory drilling for the Imaloto coal mine during 2021. Among the key field studies concluded are the mine's Definitive Feasibility Study (DFS), the Environmental and Socio-economic Impact Assessment (ESIA) and the Environmental and Social Management Plan (ESMP).

In addition to the coal power project, in 2021, Lemur converted 30 MW out of the total granted generation capacity of 60 MW to solar energy generation. The resulting solar plants will be located along the transmission line route. Lemur is currently conducting the technical feasibility and environmental studies for the solar project. The solar generation plants will be developed in parallel with the coal power project and will offset the Imaloto project's carbon footprint.

It is important to note that the submission of the environmental permit application to the Malagasy Environmental authority (O.N.E) is pending the conclusion of the environmental studies relating to Lemur's solar project.

Discussions for the construction phase funding of Lemur's power projects are ongoing with the Development Bank of Southern Africa, which is the Mandated Lead Arranger (MLA) for the project. Furthermore, Lemur remains in discussions with potential strategic partners, funders, and the Government of Madagascar on the implementation of the project.

THE PQ IRON & TITANIUM PROJECT

The PQ Iron & Titanium Project is a multi-commodity project which forms part of the Mokopane Project, located 45 km north northwest of the town of Mokopane in Limpopo Province, South Africa.

Both projects are based on the same licence area as Mokopane, where there is a mining right held by Pamish Investments No. 39 (Pty) Ltd (Pamish). Bushveld Minerals currently owns an effective controlling interest of 64 per cent in the PQ Iron & Titanium and PQ Phosphate projects. While the mining right is subject to Mining Charter II regulations, the Company is committed to adopting Mining Charter III regulations in respect of host community and employee shareholding requirements. Therefore, a five per cent share for these stakeholders will be vendor-financed and repaid from future proceeds from the mine. Bushveld Minerals' interest in the PQ Iron & Titanium Project and PQ Phosphate Project will accordingly reduce from 64 per cent to 60.8 per cent, while Izingwe's shareholding will reduce from 36 per cent to 34.2 per cent.

Post year end, Pamish has further committed to allocate an additional five per cent to an Employee Share Ownership Participation Scheme once the mine is operational, which will result in Bushveld Minerals ultimately holding 57.6 per cent and Izingwe 32.4 per cent.

Progress to date has been limited to understanding the economic parameters necessary for success and how these projects can be configured in line with the Company's approach towards developing projects. No further work is planned on these projects while the Company advances its vanadium platform.

AfriTin Mining Limited

On 27 September 2021, the Company announced the sale of its 4.76 per cent shareholding in AIM-listed Afritin Mining Limited, an African mining company with a portfolio of tin assets in Namibia and South Africa and realised a total of approximately US$3.5 million. The proceeds of the sale were used for general corporate purposes.

Principal Risks

Risk Rating: ● Economic ● Strategic ● Operational

	Nature of Risk	Risk Owner	Risk Rating	Mitigating Action
1. Funding of Working Capital and Debt	Global market volatility affecting demand and commodity prices: – A significant decrease in vanadium commodity prices – Adverse changes in global demand	Executive Committee (Exco)	●	– Managing operations efficiently and cost effectively. – Commodity prices monitored on a regular basis. – Significant portion of Bushveld sales are frame contracts ensuring sufficient level of production is on off take. – Operational flexibility enabling a wide spectrum of vanadium products and developing a broad global market strategy. – Global vanadium market movements monitored on a daily basis – arbitrage pricing differences across markets and products. – Reducing surplus finished goods stock levels to generate additional cash.
	– Disrupted domestic and international logistics channels, including effects of COVID-19			– Maintaining minimum stock levels and managing inventory levels at various global warehouses. – Careful pre-planning of product shipping and identification of multiple export channels.
	– Growing trade protectionist policies in key markets			– Close and regular monitoring of international legislation. – Diversification of products and targeted international markets. – Proactive engagement of policy makers in high priority markets.
	Volatile exchange rate – Significant strengthening of the exchange rate	Exco	●	– Managing our operations to the lowest cost levels possible. – Current and forecast exchange rates monitored daily. – Hedging considered as a mitigating strategy should exchange rates fall below specific thresholds.
	Going concern may materialise in event of: – Missing budgeted production, sales and costs – Depleting cash resources due to debt servicing	Exco	●	– Robust budgeting processes and regular monitoring of performance against budget. – Cost containment measures and controls in place and prioritisation of expenditure. – Funding options reviewed and alternate funding mechanisms proactively explored. – Regular dialogue with debt funders.
	Breach of Vametco debt covenants levels	Finance Director	●	– Regular monitoring of working capital requirements and expenditure in relation to debt covenant compliance. – Regular communication with lenders. – Taking proactive corrective measures ahead of potential covenant breaches, including considering alternate funding options and/or covenant waivers.

Risk Rating: Economic Strategic Operational

	Nature of Risk	Risk Owner	Risk Rating	Mitigating Action
2. Operational Performance	– Unplanned plant and equipment breakdowns causing production delays – Quality of Vanchem feedstock – Vanchem Kiln 3 production targets not met as a result of ramp-up challenges	Director: Operations		– Regular monitoring and constant review of plan versus actual. – Prioritised and revised plant and equipment maintenance strategy in progress. – Daily monitoring and proactive response to breakdowns. – Emergency repairs and maintenance teams mobilised and prioritised. – Capital allocated for refurbishment and maintenance. – Quality control introduced through dry-magnetic separator for the Upper Seam. – Management monitoring and supervision.
	– Unprotected strikes and community protest action – Legacy issues with labour unions may lead to unprotected industrial action – Unreasonable demands to by-pass procurement policies and processes to favour non-qualifying suppliers/service providers from the community – Unreasonable demands to employ community members where no vacancies exist or where no suitable candidates from the community are identified	Director: HR/ Director: Operations		– Pro-active stakeholder strategy in place resulting in frequent consultations and engagement with stakeholders, including communities. – Continue embedding a partnership culture and pro-actively engage the union stakeholders, in line with our Employee Relations strategy. – Addressing legacy and historical practices with organised labour. – Finalise long-term wage agreements.
	Plant and infrastructure maintenance backlog	Director: Operations		– Capital prioritised for refurbishment and maintenance of plant and equipment. – Plant and infrastructure maintenance prioritised during stay in business planning. – Planned annual plant shutdown executed and conduct routine maintenance and repairs.
	Reactive asset maintenance and scheduling	Director: Operations		– Asset management strategy being developed. – Asset register in place.
	Increased costs	Director: Operations		– Cost-focused steering committee to monitor and control cost items. – Dedicated procurement programme that prioritises contract spend over free spend.
3. Licence to Operate	Compliance with Mining Charter III Transitional Plan and MPRDA	Director: Strategy and Corporate Services		– Building trusted relationships with stakeholders, including host communities. – Stakeholder engagement strategy in place. – Regular engagement with DMRE relating to the implementation of the Social and Labour Plan.

Risk Rating: ● Economic ● Strategic ● Operational

	Nature of Risk	Risk Owner	Risk Rating	Mitigating Action
4. Talent	– Inability to retain and recruit talent among non-bargaining unit staff in light of highly competitive remuneration packages in the market as well as wider work life balance choices post the pandemic	Exco & HR Director	●	– Continue embedding the Group-wide culture programme and our values as part of establishing the Bushveld way across the operations. – Talent management and succession planning is being integrated into the business and looks at Group-wide talent. – Continuously reviewing our working model to improve our hybrid work model where practical to do so. – Review and communicate our employee value proposition. – Benchmarking of compensation against the market on an annual basis to understand any gaps in compensation.
5. Environmental, Social and Governance	Compliance with legislation: – Mokopane Project Water Use Licence application not lodged – Mokopane Project not commenced mining after one year of mining right granted, including outstanding DMRE approval for extension – Vanchem Water Use Licence lapsed February 2022	Director: Operations	●	– Ongoing engagement with communities. – Ongoing engagement with DMRE. – Ground water feasibility to be conducted to determine ground water availability. – Application for non-compliance with MPRDA Section 25 lodged with DMRE. – Amendment and renewal of Vanchem Water Use Licence to the Department of Water and Sanitation has been completed. Awaiting Department response on the application.
	Lack of governance frameworks and policies	Director: Legal, Governance & Compliance/ Finance Director	●	– Corporate Governance Framework being developed. – Regulatory Compliance Framework in place.
	Non-compliance with Minimum Emission Standards (MES) at Vanchem and Vametco	Director: Operations	●	– Kiln off gas system has been installed and commissioned. – Application lodged for postponement to comply with MES for Vanchem and awaiting National Air Quality Officer response. – Maintenance of pollution abatement system. – Ongoing stack monitoring to monitor compliance with MES and/or Atmospheric Emission Licence.
	Ground water pollution	Director: Operations	●	– Ground water pollution modelling completed. – Ongoing monitoring of ground water quality. – Capital plan to implement ground water remediation plan for Vametco. – Multi-stakeholder engagement to address ground water remediation at Vanchem. – Lining of trenches transporting hazardous spillages into storage dams. – Operate pollution plume boreholes at maximum capacity – net increase in water balance at Vametco.

Risk Rating: ● Economic ● Strategic ● Operational

	Nature of Risk	Risk Owner	Risk Rating	Mitigating Action
7. Develop Products for Energy Transition	Slow pace to develop products to demonstrate proof of concept fast enough to respond to the energy transition in time	Bushveld Energy – CEO	●	– Ability to achieve financial close and raise third party funding for Vametco mini-grid – Regular review of the market and continual raising of awareness. – Regular monitoring of the products. – Partnership strategy that reduces the cost and risk to the Group while increasing the number of participants in the technologies and products supported by the Group.
8.Safety	Compliance with safety and health processes and protocols	Director: Operations	●	– Rigorous safety and health protocols implemented and observed. – Continuous monitoring of leading and lagging indicators. – Rigorous pre-employment medical examinations, pre-entry medical examination of contractors, continuous medical examination and exit medical examination by Occupational Medical Practitioner. – Safety given high priority in performance targets of all staff.
	– Insufficient plant maintenance contributes to an unsafe workplace and increased safety incidents	Director: Operations	●	– Increased safety awareness and campaigns. – Regular and continuous safety briefings communicated. – Safety protocols strictly maintained and adhered to. – Improved adherence to maintenance plans.
	– Noncompliance with Tailings Storage Facility Factor of Safety (FoS) at Vametco			– Install central penstock to improve pool/beach control. – Implement recommendation of the Tailings Storage Facility FoS report. – Plans to construct Buttress design during 2022.
9. Electricity Supply and Fuel Costs	Unstable electricity supply from Local Municipality specific at Vanchem Eskom grid constraints, load-shedding, rising diesel costs for running of generators	Director: Operations	●	– Engagement with Eskom and government to create a direct Eskom supply. – Stand-by generators and counter measures in place in the case of load-shedding. – Development of self-generation options, including on-site energy storage for all facilities.
10. Global Pandemic Prolonged	Risk of COVID-19 infections and emerging variants	Exco	●	– Strict enforcement and monitoring of COVID-19 government regulations by COVID-19 Task Team. – Significant decrease in national infection rates since January 2022 due to government-imposed safety protocols. – Continuous communication by leadership encouraging vaccination.
	China's "zero-COVID" policy is leading to hard lockdowns in world's biggest vanadium market, thus negatively impacting prices	Exco		– As herd immunity kicks in, restrictions will be eased over time

Sustainability – Value Beyond Compliance

1. ESG STRATEGY

Overview

In 2021 Bushveld Minerals developed a comprehensive Environmental, Social and Governance (ESG) strategy with clear performance indicators to guide its efforts to build sustainable development capability and ensure that ESG considerations are integrated into all of its business decisions. It builds on and complements the work undertaken related to the development of an Environmental, Social and Governance Management System (ESG-MS).

The purpose of this ESG strategy, which is aligned to the United Nations' Sustainable Development Goals (SDGs), is to ensure the Group continues to protect and create value for all shareholders and stakeholders. The strategy is underpinned by a materiality assessment that identified the key ESG issues and opportunities that were most likely to affect the company's holistic business performance both now and in the future. It covers Bushveld Minerals and its holdings in Vametco, Vanchem and Bushveld Energy but excludes Lemur Holdings.

Key ESG topics identified

The identification of the key ESG topics was informed by the company's current realities and future ambitions and were based on:

(1) The Materiality Assessment conducted, (2) Bushveld's Annual Report (2020), Corporate and Sustainability Strategies, publicly stated ambitions, as well as other documentation that was shared with the IBIS team, and (3) The "E", "S" and "G" strategy workshops, and various internal interviews that were held between July to September 2021. This assessment helped to inform the baseline created, address any identified gaps, and articulate the necessary ESG goals.

	Environmental	Social	Governance
Ambition	Offensive	Offensive to Transformative	Offensive
Priorities	1. Climate action 2. Energy supply and consumption 3. Water Security 4. Managing & Minimising Waste 5. Sustainable Closure 6. Biodiversity 7. Air emissions	1. Inclusive employment, procurement and value creation 2. Community engagement and wellbeing 3. Workplace health & safety 4. Labour Management Plan	1. Regulatory compliance 2. Governance & Ethics 3. Transparency (Reporting)

Bushveld Minerals' ESG Strategy Journey

In order to account for current realities and available resources, the ESG Strategy has been divided into two phases. The first phase (2021-2025) is mainly focused on compliance issues and ensuring alignment/standardization of practices across the business. While the second phase (2026 onwards) is more focused on setting and achieving more ambitious ESG targets (aligned to current and future market expectations as well as the emerging competitor landscape).

However, the Group intends to remain responsive to emerging market conditions, requirements and opportunities, and recognises that certain aspects of the more ambitious second phase may materialise sooner.

	SHORT TERM (2021-2022)	MEDIUM TERM (2023-2024)	LONG TERM (2025 AND BEYOND)
	Journey shows movement from compliance to transformative		
Phase 1 – Evaluate & Formulate	**Phase 2 – Compliance & Alignment** – Reducing ESG risks and liabilities – Completion of draft ESG policies and frameworks	**Phase 3 – Compliance, Alignment & Implementation** – ESG risks and liabilities reduced – Opportunities identified	**Phase 4 – Embed & Transform** – Sustainability part of organisation's DNA – Business model reinvention
Deliverable – A materiality assessment – An ESG Strategy & Implementation Plan (RoadMap) – An ESG Report Template with recommended KPIs	What does it mean practically? – Most urgent areas of non-compliance are addressed – Draft ESG policies, procedures and frameworks are finalised – Co-ordination of ESG issues across the organisation are agreed upon – Alignment of ESG strategy to the corporate strategy (currently under development by the Bushveld leadership team)	What does it mean practically? – Actions implemented and tracked – Baselines used to measure and drive performance – Systems, policies and processes are embedded – Sustainability KPIs embedded in all job roles – Co-ordinated external stakeholder engagements – Annual external ESG reporting – ESG capacity building and training	What does it mean practically? – New markets identified and leveraged – Automated systems for management – Sustainability awards and recognition – Impact measurement and monitoring – Partnerships to drive sustainability

Alignment to sustainable development goals (SDGs)

The SDGs below are most applicable to Bushveld's ESG Strategy journey. It is important that the Groups contributions to the SDGs be evaluated regularly to ensure they are still applicable and reflective of the business' operations and priorities.

SDG	Bushveld's contribution to the SDG
6 Clean water and Sanitation	– Bushveld has a number of ongoing water monitoring, water efficiency and water recycling/recovery initiatives and is looking to provide excess purified water to communities – These initiatives relate to Targets 6.3 and 6.4
7 Affordable & Clean Energy	– Given the importance of battery storage solutions for renewable energy projects, as well as Bushveld Energy's battery manufacturing operations and investments there is link to SDG Target 7.2.
8 Decent Work and Economic Growth	– The Bushveld Group creates jobs that are compliant with the sector health and safety standards, and this is aligned to SDG 8.5 – Bushveld has also developed Social & Enterprise Development initiatives, as well as preferential procurement policies that support SDG 8.3
9 Industry, Innovation & Infrastructure	– Bushveld Energy's facility which will make electrolyte for vanadium flow batteries in the Eastern Cape, directly supports SDG 9.2 through its local industrialisation efforts
12 Responsible Consumption & Production	– Bushveld Group has implemented a number of mineral and non-mineral waste management initiatives and plans to take further action in this space. This supports SDGs 12.4 and 12.5 – Given Bushveld Group has started reporting on its ESG matters and intends to launch its first sustainability report for 2021 next year, this contributes to SDG 12.6
13 Climate Control	– The Bushveld Group tracks and monitors its emissions and will continue to look for ways to improve its operations. This supports SDG Target 13.2

ESG Management System

In addition to the ESG strategy and road map that has been developed, the Group has also developed an ESG management system, which is in line with the International Finance Corporation (IFC) Performance Standards. It also incorporates the requirements of the ISO 14001:2015 Environmental Management Systems and ISO 45001:2018 Occupational Health and Safety Management Systems to facilitate future alignment with these standards and certification at an operational level. Collectively, the ESG strategy and management system will assist Bushveld and its operations to meet its obligations in a systematic and structured framework.

2. SAFETY AND HEALTH

Bushveld Minerals recognises that the safety, health and well-being of employees and communities is key to achieving its long-term success. Our approach to safety and health is risk-based, starting with a Baseline Risk Assessment, moving to an Issue-based Risk Assessment, and then to a Continuous Risk Assessment, which includes lagging and leading indicators.

Our guiding principle is zero tolerance for deviations from safety regulations, whether by our own employees or contractors. We have instilled a work culture based on behavioural management that views health and safety as of paramount importance.

Our commitment to safe production has been illustrated through our efforts to become compliant with industry-leading standards. In 2021, we furthered our progress in complying with the Quality Management System aligned to ISO 9001:2015 requirements. At the time of writing the certification audit was underway. Moreover, the Group intends to have both Vanchem and Vametco operations Occupational Health and Safety Management Systems certified as per ISO 45001: by the end of 2023.

Training is directed at making sure our employees not only work responsibly for their own well-being, but also look out for their colleagues' health and safety. Our safety drive entails visible leadership and behavioural change coaching, inspections and training programmes that are conducted on site by both management and employees. We believe that measuring ourselves against industry leading practices and implementing good health and safety systems and conditions will keep us in the forefront of the industry.

Safety

Bushveld Minerals' priority is the safety and well-being of all employees and contractors. Our commitment to safe production was illustrated in 2021 not only by the fact that we maintained a zero fatality record but also the number of reported injuries declined to 18 in 2021 compared to 34 in 2020. The Total Injury Frequency Rate (TIFR) improved from 16.06 in 2020 to 7.78 in 2021 due to decreased number of incidents recorded and our continued efforts to eliminate injuries.

Our improving safety performance is in part due to the safety stand downs that are conducted after each reported injury and lessons learned from the investigations are shared in the group to prevent repeat incidents.

Safety indicators for the Group are show below:

Safety Indicators

Category	Safety Indicators	Vametco	Vanchem	Bushveld Minerals
Injuries	First aid cases	8	0	**8**
	Medical Treatment cases	9	0	**9**
	Fatalities	0	0	**0**
	Total Recordable Injury	17	2	**19**
	Lost Time Injury	0	2	**2**
Lagging Indicators	Time lost	0	6	**6**
	LTIFR	0.0	4.37	**1.07**
	TIFR	8.62	4.37	**7.78**
Incidents	Critical Incidents	0	0	**0**
	High Potential Risk Incidents	3	0	**3**
	Near Miss incidents reported	0	0	**0**
Authority Instructions	Section 55 Directives	2	0	**2**
	Section 54 Directives	0	0	**0**

Bushveld Vametco's safety performance for 2021 and 2020 was zero fatalities and zero lost time injuries. There were zero fatalities & zero LTI in 2020. The Total Injury Frequency Rate (TIFR) improved from 18.42 in 2020 to 8.62 in 2021.

Bushveld Vanchem recorded zero fatalities and two lost time injuries in 2021 compared to one in 2020. This caused an increase in the LTIFR rate from 2.63 in 2020 to 4.37. The TIFR also decreased from 5.26 in 2020 to 4.37 in 2021.

Health

Health Metrics

Our employees' health and wellness is of paramount importance as such chronic monitoring, Tuberculosis screening and HIV/AIDS voluntary counselling and testing is conducted at our on-site and off-site Occupational Health Clinics. There were no TB, Pneumoconiosis or any respiratory disease cases reported in 2021 and 2020.

Health metrics

Category	Health Indicators	Vametco	Vanchem	Bushveld Minerals
Occupational Diseases	Total Occupational diseases	1	0	**1**
	New Noise induced hearing loss cases	1	0	**1**
	New Respiratory diseases	0	0	**0**
COVID-19	Positive Cases	145	53	**198**
	Fatalities – COVID-19 related	5	0	**5**
New "Other" cases	Non-occupational Diseases	20	1	**21**

In 2021 one noise induced hearing loss (NIHL) case and 21 non-occupational diseases were reported in the Group compared to 2020, where zero NIHL and three non-occupational diseases were reported.

COVID-19 Response

The COVID-19 pandemic continued to have an impact on our employees and business generally in 2021. The Group recorded 198 new COVID-19 positive cases in 2021, a significant increase in cases compared to the total of 51 COVID-19 positive cases recorded the previous year. It is with sadness we report that, during the second and third waves in January and July 2021, respectively, five of our colleagues lost their lives to COVID-19 related illness. All five employees worked at the Vametco operation. Our deepest condolences to the families, colleagues, and friends of our departed colleagues.

COVID-19 vaccination drives were conducted in partnership with the Department of Health and Impala Platinum. Employees were encouraged to vaccinate through regular awareness and education initiatives. These are ongoing efforts to get as many of our employees vaccinated. While Bushveld Minerals supports COVID-19 vaccinations, we recognise that this is a personal choice and thus remains voluntary. As at the end of 2021, 41 per cent of Vametco employees and 66 per cent of employees at Vanchem were vaccinated for COVID-19, which include contractor employees.

Various measures continued to be implemented to prevent, mitigate, monitor, and control the risks posed by the pandemic. Personal protective equipment, thermometers and sanitisers were provided to employees. To ensure the health and safety of all employees, self-monitoring and reporting were encouraged. Employees with COVID-19 symptoms were urged to stay at home and consult a medical practitioner for testing and further treatment. Employees who tested positive were followed up to ensure they received treatment and support. Contact tracing was conducted to identify those who may have been exposed and isolate them.

Screening of all employees entering the workplace continued while social distancing was encouraged. Regular cleaning and disinfecting of workplace surfaces were maintained. COVID-19 Marshalls/SHE Representatives assisted with monitoring and enforcing the health and safety protocols within their work teams. Where practical, employees were also permitted to work from home to reduce the number of employees in the workplace.

The COVID-19 Task team continued to monitor the situation, assisting the Group to navigate through this pandemic and ensure business continuity and focus.

3. ENVIRONMENT

Bushveld Minerals' environmental strategy is centred on compliance with various environmental laws and regulations (national, provincial and local) and alignment with international standards, including the IFC's environmental and social performance standards and the ISO 14001:2015 Environmental Management system.

Annual environmental performance assessment audits are conducted by an external environmental specialist and by regulatory authorities. They consider the Group's compliance with the conditions of the Environmental Management Plan (EMP) and the mine's environmental authorisations. Environmental legal compliance audits were also performed by an independent specialist.

No major findings were reported from any of these audits and no environmental penalties were imposed by the regulatory authorities.

Status of Environmental operating licences/ authorisations and compliance

Bushveld Mineral's aims to comply with all relevant legislative and regulatory requirements including other international standards. We are pleased to report that, in 2021, the Company was awarded a number of licences, Environmental Authorisations by various government bodies and certified ISO 14001:2015 at Vametco operation. All these ensures that our operations are fully compliant with South African legislation. These are detailed in the table below:

Vametco	Vanchem
Integrated Environmental Authorisation (IEA) In 2021, Vametco was issued with an Integrated Environmental Authorisation by DMRE. – The Authorisation replaces the 1998 Record of Decision issued in terms of the repealed Minerals Act of 1991 and ensures alignment of Vametco's activities with modern legislations and regulations such as NEMA and NEMWA. – The authorisation allows for phase 3 expansion projects inclusive of: • additional TSF to store 28.7 million tons, • Calcine Dump expansion to store additional 8.9 million tons, • additional Waste Rock Dump to store 5.9 million cubic metres, and • additional Barren Dam to store 104 megalitres of barren solution.	**Environmental Authorisation (Basic Assessment (BA))** – On 09 September 2021, Vanchem was issued with an Environmental Authorisation to allow for the construction of 120 m^3 storage hazardous tanks at the chemical plant.
Air Emission Licence (AEL) The AEL is now valid until August of 2026. – In October 2021, Vametco's AEL was amended to align the Boiler emissions to the Minimum Emissions Standards. • In November 2021, an AEL compliance inspection was conducted by the Licencing Officer and no non-compliance issues were raised.	**Air Emission Licence (AEL)** The Provisional Air Emission Licence (PAEL) issued to Vanchem main plant expired in August 2021. • While the renewal licence application was lodged timeously, the Licensing Authority had not issued a renewal AEL by the time of writing. It is important to point out that all compliance inspections were conducted by the Licencing Authority and culminated into a draft AEL being issued in November 2021. The finalisation of this process remains a priority for the 2022 reporting year.
Water Use Licence (WUL) Vametco Water Use Licence is valid until April 2037. – An amendment to the licence was, at the time of writing, underway to align with Phase 3 expansion projects.	**Water Use Licence (WUL)** – Vanchem Water Use License expired in February 2022. – Vanchem initiated a license renewal consultation meeting with the Licensing Authority in April 2021. • A follow-up meeting was held in October 2021, wherein DWS issued a list of requirements that should be submitted by Vanchem in support of the application for renewal. • Currently the renewal application is undergoing public review (60 days, until 20 July 2022).
	Waste Management Licence (WML) – The Vanchem Calcine and TSF operates under the WML which is valid until August 2029. • Permission to commence with dumping on the DWF extension was granted by DFFE in March 2022.

Environmental incidents

In 2021, Bushveld Minerals recorded a total of 24 environmental incidents, out of which only two were classified as significant compared to 13 environmental incidents, of which one was classified as significant incident and reported to the authorities. No environmental directives or fines for non-compliance were issued to either operation in the period under review.

Incident Type	Vametco	Vanchem	Total
Minor Environmental Incidents	20	2	22
Significant Environmental Incidents	1	1	2
Major Environmental Incidents	0	0	0
Environmental Directive/Order	0	0	0
Fines for non-compliance	0	0	0

Summary of Significant Incidents reported in 2021

Incident Location	Description of Incident	Key Learnings	Status of corrective actions
Vametco	On 14 January 2021, the Barren tank storing Barren liquor failed and released all content (354 m^3). The released content flowed into the stormwater dam located downstream of the plant. The released Barren liquor rainfall received during the time of the incident (20 mm) resulted into an overflow of the stormwater dam and ultimate discharges of 5,441 m^3 of polluted water beyond the mining footprint. Continuous rainfall inhibited immediate mop-up or clean-up.	– Improve control of Storm Water Dam (SWD) freeboard during dry season to create adequate capacity to accommodate wet season and accidental spillages. – Ensure fit for purpose design of the hazardous material storage facilities, taking into account saline and corrosive nature of the material to be stored. – Ensure hazardous material storages have adequate bunding to contain spillages in the event of failures.	Investigation report was communicated to DWS and DMRE. All actions were successfully closed out.
Vanchem	Storm Water Dam overflow resulting in discharge of polluted water following rainfall event.	– Sizing of the dam in accordance to catchment it is serving is vital. – One kiln operation out of three limit the Business Unit evaporative capacity, hence overflow.	Incident was reported to DWS, and mitigation measures implemented.

Energy management and climate change

The table below summarised fuel consumption per source at Vametco and Vanchem:

2021 Energy Consumption	Unit	Vametco	Vanchem	Total Energy Consumption
Electricity (ESKOM)	MWH	86,685	30,605	117,290
Sasol Gas	GJ	n/a	47,056	47,056
LPG bulk	Kt	110	n/a	110
Total Synthol Fuel (Heavy Fuel)	KL	570	n/a	570
Pea Coal	Kt	12	19	31
Duff Coal	Kt	21	14	35
LPG Cylinder (48 kg/cylinder)	Kt	1.2	#	1.2
Acetylene (13.6 kg/cylinder)	Kt	2	0.6	2.7
Diesel	KL	2,452	224	2,676

= no data, n/a = Not applicable

In 2021, Bushveld Minerals Group developed a Climate Change Procedure which is aligned to the International Finance Corporations's (IFC) ESG Performance Standard 3 dealing with Resource Efficiency and Pollution Preventions. The procedure seeks to ensure that, in 2022, each operation develops a Greenhouse Gas (GHG) emissions reduction plan that include the following:

– energy efficiency and carbon reduction assessments,
– the development and maintenance of an energy and GHG emissions savings register, and
– the establishment of an energy and GHG emissions savings target.

Based on the 2021 energy consumption data, the table below summarises GHG emissions for each operation.

2021 GHG Emissions		Vametco	Vanchem	Totals
Tonne GHG/Total products (Nitrovan/ Chemicals (V_2O_5)	CO_2-eq	104,339	90,200	194,538
	CH_4	1.02300	0.97000	1.99300
	N_2O	1.44100	1.39000	2.83100

Below is a summary of tons emitted per ton of product produced between the two business units:

	Vametco	Vanchem
GHG Emission Type	Emission/Ton of product produced (Nitrovan)	Emission/Ton of product produced (Chemical Products)
CO_2-eq	39.41	46.23
CH4	0.00039	0.00050
N_2O	0.00054	0.00071

Water management

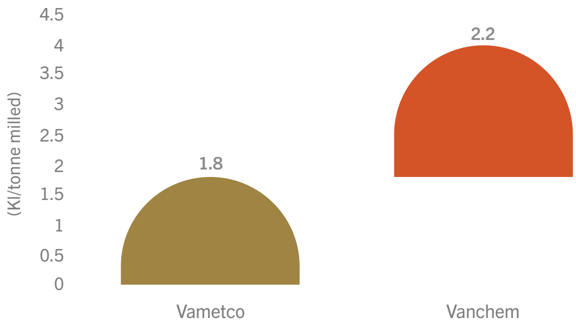
Water management is integral to the Group's licence to operate. Compliance with the requirements of the Group's Water Use Licence is a priority.

Given the vital importance of water to the functioning of our operations, we have a robust system of water accounting in place at Vametco. At the time of writing a similar system was under development for Vanchem.

Water intensity

In 2021 Vametco Business Unit achieved water intensity of 1.8 as opposed to Vanchem 2.2 Kl/tonne of ore milled.

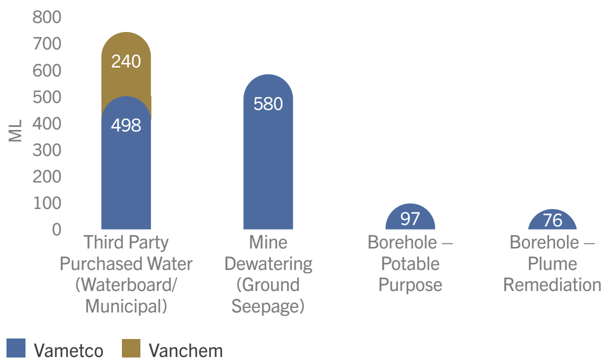
FY2021 Water Intensity



Water withdrawals

The Group used/ consumed a total of 2,947 ML in 2021. Out of this total, about 1,491 ML/51 per cent of water was fresh/new augmentation. A table below provides the various sources of water and quantities withdrawn.

2021 Water Withdrawals from Resource (ML)



Water Discharge

A total of 261 ML of water was discharged from Vametco in 2021, with only 1 per cent of the discharged water comprising dirty water from dirty circuits, with the remaining 99 per cent discharged from the clean circuit. This was influenced by climatic conditions such as rainfall and occurrence of extreme weather events.

To ensure safe continuation of work, the business unit risk mitigation strategy also allows for a controlled release of water as a last resort, and this is also provided for in the Water Use Licence.

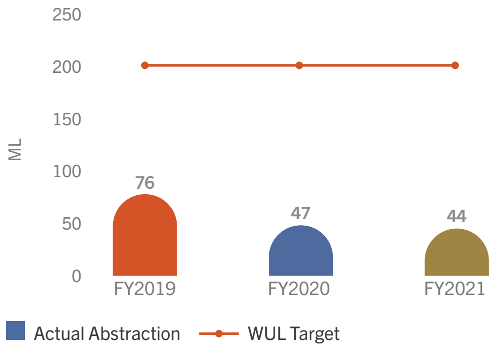
2021 Source of Water	Unit (ML)	Vametco	Vanchem	Total
Water Discharges				261
Dirty – Stormwater dam	ML	2.4	#	2.4
Clean circuit	ML	259	0	259

= data not available

Groundwater pollution plume remediation

Vametco Water Use Licence point out to the existence of historic groundwater pollution plume which should be managed through series of interceptor or scavenger boreholes. Below is the performance of scavenger boreholes against WUL set targets:

Pollution Plume Abstraction (ML)



The performance of pollution plume abstraction boreholes failed to meet the minimum abstraction threshold provided for in the WUL over the past three financial years, with FY2021 being the worst year by retaining on 44 ML.

On 18 June 2021, an aquifer analysis on each pollution plume borehole was concluded and the analysis report revealed that:

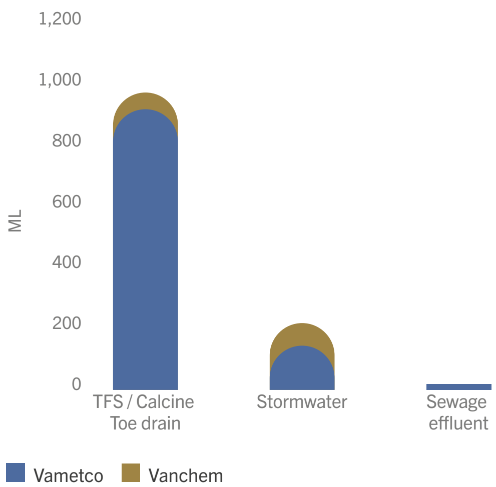
- five boreholes out of nine were using a smaller pump with a yield of 1.2 l/s (litre per second) hence they were unable to withdraw enough water out of the well,
- the boreholes were only operated during dry season and remain shut or dormant during wet season as they are deemed to be contributing to net positive water balance, and
- two of the boreholes have caved in, while two others are dry and require replacement.

On the back of these observations, Bushveld aims to purchase and install pumps with minimum yield of 4 l/s on the five boreholes, and to redrill four replacement boreholes in 2022.

Water recycling

The Group manage to recycle or reuse a total of 1,195 ML of water in FY2021, and this equates to total reuse/recycling efficiency of 41 per cent.

Water Recycling/Reuse (ML)



Vanchem business unit achieved 29 per cent recycling efficiency, whilst Vametco achieves an impressive 49 per cent recycling efficiency.

Air quality and environmental dust fall-out

Stack Sampling: AEL Compliance

Sampling Point	AEL Limit (mg/Nm³)		May-20	Nov-20	May-21	Nov-21	Comment
Kiln Stack	PM	50	**592**	**88**	50	**195**	Does not comply
	SO_2	1,200	**2,788**	**1,902**	90	554	Complies
	NH_3	30	0.2	0.2	0.2	21.3	Complies
MVO Stack	PM	50	48	**97**	46	**217**	Does not comply
	SO_2	1,200	–	0.3	–	336.8	Complies
	NH_3	30	0.0	0.1	0.1	3.4	Complies
Precipt Stack	PM	50	18	**60**	41	46	Does not comply
	SO_2	1,200	134	–	–	–	Complies
	NH_3	30	0.0	0.0	0.0	0.0	Complies
Nitrovan Stack	PM	50	**179**	**140**	**155**	**442**	Does not comply
	SO_2	1,200	–	–	2	12	Complies
Boiler 1 & 2 Stack	PM	250	226	–	224	–	Complies
	SO_2	2,800	635	–	266	–	Complies
Boiler 3 Stack	PM	250	–	**391**	**334**	–	Does not comply
	SO_2	2,800	–	357	536	–	Complies

Vametco Kiln, MVO, and Boiler 3 stacks do not comply to AEL Particulate Matter (PM) emissions requirements. Capex is required to refurbish or upgrade the current abatement technologies to meet the AEL performance requirements.

While all other stacks sampled for emission compliance meet the AEL and Minimum Emissions Standards (MES), Kiln 1 stack failed to meet expected performance with regard to PM and SO_2 emissions.

Sampled Parameter	Date of Sampling	Actual (mg/Nm³)	AEL Limit (mg/Nm³)
PM	24-Aug-20	62	50
	08-Dec-20	241	
	19-Aug-20	800	
	15-Feb-22	2,635	
SO_2	24-Aug-20	7,221	22,331
	08-Dec-20	3,340	
	19-Aug-20	14,033	
	15-Feb-22	10,359	

Recent samples show deteriorating plant performance regarding compliance to AEL emissions requirements. Should SO_2 emission at Kiln 1 default to the MES limit of 1,200 mg/Nm³, the plant would fail to comply to AEL requirements.

Considering this performance, Vanchem is to embark on a five-year plant refurbishment CAPEX programme which will ensure the refurbishment or upgrades of the current emissions abatement technologies. This project schedule, however, requires approval by the National Air Quality Officer within the Department of Environmental Affairs as it will impact on AEL compliance.

Vanchem Main plant and Ferrovanadium plant were issued with AEL valid until 2027.

Application for postponement to comply with MES has been lodged with DFFE in January 2022 and awaits response.

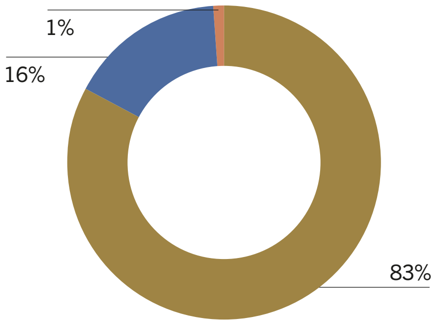
Waste generation and management

The tables below provide breakdowns of waste types generated per business unit during the 2021 financial year.

2021 Waste generation	Unit	Vametco	Vanchem	Total
Hazardous waste (off-site disposed)	Kt	17	0.4	17
General waste (Municipal landfill)	Kt	148	0.7	149
Sewage effluent disposed (Municipal sewer system)	ML	360	79	439
Hazardous waste – Mineral tailings (Calcine)	Kt	305	155	460
Non-hazardous waste – Mineral tailings (TSF)	Kt	787	53	840
Waste rock dumps	Kt	1,775	n/a	1,775
Recycled waste (aper)	Kt	0.002	0	0.002
Recycled waste (Scrap metals)	Kt	0.50	0.20	0.70
Recycled waste (Rubber)	Kt	0.03	0	0.03
Recycled waste (Used Oil)	Kt	40	0	40
Boiler Ash – Community Brick Manufacturing	Kt	3.7	2.5	6

During 2021, Bushveld Minerals generated a total of 3,726 kilotons of waste, with mineral waste (Tailings, Waste Rocks, and Slimes) constituting 83 per cent of the total waste generated, whilst 16 per cent of waste ends up in off-site landfill disposal facilities (municipal and hazardous landfill).

Bushveld Minerals Group Total Waste Generated (Kt)



Mineral waste
Off-site landfill disposal facilities
Recycled waste

Mineral waste is managed internally and forms part of facility closure planning.

Land and biodiversity management

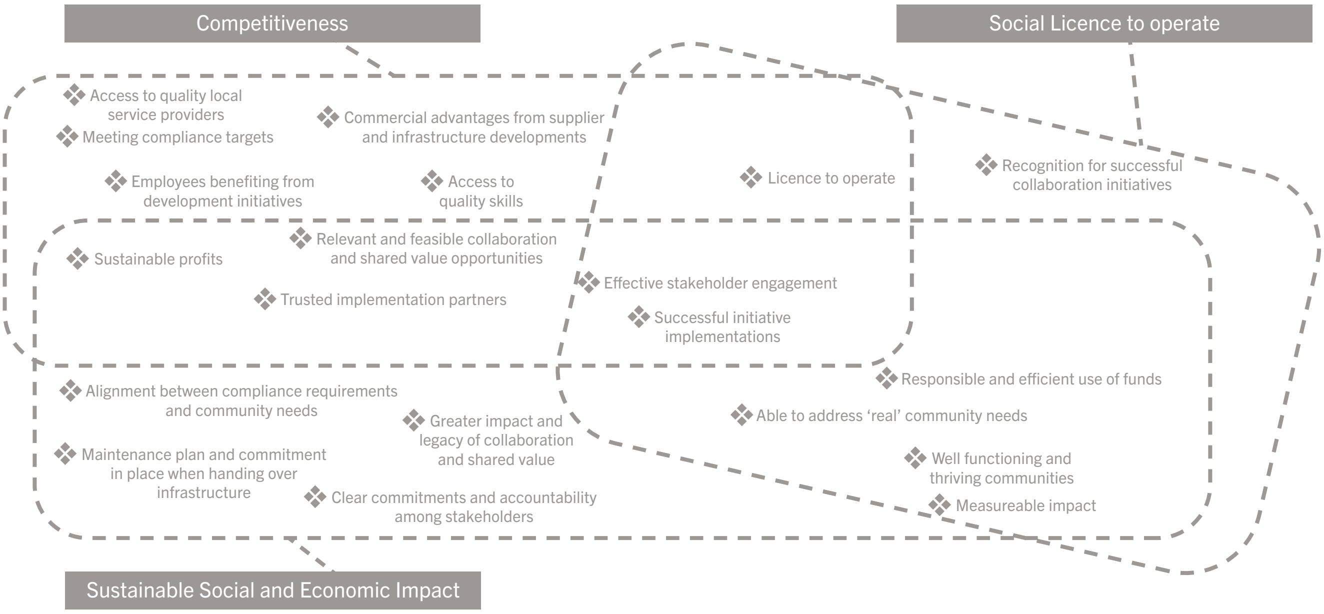
Land and biodiversity management remains of the highest priority since it enables the Licence to Operate. Of the 11,618 hectares of land that the Group owns or manages, only 5 per cent of that has been disturbed for operational activities.

Land Management	Unit	Vametco (Brits -North West Province)	Vanchem (Witbank-Mpumalanga Province)	PAMISH (Mokopane -Limpopo Province)	Total
Total Land leased/ managed/owned	Ha	1,508	82	10,029	11,618
Total Land disturbed	Ha	543	35	0	578
Total Land Rehabilitation	Ha	8	0	0	8

No land was rehabilitated in 2021 and as such substantial efforts would be required from 2022 and beyond to ensure concurrent rehabilitation is effected. Each business unit will need to develop rehabilitation targets to reduce land disturbance footprint.

4. SOCIO-ECONOMIC DEVELOPMENT

Bushveld Minerals desires to drive socio-economic development, regulatory compliance and creation of value beyond compliance in communities where we operate, whilst remaining commercially competitive and delivering value to our stakeholders.



Social and Labour Plan

Vametco received approval of its 2018 to 2022 Social Labour Plan from the Department of Mineral Resources and Energy in June 2021. Post the approval, Vametco focused on streamlining all community programmes committed for in the Social and Labour Plan. This was to ensure that project scopes for all Mine Community Development projects element of the SLP are finalized and the process to identify service providers to assist with implementation of such projects kicks off. Implementation of some Local Economic Development project started in Q4 2021.

The Company's current focus is the implementation of the committed projects in consultation with the municipality, beneficiary communities and other relevant stakeholders. The process for establishing the 2023 to 2027 SLP is already underway where Vametco has outlined its strategic intent in community development and is engaging relevant community stakeholders to submit their community development programmes proposals for consideration for the inclusion in the new SLP.

Human Resources Development

Human Resources Development (HRD) is one of the Group's important socio-economic goals. Bushveld Minerals invests in developing the skills of its employees and members of the host communities. The aim is to improve the quality of life of workers and members of the community, while increasing their labour mobility and prospects of employment beyond Bushveld Minerals.

The HRD programmes include learnerships, internships, bursaries, portable skills and Adult Education and Training (AET). The HRD programmes and achievements in 2021 is alluded below:

Learnerships: Learnership programmes are offered to both employees and non-employees. In 2021, there were 35 non-employee learners that were progressing on the three years learnership programme as well as five employee learners. Trades were ranging from: Fitting, Fitting and Turning, Electrical, Instrument Mechanician, Rigging, Boiler-making and Diesel Mechanics. Despite the disruption that the COVID-19 pandemic caused, they have all managed to attend their due training towards the end of 2021 under extreme pressure as the college was experiencing high rates of quarantines.

Internships: out of eight internships on a two-year programme, three of the learners were absorbed into permanent position while they were still in internship programme which left five interns in the programme for the year 2021. All these candidates came from the surrounding communities receiving support in the following fields, one Geology; one Finance; one Human Resources; one Chemical Engineering and four in Analytical Chemistry. Two candidates were kept on temporal positions in a way to assist them with experience, even though their term has lapsed. The purpose was to keep them in the loop until we find a way to absorb them into permanent positions should opportunities arise.

Bursaries: out of the 23 candidates that were continuing from the previous year which were allocated bursaries, only 20 candidates were able to retain and continue with the bursary. Three learners were studying in the Engineering field, one in Mining and the other 16 were in support services like Medicine, Accounting, Information Technology, Geology, Law, Education, Chef, Counselling, Business Administration, Sport and Excise Technology as well as Politics.

Nine employees benefited from the bursary system studying various fields from different universities, and there were also six apprentices who were also supported through their training courses for them to be able to qualify for final assessments.

Portable skills: Due to COVID-19 restrictions, the business was unable to make an impact in this area. There were no new developments in this area in FY2021. Outstanding activities were all postponed for 2022.

AET: This is an accredited curriculum offered to community members and employees to promote literacy. It focuses on upgrading English communication skills and numeracy. The curriculum ranges from pre-AET to level 4 (NQF1). In 2021, there were 22 learners that were continuing from the community recruitment, of which one was in level 1; 10 were in level 2; 11 were in level 3 and only two candidates were employees. We have experienced a good progress with a satisfactory progress.

Local Procurement

Bushveld has since ringfenced some of the procurement opportunities for local businesses. Such information was shared with relevant structures as part of the procurement process which also looked at encouraging local businesses to follow a set process whenever they want to do business with the Company.

Further to this, Vametco looked at opportunities where local businesses can be developed by “big” businesses to transact with the operation opportunities emerge in future.

Post year end, the Group has appointed a Transformation, Enterprise and Supplier Development Manager whose sole responsibility will be enterprise development and identifying local businesses that the Group can develop to be ready to become business partners.

Our People

THE CULTURE PROGRAMME

Bushveld Minerals Group employs over 700 employees, organised around the Bushveld Vanadium (mining/production) platform, the Bushveld Energy business, and head-office functions, and owing to growing through acquisitions, each with their own distinct cultures and ways of working. This signaled the need for a unified Bushveld culture, and ultimately the Bushveld Minerals Way. The Business Units operate under a Strategic Control operating model, aligned to the strategic intent of driving operational excellence and efficiencies. However, there is a need to have a culture that supports integration across operating divisions to enable efficiency in operations, business growth and the ability to leverage potential synergies across the group. This culture will be a sustained pattern of behaviours resulting from underlying values and shared beliefs that determine "how we do things around here".

In 2021 we started a programme that aimed at defining, aligning, and enabling the implementation of this desired culture across the organisation.

Our shared values

The Bushveld Minerals' shared values were developed:

- Based on the agreed culture moves and the desired culture the organisation seeks to embed
- To guide the behaviour and decisions of all leaders and employees in the business
- To be the set of guiding principles of the desired culture

We demonstrate care by focusing on **safety first**, having the **courage** to pioneer, learn, and **adapt**, **collaborating** as **one team** for **shared success**, **behaving** in a way that ensures we are **trusted**, and always striving to **deliver excellence**.

Culture Programme implementation

The implementation phase of the Bushveld Minerals culture journey is a key focus for 2022. Our culture playbook contains initiatives to embed the desired culture are presented according to the various levels that make up the Culture Wheel. These initiatives are defined per business unit to which they are applicable as well as per the culture move that they are designed to address.

The key is to ensure that the implementation plan is well understood, socialised, and adopted across the stakeholder groups.

HUMAN CAPITAL CAPACITY

Part of the Group's focus for 2021 has been building up the human capital capacity across the different parts of our business in line with our operating model choice of strategic control. Some of the measures undertaken include:

- Developed assessments that incorporate individual job competencies required in our recruitment processes
- Enhancing our human resources support for the operations;
- Reviewing and aligning policies and practices;
- Conducting human resource mapping process for determining best practices for the future and as part of improving effectiveness and efficiency of our human capital offering;
- Improving visibility, availability, and quality of HR service to line management and other stakeholders.

We will continue with some of this work as part of our strategic focal areas in 2022 including the implementation of new Human Resources system.

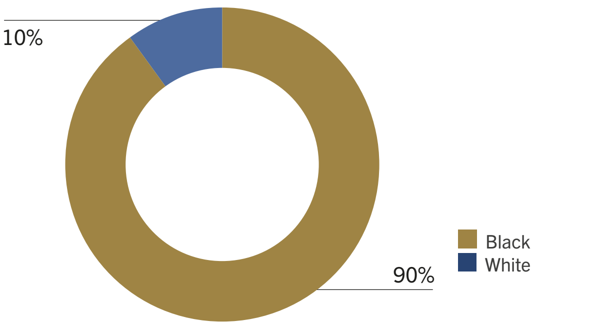
OVERALL GROUP STAFF COMPLEMENT

The Group employed a total of 736 people at the end of December 2021. The table below provides a breakdown by business unit:

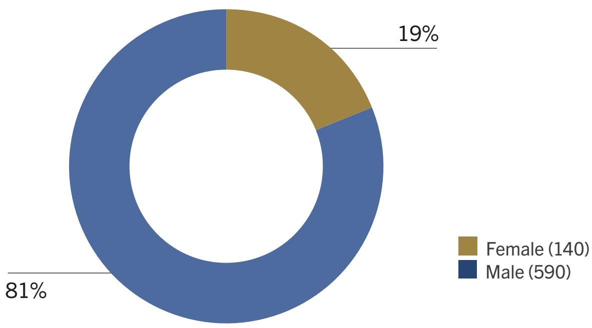
Employment Type	Corporate incl. Bushveld Energy & Lemur	Vametco	Vanchem
Permanent	45	427	178
Fixed-term Contractors	3	11	26
Learners/Apprentices/Interns/ Graduates	1	39	6
Total Headcount	49	477	210

Demographic breakdowns can be seen in the circles below:

Group: Race



Group: Gender



TALENT, DIVERSITY, AND INCLUSION

The Group's racial demographics is diverse closely resembling the national country's demographics. This is in line with the Company's deliberate intent of attracting, acquiring and retaining diverse and deep leadership skills to help the business in moving to next level of growth. The Group sees all its employees as long- term strategic partners, sharing the common objective of building a sustainable business for the mutual benefit of all stakeholders. Bushveld Minerals will continue to focus on employment of women in key roles as part of improving its representivity levels in this regard. Employees with disability will also remain a strategic focus. The Group's overall aspirations for employment equity include achieving value beyond compliance and improving labour and community relations, with transformation and diversity as a value driver across the business.

Part of the Group's talent management strategy will consist of offering those who join our family real challenging jobs, a conducive and flexible working environment that is aligned to our values. We will also be offering career growth and development, and of course, a reward framework aimed at rewarding exceptional performance and retaining critical skills.

EMPLOYEE RELATIONS

In 2021, we developed and signed off a comprehensive Employee Relations (ER) strategy that is aligned to the overall business strategic intents.

The strategy seeks to ensure labour peace and stability throughout all operations. The ER strategy's main pillars are compliance with the applicable South African legislations, functional governance structures, structured engagement with labour union stakeholders, structured collective bargaining processes, capacitation of line managers and union leadership and continuous workplace improvement. These pillars are driven by sound policies, procedures, practices, principles, and processes.

In 2021 Vanchem successfully negotiated and signed a three (3) year wage agreement with the two unions Association of Mineworkers and Construction Union (AMCU) and NUMSA. This was a strategic agreement in line with operational stability to enable the Kiln 3 project to be implemented. The three (3) year wage agreement at Vametco lapses on 30 June 2022. Post reporting period, the Company announced it has signed a five-year wage agreement with AMCU. The agreement provides for a seven per cent increase in 2023, then approximately 6.5 per cent for the subsequent years. This long term agreement is a first for our Company and an important step to maintain operational stability, long-term labour amity that will allow the Company to focus on executing our strategic initiatives and meeting our objectives.

In 2022, the ER function, in collaboration with the Business Units, will roll- out the approved policies for the company. This will result policy certainty and alignment across the business.

CARE

We always CARE for:

- The safety and health of our people, maintaining zero harm
- Our environment
- Each other, our company and our assets
- Our communities
- Making the right choices for mutual and longer-term sustainable benefit, of all stakeholders

COURAGE

We show our COURAGE and confidence by being:

- Pioneering and innovative
- Resilient, learning and adapting
- Curious and open to new ideas
- Entrepreneurial mindset
- Constructively challenging each-other to make quality decisions

COLLABORATION

We COLLABORATE for shared success by:

- Building unity through our shared purpose and effective communication
- Working together as one Bushveld Minerals team
- Teamwork and recognizing each other's contribution
- Being inclusive and seeing strength in our diversity
- Sharing knowledge and recognising the value in the experience of our people
- Building strong relationships with customers/ stakeholders

EXCELLENCE

We continuously strive for EXCELLENCE through:

- Rigour, effort and deliberate planning, focused on the right performance outcomes
- Empowering the right people and accepting accountability
- Driving continuous improvement and providing feedback
- Developing our people's skills, knowledge and experience
- Implementing the right quality and business disciplines
- Developing our products and services on time and of the right quality

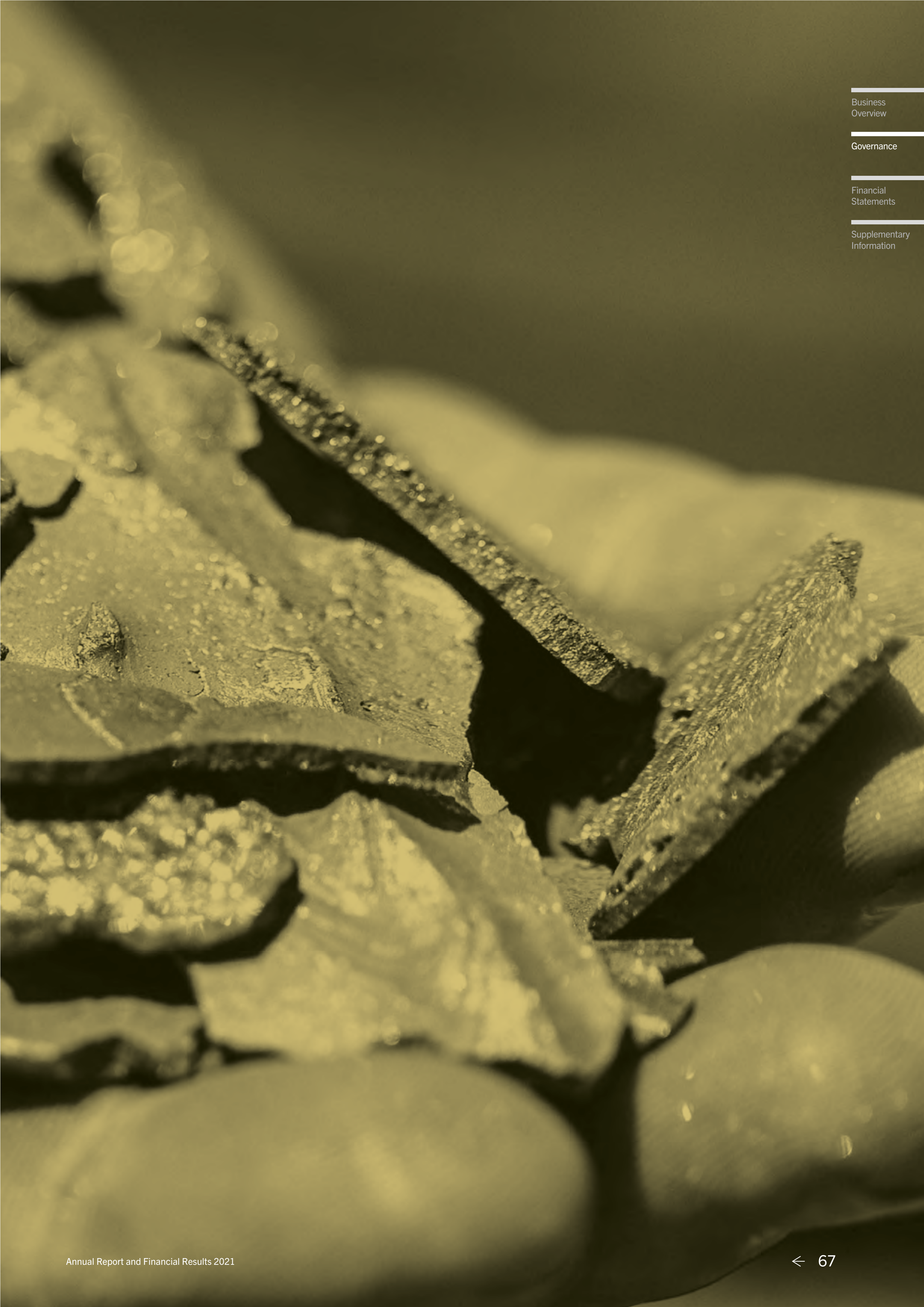
TRUSTED

We are TRUSTED because we:

- Have respect for others
- Show integrity through our ethical behaviour and striving to do the right thing first time
- Aspire to deliver on our promises
- Leave a sustainable legacy
- Ensuring our license to operate and aspiring to go beyond compliance

Governance

Powering not
just progress,
but *people.*



Meet the Board of Directors

- E ESG Committee
- D Disclosure Committee
- N Nominations Committee
- R Remuneration Committee
- A Audit Committee
- Denotes Chair

Ian Watson (79)

Independent Non-Executive Chairman

Board appointment March 2012

Experience: A mining engineer with considerable experience in the South African mining sector. Previous roles include MD of Northam Platinum, and CEO of Platmin Limited and International Ferro Metals (SA).

Qualifications: National Diploma in Mining from Witwatersrand Technical College School of Mines. Mine Manager's Certificate of Competency, Republic of South Africa.

Fortune Mojapelo (46)

Co-founder and Chief Executive Officer

Board appointment March 2012

Experience: Co-founder and Chief Executive of Bushveld Minerals, Co-founder and Director of Bushveld Energy. He began his career at McKinsey & Company as a consultant on corporate strategy and went on to play a leading role in the origination, establishment and project development of several junior mining companies in Africa.

Qualifications: BSc (Actuarial Science) from the University of Cape Town.

Tanya Chikanza (56)

Finance Director

Board appointment October 2019

Experience: Tanya has extensive experience in managing publicly-listed companies' relationships with financial markets, having worked at Lonmin Plc, Smith's Corporate Advisory and JP Morgan Cazenove. Her expertise lie in international equity and debt capital markets, strategy, corporate finance, audit and finance.

Qualifications: Qualified Chartered Accountant. Member of the Institute of Chartered Accountants of Zimbabwe.

Michael J. Kirkwood (75)

Senior Independent Non-Executive Director

Board appointment April 2018

Experience: Following 31 years at Citigroup, Michael chairs Ondra LLP and has held main board roles in several listed companies including Kidde, Circle Holdings, AngoGoldAshanti and UK Financial Investments. He was also Deputy Chair at PwC's Advisory Board, Chair of BritishAmerican Business and President of the Chartered Institute of Bankers.

Qualifications: Graduate of Stanford University; Fellowships: FCIB, HonFCT; Honours: CMG

Jacqueline Musiitwa (40)

Independent Non-Executive Director

Board appointment March 2022

Experience: A qualified attorney and founder of Hoja Law Group, Jaqueline previously served in various leadership capacities including as Chief Advisor of Corporate Relations for Africa and Ventures at Rio Tinto, and as Advisor to the Director-General of the World Trade Organization.

Qualifications: Qualified Attorney

Kevin Alcock (59)

Independent Non-Executive Director

Board appointment March 2022

Experience: He is a qualified chartered accountant, entrepreneur, business leader and advisor and has actively managed a portfolio of consultancy clients and private equity investments in the UK and Southern Africa. He has held a number of non-executive director roles in the past dozen years, including board positions at several prominent asset management firms.

Qualifications: Qualified Chartered Accountant

Mirco Bardella (63)

Independent Non-Executive Director

Board appointment March 2022

Experience: A chartered accountant and former EY Assurance Partner who led audits in the natural resources sector and advised organisations on a range of assurance and governance services. Throughout his career, he has been involved in mentorship programmes, diversity & inclusiveness initiatives, as well as other aspects of the people agenda.

Qualifications: Qualified Chartered Accountant. Member of SAICA, Institute of Chartered Accountants in Australia and in Scotland.

David Noko (65)

Independent Non-Executive Director

Board appointment May 2022

Experience: David's comprehensive business acumen is the result of many years advising prominent companies, holding senior roles at General Electric Company, Pepsi Cola International, South African Breweries (Pty) Ltd, De Beers Group, and Anglo Gold Ashanti. David is Chairman of the Council of the University of the Free State.

Qualifications: Mechanical Engineer, MBA from Heriot Watt University, Post-Graduate Diploma in Company Direction from the Graduate Institute of Management Technology.

Executive Management Team

Fortune Mojapelo (46)

Co-founder and Chief Executive Officer

Experience: Co-founder and Chief Executive of Bushveld Minerals. Co-founder and Director of Bushveld Energy. He began his career at McKinsey & Company as a consultant on corporate strategy and went on to play a leading role in the origination, establishment and project development of several junior mining companies in Africa.

Qualifications: BSc (Actuarial Science) from the University of Cape Town. Board Committee membership Disclosure and Nomination Committees.

Tanya Chikanza (56)

Finance Director

Experience: Tanya has extensive experience in managing publicly-listed companies' relationships with financial markets, having worked at Lonmin Plc, Smith's Corporate Advisroy and JP Morgan Cazenove. Her expertise lie in international equity and debt capital markets, strategy, corporate finance and audit.

Qualifications: Qualified Chartered Accountant. Member of the Institute of Chartered Accountants of Zimbabwe.

Mikhail Nikomarov (41)

Chief Executive Officer of Bushveld Energy since April 2015

Experience: Over 15 years of international business experience in energy and finance, including as CEO and co-founder of Bushveld Energy since 2015. Seven years with McKinsey & Company in Moscow and Johannesburg, advising national governments, utilities and manufacturers on growth strategy and policy.

Qualifications: MBA from INSEAD. Diploma in Economics from London School of Economics. BA (History) and BA (Economics) from University of Massachusetts.

Prince Nyati (44)

Chief Executive Officer of Lemur Holdings since November 2017

Experience: Over 16 years' experience developing energy and mining projects in sub-Saharan Africa. Started his career in oil, gas and petrochemicals in the USA and has worked in Zambia, South Africa, India and Singapore for companies including Shell Oil, Total Petrochemicals, Eskom and Tata Power.

Qualifications: MBA from the University of Houston. BA from the University of Zambia.

Sihle Mdluli (41)

Director: Strategy and Corporate Services since June 2019

Experience: Former Director and Operations Transformation Leader at Deloitte Africa's Strategy and Operations, Sihle has extensive experience in building stakeholder value in the mining and public sectors.

Qualifications: Program for Management Development from Gordon Institute of Business Science. MBA from Wits Business School. BSc Engineering (Metallurgy) from the University of the Witwatersrand.

Ken Greve (61)

Director: Corporate Development since January 2019

Experience: Mining Engineer with extensive experience in project management, project development, business and company valuations, mergers and acquisitions, logistics contracts and specialised financing, particularly in the resources industry. Held senior corporate finance and investment banking roles at Gold Fields of South Africa, JP Morgan, Kumba Resources and BHP Billiton.

Qualifications: BCom Honours (Economics) from the University of South Africa. Mining Engineering degree from the University of the Witwatersrand.

Viki Rapelas (43)

Director: Legal, Governance and Compliance since January 2019

Experience: Admitted Attorney of the High Court of South Africa since 2004. Admitted Notary and Conveyancer since 2012. Legal Advisor to the Bushveld Minerals Group since 2007. Over 20 years of transactional advisory, mergers and acquisitions and general corporate and commercial law experience.

Qualifications: International Law qualification from University of Antwerp (Belgium). BProc and LLB from Rand Afrikaans University (now University of Johannesburg).

Professor Richard Viljoen (81)

Technical Advisor since March 2012

Experience: With over 30 years' experience in the mining industry as consulting geologist, Richard has coordinated the development of the Northam Platinum mine and the Leeudoorn and Tarkwa gold mines. He has advised exploration and mining companies in multiple mining jurisdictions across the commodities sectors.

Qualifications: MSc, PhD from University of the Witwatersrand, FGSSA, FSAIMM, FRSSA, FSEG, FGSI, Pr. Sc. Nat

Corporate Governance Report

The Board collectively recognises that implementing an effective corporate governance structure is of paramount importance in order to continue delivering on the Company's strategy, create long-term value for shareholders, and maintain our licence to operate. Bushveld has elected to adopt the Quoted Companies Alliance Corporate Governance Code (QCA Code), which takes key elements of good governance and applies them in a manner that supports the different needs of growing companies.

The Board believes that it is applying the ten principles of the QCA Code effectively across the business but also recognises that monitoring and developing its' governance structure is a continuing process.

The ten principles of the QCA Code are set out below, supplemented with details of how the Company is applying them and how the principles support the Company's medium- to long-term success.

DELIVER GROWTH

PRINCIPLE 1:

Establish a strategy and business model that promotes long-term value for shareholders

Bushveld Minerals has a well-established strategy and business model, the objective of which is to unlock the value of assets in its diversified vanadium product portfolio and deliver returns to shareholders through effective management and efficient operations.

The strategy is clear and supported by a compelling investment case, both of which are fully described in various sections within the Business Overview of this report.

The overriding objective of the Board is to direct the business to ongoing success in delivering long-term shareholder value. To achieve this, an operating model has been adopted that defines how to deliver and execute the strategy by defining the structures in which to operate and the capabilities required.

PRINCIPLE 2:

Seek to understand and meet shareholder needs and expectations

The Board is committed to providing effective communication with shareholders and attaches great importance to delivering clear and transparent information on the Company's activities and strategy.

The Bushveld Minerals Investor Relations team is dedicated to communicating the Bushveld Minerals value proposition to both institutional and private investors, as well as the broader market. This is successfully achieved through active engagement with investors, research analysts and journalists via a combination of investor roadshows, webinars, attendance at conferences focused on the mining and energy storage sectors, and engagement with selective media. These engagements are key as they provide valuable feedback in the Board's decision-making process and determine how the Company can best meet shareholder expectations.

The Board views the Annual General Meeting (AGM) as the main forum for communicating directly with investors. In light of the challenging context of the COVID-19 pandemic over the last two years, the Company appreciates that attending the meeting can be impractical and has therefore provided an audio webcast of the AGM so that shareholders can join the meeting online. This includes a question and answer session to address questions submitted by shareholders.

Significant developments and regular operational updates are disseminated through stock exchange announcements via the Regulatory News Service (RNS) and can be found on the Company's website at **http://www.bushveldminerals.com/regulatory-news-rns/**. Additionally, conference calls are hosted by the Chief Executive Officer and Finance Director post the release of quarterly operational updates and the interim and full year results.

The website also has a wealth of information for existing and potential shareholders, including a corporate video, project descriptions, investor presentations, financial and technical reports, analyst research, webcasts and certain shareholder information.

Any shareholder enquiries can be directed to **info@bushveldminerals.com**

	2021
Virtual roadshows	
Non-Deal roadshow	February
Full Year 2020 Results	July
H1 2021	October
Reporting	
Q1 2021 Operational Update	May
Q2 and H1 2021 Operational Update	July
Final Results for the year ended 31 December 2020	June
Interim Results for six months to end of June 2021	September
Q3 and 9 months 2021 Operational Update	October
Q4 and FY 2021 Operational Update	January 2022
Annual General Meeting	August
Conferences	
8th Vanitec Energy storage Webinar	January
Africa Mining Indaba Virtual Investment Programme	March
Power & Electricity World Africa	August
Africa Solar Energy Forum	September
The Junior Indaba	October
South African National Energy Association	October
Renpower Africa storage 2021	November
QPR Green Energy Summit 2021	November
DTIC Energy Storage session	November
World Bank: Battery storage value chain creation in Southern Africa	December

Corporate Governance Report *continued*

PRINCIPLE 3:
Take into account wider stakeholder and social responsibilities and their implications for long-term success

Bushveld's strategic intent of value beyond compliance is anchored on the principle of creating shared, long-lasting value for all its stakeholders. It is recognised that the successful execution of its business strategy requires the Company to build and maintain meaningful, well-functioning relationships with its multiple stakeholders. These include government, regulatory authorities, funders, partners, employees, contractors, suppliers, customers and, very importantly, the communities residing in the radius of our projects and operations.

The Company has developed a sustainability strategy focused on environmental, social and governance (ESG) principles which aims to integrate material ESG considerations into the decision-making process across the value chain. Material ESG key performance Indicators will be reported on and a consistent message communicated to stakeholders on key ESG commitments.

This will all be supported by the establishment of an ESG Committee in 2022.

More information and detail on this can be found within the Sustainability Report.

PRINCIPLE 4:
Embed effective risk management, considering both opportunities and threats, throughout the organisation

The Board has primary responsibility for establishing and maintaining the Company's governance structures, internal controls and risk management systems, which are designed to meet the particular needs of the Company and address the risks to which it is exposed. The oversight responsibility for reviewing the adequacy and effectiveness of these has been delegated to the Audit Committee.

In November 2021, an Enterprise Risk Management Framework, incorporating risk appetite and tolerance levels, was approved by the Audit Committee and the implementation thereof commenced in early 2022. Notwithstanding the ongoing implementation of the formal risk management framework, the Company identifies, evaluates and manages risk throughout its operations and has completed detailed risk assessments, together with risk mitigation strategies. These detailed risk assessments are consolidated and have resulted in the identification of principal risks that could impact the Company's ability to deliver on its long-term strategic objectives. The principal risks are detailed on pages 48-51.

Over and above the work being performed by the Internal Audit and Risk function, the Board considers that the frequency of Board meetings, and the level of detail presented to the Board for its consideration in relation to the operations of the Company, provides an additional process to identify, evaluate and manage significant risks relevant to its operations. Additionally, the reports received from the Company's external, independent auditor, via the Audit Committee, on the state of Bushveld's internal controls is, of course, another valuable tool.

MAINTAIN A DYNAMIC MANAGEMENT FRAMEWORK
PRINCIPLE 5:
Maintaining the Board as a well-functioning, balanced team led by the Chair

In 2021, the Board comprised of six members: a Non-Executive Chairman, three additional Non-Executive Directors and two Executive Directors (the CEO and the Finance Director). The Board was of the view that the Chairman and two of the three Non-Executive Directors were deemed to be independent and that the board structure was suitable for the Company's size and activities.

During the course of the year under review, the Nomination Committee undertook a comprehensive succession planning exercise, taking into consideration length of tenure and the future requirements and developments of the Company and its operations. As a result, and in accordance with governance best practice surrounding board composition and director rotation, in March 2022 the Company announced the appointment of three new independent Non-Executive Directors.

Concurrent with this it was announced that Jeremy Friedlander would retire with immediate effect and that Ian Watson, Non-Executive Chairman, and Non-Executive Director Anthony Viljoen would be retiring from the Board at different intervals over the following few months to ensure both continuity and compliance with the Company's Articles of Incorporation. Accordingly, in May 2022, a fourth new independent Non-Executive Director was appointed and Anthony Viljoen retired. Ian Watson will retire at the AGM. Ian, Jeremy and Anthony have all been on the Board of Directors since the Company's IPO in 2012.

Biographies of each of the directors can be found on page 68.

The Board holds quarterly meetings and meets outside those events as and when necessary. The Executive Directors work full-time for the Company and the expectation is that the Non-Executive Directors will spend approximately 30 days per annum on work for the Company.

The Board met formally four times during the year ended 31 December 2021, with an additional six meetings held to consider matters falling outside of the quarterly cycles. Attendance was as follows:

Ian Watson	10/10
Michael J. Kirkwood	10/10
Jeremy Friedlander	10/10
Anthony Viljoen	10/10
Fortune Mojapelo	10/10
Tanya Chikanza	10/10

The Board is currently supported by the Audit, Remuneration, Nomination and Disclosure Committees, which operate within specific terms of reference and are described in more detail in Principle 9 below. The ESG Committee being established will add additional support to the Board.

PRINCIPLE 6:

Ensure that the Directors pool the necessary up-to-date experience, skills, and capabilities

The Directors of Bushveld Minerals have been appointed to the Company because of the varied skills and experience that they offer, as well as their personal qualities and capabilities. Full biographical details of the Directors are included on page 68, which provides an indication of their breadth of skills and experience. The Board is also able to engage independent advisors should the need arise.

The Board is determined to ensure that it continues to have the right balance of Directors, which is evidenced by the recent changes mentioned in Principle 5. This is an ongoing process and the Nomination Committee continues to review the composition of the Board to ensure that it has the necessary breadth and depth of skills to support the ongoing strategy of Bushveld Minerals. In addition to this, at least one-third of Directors retire by rotation and offer themselves for re-election every year, which is voted on by shareholders at the AGM.

PRINCIPLE 7:

Evaluate Board performance based on clear and relevant objectives, seeking continuous improvement

The Board recognises the importance of reviewing the effectiveness of its performance and the ability of the members to work together to achieve the Company's objectives, as well as those of its committees and individual Directors.

Responsibility for assessing and monitoring the performance of the Executive Directors lies with the independent Non-Executive Directors, using agreed KPIs. Further detail can be found in the Remuneration Report on pages 78-93.

The Board as a whole evaluates its own performance internally, as well as the performance of the committees, and uses the evaluation process to identify opportunities for improvement. The last board and committee evaluation process was completed in December 2021, led by the Chairman and facilitated by the Company Secretary. This involves the completion of a confidential questionnaire by each Director covering a number of areas including board structure, strategy, risk management, processes, board dynamics, evaluation of the CEO and Chairman, and culture matters. Committee specific questionnaires that address the functioning of the committees are also completed. A report is collated with the responses received, on an unattributed basis, which is then presented to the Board for discussion.

The evaluation process resulted in the identification of several focus areas for 2022, including Board succession planning, development of a talent management framework for Management, continued focus on and development of the longer term strategy, establishment of an ESG Committee, and enhancement of stakeholder relationships.

Significant progress has already been made with respect to Board succession planning, which is evidenced by the board and committee composition changes that have been announced in 2022. The Company will report on progress made on the other focus areas next year.

PRINCIPLE 8:

Promote a corporate culture that is based on ethical values and behaviours

Bushveld is committed to the highest standards of transparency, accountability and conducts its business in an honest and ethical manner, in accordance with sound governance principles. In building a strong and sustainable governance framework, the Company's aspiration is to ensure that ethical values and behaviours are fully embedded throughout the Company, supporting the ethical culture of Bushveld. The Board and senior management is conscious that the tone it sets will impact all aspects of the Group and the way that employees behave and operate. The Company seeks to ensure that responsible business practices are fully integrated into the management of its operations, which is essential for operational excellence and to deliver Bushveld's strategy.

Bushveld has the following policies in place:

Conflicts of Interest, Anti-Corruption and Bribery Policy

It is the Company's policy to conduct all of its business in an honest and ethical manner. We take a zero-tolerance approach to bribery and corruption and are committed to acting professionally, fairly and with integrity in all our business dealings and relationships, wherever we operate.

The purpose of this policy is to provide clear guidelines and acceptable practices to all employees to avoid potential and perceived conflicts and interest. The policy further sets out firm rules and regulations regarding the receipt of gifts, entertainment and business courtesies. Bribery and corruption in any shape or form is strongly discouraged and employees found in contravention of these polices may be subject to disciplinary proceedings.

Fraud Prevention and Fraud Investigation Policies

The purpose of these policies is to detail the Company's expectations with respect to managing fraud risk, to develop awareness of that risk in the organisation, to provide guidance to those who find themselves having to deal with fraud, and for establishing procedures and assigning responsibility for the investigation of fraud and related offences. At the time of writing, these policies are in the process of finalisation.

Whistle-blowing Policy

This policy will help break the cycle of silence and inaction and assist in preventing corruption within Bushveld and the broader public sector in which it operates. The policy aims to encourage employees

Corporate Governance Report *continued*

and stakeholders to feel confident in raising breaches and concerns and to ensure that whistle-blowers will be protected from possible reprisals or victimisation if and when disclosures are made in good faith.

Share Dealing Policy

The Company has adopted a policy for dealing in its shares, which incorporates all obligations under both Rule 21 of the AIM Rules for Companies and Article 19 of the Market Abuse Regulations. The policy explains the circumstances under which shares in the Company can be bought or sold by Directors and relevant employees, along with the requirements and procedures that have to be followed when dealing in the Company's shares. In addition to this, the Company has a Memorandum on Inside Information providing additional information on applicable laws and possible sanctions, market-abuse provisions and communication requirements.

Social Media Policy

While the Company recognises the benefits that social media engagement can have in helping it reach out to stakeholders, this policy is in place to facilitate the responsible use of social media and minimise the risks to the Company through its misuse, which could bring a company into disrepute.

PRINCIPLE 9:

Maintain governance structures and processes that are fit for purpose and support good decision-making by the Board

The Board's role is to provide strategic leadership to the Company within a framework of prudent and effective controls, enabling risk to be assessed and managed.

To that end, the Board is supported by committees that have the necessary skills and knowledge to discharge their duties and responsibilities effectively. These committees are primarily made up of Non-Executive Directors. Descriptions of the various committees are provided below.

Audit Committee

The Audit Committee is responsible for monitoring the integrity of the financial statements of the Company, including its annual and half-yearly reports, interim management statements, preliminary results announcements and any other announcements relating to financial performance before they are presented to the Board for approval. In addition to this, its duties include reviewing and reporting on the Company's internal financial controls, risk-management initiatives and governance structures.

Furthermore, the Committee is responsible for recommending the appointment of the auditors and reviewing and monitoring their independence and objectivity.

In 2021, the Audit Committee, comprised of Michael Kirkwood as Chair, Jeremy Friedlander and Anthony Viljoen. On 17 March 2022, Mirco Bardella was appointed to the Board and simultaneously appointed the new Chair of the Committee. Mirco brings a wealth of experience as a former Ernst & Young (EY) Assurance Partner who led audits in the natural resources sector and advised organisations on a range of assurance and governance services. Kevin Alcock, a chartered accountant by qualification, has also been appointed to the Committee.

The Internal Audit and Risk function assists the Audit Committee in executing its responsibilities.

Meetings are held at least three times a year at appropriate intervals in the financial reporting and audit cycle, and as otherwise required.

The role of the Audit Committee and the duties it fulfilled during 2021 are more fully described in the Report of the Audit Committee on pages 76-77.

Remuneration Committee

The Remuneration Committee, comprising in 2021 of Michael Kirkwood as Chair, Ian Watson and Jeremy Friedlander, determines the framework for the remuneration of the Company's Chairman and Executive Directors and, as appropriate, other senior management, including pension entitlements, share-option schemes and other benefits. Remuneration of Non-Executive Directors is a matter for the Board. No Directors or senior managers are involved in any decisions on their own remuneration. A comprehensive Remuneration Report can be found on pages 78-93.

With Jeremy Friedlander's retirement in March 2022, and Ian Watson's upcoming retirement at the AGM, Kevin Alcock, Mirco Bardella and Jacqueline Musiitwa have been appointed to the Remuneration Committee simultaneously with their board appointments. Kevin took on the role of as Chair following the Quarter 2 Board cycle.

Disclosure Committee

The purpose of the Disclosure Committee is oversight of the implementation of the governance and procedures associated with the assessment, control, and disclosure of inside information in relation to the Company. The Committee meets on an ad hoc basis, as required, and consists of the Chairs of each of the other committees and the Executive Directors. The Committee has a rotating Chair between its independent members.

Nomination Committee

The Nomination Committee is responsible for reviewing the structure, size and composition of the Board, making recommendations to the Board with regard to any changes, succession planning for Directors and senior management, preparing a description of the role and capabilities required for a particular appointment and nominating candidates to fill Board positions as and when they arise. The Committee also makes recommendations to the Board concerning membership of the Audit, Remuneration and Disclosure Committees, in consultation with the Chair of each of those committees. The Nomination Committee comprises Ian

Watson, Michael Kirkwood and Fortune Mojapelo, with Ian Watson as chair. Post the AGM, Michael will assume the responsibility of Chair and David Noko will be appointed as a member of the Committee.

ESG Committee

The ESG Committee is in the process of being established and will be focused on developing and implementing Bushveld's ESG strategy and management system, as described in the Sustainability Report on pages 53-65.

The ESG committee will comprise of Jacqueline Musiitwa, David Noko, Fortune Mojapelo and Tanya Chikanza, with Jacqueline chairing the Committee.

BUILDS TRUST
PRINCIPLE 10:

Communicate how the Company is governed and is performing by maintaining a dialogue with shareholders and other relevant stakeholders

Bushveld is committed to providing effective communication with shareholders and attaches great importance to delivering clear and transparent information on the Company's strategy, activities and financial position.

Results of the AGM, significant developments and quarterly operational updates are disseminated through stock exchange announcements via RNS and can be found on the Company's website at **http://www.bushveldminerals.com/regulatory-newsrns/**.

Furthermore, the Company's website has a wealth of corporate information, including a corporate video, project descriptions, investor presentations, financial and technical reports, analyst research, webcasts and certain shareholder information.
As has been described under Principle 2, the Bushveld Minerals Investor Relations team is dedicated to communicating the Bushveld Minerals' value proposition to shareholders, as well as the broader market. This is successfully achieved through active engagement with investors, research analysts and journalists via a combination of investor roadshows, webinars, attendance at conferences and engagement with selected media.

The Head of Investor Relations is the primary point of contact for shareholders and plays a key part in encouraging shareholder interaction and provides an effective mechanism for feedback.

Any shareholder enquiries can be directed to **info@bushveldminerals.com**

When it comes to communicating with other relevant stakeholders, Bushveld Minerals has developed a Stakeholder Engagement Strategy which forms the blueprint for building relationships with stakeholders, including host communities and local landowners. The stakeholder engagement strategy was developed to enable the Company to develop a collaborative relationship with key stakeholders in support of its strategic objectives.

The Stakeholder Engagement Strategy builds on Bushveld's strategic intention to identify key stakeholders and their interests and requirements, to develop appropriate engagement models. This has resulted in meaningful, transparent, and honest engagements with stakeholders.

More information and detail on this can be found within our Sustainability Report on pages 53-65.

Report of the Audit Committee

This report provides details of the role of the Audit Committee and the duties it undertook during the year under review.

During 2021, the Audit Committee comprised of Independent Non-Executive Directors Michael Kirkwood (as Chair) and Jeremy Friedlander, and Non-Executive Director Anthony Viljoen. Post year-end and subsequent to the Board changes announced in March 2022, the Audit Committee was reconstituted and now consists of Independent Non-Executive Directors Mirco Bardella, Michael Kirkwood and Kevin Alcock, with Mirco chairing the committee. Mirco and Kevin are both chartered accountants and bring a wealth of experience with them, as set out in their biographical details on page 68. Thanks is given to Jeremy and Anthony for their valued contribution to the Committee over the years.

The Audit Committee meets quarterly and at other appropriate times in the financial reporting and audit cycle if required. The Finance Director, Company Secretary, Internal Auditor and external auditor are all invited to attend the meetings. Other individuals may be invited to attend all or part of any meeting, as and when required. In fulfilling its duties, due consideration is given to applicable laws and regulations, the requirements of the AIM Rules, and the QCA Corporate Governance Code, as appropriate.

The Chairman of the Committee reports formally to the Board on all matters within its duties and how it has discharged its responsibilities after each meeting.

Key duties of the Audit Committee include:

- Monitoring the integrity of the Company's financial statements;
- Reviewing the consistency of, and any changes to, accounting policies both on a year-on-year basis and across the Company and its group and reviewing whether management has followed appropriate accounting standards and made appropriate estimates and judgements, taking into account the views of the external auditor;
- Reviewing and reporting to the Board of Directors on significant financial reporting issues and judgements which they contain, having regard to the matters communicated to it by the auditor;
- Reviewing the Company's internal financial controls, systems of internal control and risk;
- Reviewing the adequacy and security of the Company's whistleblowing facilities and ensuring that appropriate investigations and follow up action is conducted in respect of concerns raised;
- Reviewing the adequacy of the Company's systems, procedures and controls for detecting fraud, bribery and corruption;
- Making recommendations to the Board on the appointment of the external auditor;
- Managing and overseeing the relationship with the external auditors, including their terms of engagement and remuneration.
- Meeting regularly with the external auditors and reviewing their findings.

The Audit Committee evaluates its performance periodically and will conduct an annual review of its constitution and terms of reference to ensure it is operating at maximum effectiveness. Any changes arising from these reviews are then recommended to the Board for approval.

Financial reporting

The Audit Committee reviewed and assessed the Company's financial reporting in the period, including its half-year report, results announcements and this Annual Report. This review included an assessment of the consistency of, and changes to, accounting policies, estimates and judgements; the methods used to account for significant or unusual transactions; the appropriateness of the accounting standards used; the clarity and completeness of disclosures and the context in which statements are made; and a review of material disclosures regarding audit and risk management in the financial statements.

In reviewing the Company's financial statements, the Audit Committee has considered the Company's accounting policies, particularly in relation to the treatment of the accounting estimates and judgements as described on page 68. The potential risks to the Group include a decline in vanadium prices as well as operational stoppages, resulting in reduced ability to sell its products as well as volatile market conditions, all of which could impact the Group's cash flows and ability to comply with its financial covenants. In mitigation, the Group has modelled a variety of scenarios around cash preservation and cost containment that show the Group's ability to continue to operate sustainably.

In addition to the publicly-released reports, the Committee's review covered management reports as well as reports from and discussions with the external auditor. The Audit Committee provided comment and feedback on this Annual Report before finalisation and approval. The review concluded that, taken as a whole, this Annual Report is fair, balanced and understandable, and provides the information necessary for shareholders to assess the Company's position, performance, business model and strategy.

Internal audit

With the appointment of the Group Head: Internal Audit and Risk having concluded at the end of 2020, in early 2021, the Board, on recommendation by the Audit Committee, mandated and gave effect to the Internal Audit and Risk function.

The scope of the internal audit function has been summarised as below:

- Provide independent and objective assurance through evaluating the Company's governance, risk and internal control systems.
- Evaluating the adequacy and effectiveness of internal financial controls over financial reporting and internal controls in general.
- Reviewing the extent of compliance with laws, regulations, standards and codes.

The Committee is satisfied, having considered the assurance provided by Group Internal Audit, that no significant or material issues have been identified that would render the Group's system of internal financial controls ineffective. Consequently, the Committee is of the view that reasonable assurance was provided and the financial records may be relied upon for the preparation of the annual financial statements.

External auditor

RSM UK Audit LLP (RSM) is the Company's auditor and the Audit Committee has recommended to the Board that shareholders be asked to approve the re-appointment of RSM as auditor at the Annual General Meeting.

The Audit Committee discharged its duties, in accordance with its terms of reference, during the period to 31 December 2021, including:

- Approving the engagement of the external auditor, reviewing and approving the annual audit plan;
- Meeting regularly with the external auditor;
- Reviewing the findings of the audit of the financial statements for the period ended 31 December 2021 with the external auditor;
- Reviewing the management representation letter requested by the external auditor before it was signed by management and management's response to the auditor's findings and recommendations; and
- Reviewing the effectiveness of the audit process.

Non-audit services

A policy is in place to govern the supply of non-audit services by the external auditor, in order to safeguard independence and objectivity. The policy sets out the recommended maximum fees that should be payable for non-audit services as a percentage of the audit fee and contains guidelines as to the circumstances where a proposed engagement should be subject to a tender process. In the current period, non-audit fees of GBP15,000 were paid in respect of agreed upon procedures on the interim financial statements for the period ended 30 June 2021.

Whistleblowing

The Company has a whistleblowing policy, coupled with an independently managed external whistleblowing reporting system, to encourage stakeholders and employees to raise suspected breaches, malpractice or impropriety, without fear of reprisal. The policy aims to provide a secure platform for stakeholders and employees to raise concerns and prompt management to investigate each case reported. The policy commits the Company to treat all such disclosures made in good faith, in a confidential and sensitive manner. The Group receives reports regarding any significant allegations made, details of investigations and the outcomes. No significant issues were reported during the year.

Risk management and internal control

The Audit Committee is mandated to provide oversight on the Company's governance, internal control and risk management systems. Internal controls and risk management systems are in place to support the integrity of the financial reporting process and the preparation of accounts. These systems include policies and procedures to ensure that adequate accounting records are maintained and transactions are recorded accurately and fairly to permit the preparation of financial statements in accordance with IFRS.

The key elements of the Company's system of internal controls are discussed in this report.

The Company's senior executive management – the Executive Committee (Exco) – is responsible for managing and monitoring the risks under the stewardship of the Group Head: Internal Audit and Risk, and the Audit Committee actively reviews the key risks and mitigating controls. The Audit Committee's review of the system of internal controls is supplemented by reports from the internal and external auditors regarding issues identified during their engagement, particularly those relating to control weaknesses, and the responses from management.

I would like to thank the Finance team and my Audit Committee colleagues, past and present, for their work over the past four years that I have chaired this committee and to date.

Michael J. Kirkwood
Chairman of the Audit Committee
30 June 2022

2021 Remuneration Report

PART 1: BACKGROUND STATEMENT FROM THE REMUNERATION COMMITTEE CHAIRMAN

Dear Shareholders,

On behalf of the Board, I am pleased to present the 2021 Remuneration report for Bushveld Minerals. This report describes our remuneration philosophy and how the policy was implemented. It also discloses payments made to Non-Executive and Executive Directors during the year.

The aim in preparing this report is to ensure that shareholders and stakeholders fully understand the approach to remunerating executives and the wider employee base. This includes the key principles used to determine our reward frameworks to ensure that executives are focused on delivering long-term shareholder value consistent with the Company's vision and strategy.

In line with the practice adopted for several years, this report is again presented in the King IV™ recommended format, while taking cognisance of the requirements of an AIM-listed company during the review period. As Bushveld is not subject to Johannesburg Stock Exchange listing requirements, the policy and implementation reports are not put to non-binding shareholder votes.

BUSINESS PERFORMANCE OVERVIEW AND IMPACT ON REMUNERATION OUTCOMES

The table below outlines key performance indicators for the Bushveld Minerals Group over a two-year period. The Group reported improving underlying performance in its subsidiaries in the form of production volumes and operational metrics during the 2021 performance year. These improvements did not however translate into commensurate improvements in the financial indicators partly owing to a slow recovery in vanadium prices. Further detail on the Group's performance is detailed in the Finance Director's Review.

Indicator (US$)	2021	2020
Underlying earnings before interest and tax (EBIT)	(46,784,667)	(37,667,417)
Underlying earnings before interest,tax, depreciation and amortisation (EBITDA)	(9,886,934)	(14,940,940)
Closing Cash & Cash equivalents	15,432,852	50,540,672
Closing Share price	10.10p	19.5p

The remuneration outcomes for 2021 are as follows:
No increases were awarded to the CEO and CFO for 2021. In line with the Company's philosophy to address the wage gap and personal performance, some increases were awarded to lower levels of staff.

The Non-Executive Directors volunteered to exercise pay leardership with a 10 per cent reduction in Non-Executive Director fees, being applied with effect from 1 January 2022.The reduction in fees in 2022 was to accommodate the transition and overlap of board members with four new directors joining the board and three directors including the Chairman retiring from the board.

None of the short-term incentive (STI) performance measures attributable to financial performance were achieved. The non-financial measures relating to ESG and personal performance were largely achieved resulting in an overall STI performance outcome for the CEO and CFO of 33 per cent and 35 per cent of the on-target STI respectively. However, no STIs will be paid to the CEO and CFO for 2021 as a result of the financial performance measures not having been achieved. After careful consideration, the Remuneration Committee, in their discretion, decided to proceed with paying bonuses to other employees despite the financial performance conditions having not been met. These bonuses are based on performance against the non-financial and personal performance measures, which have a weighting of between 30 to 50 per cent for managerial staff and 100 per cent for non-managerial staff. Full details of the STI measures used together with the outcomes are disclosed in the implementation report (part 3 of the Renumeration report). Awards to certain Executive Committee (Exco) members have been deferred for up to 12 months and payment will be conditional on the achievement of specified outcomes.

Bushveld's Long-term Incentives (LTIs) comprise of deferred bonus awards (which are a function of the deferred element of STI) and performance awards (which are subject to three-year forward-looking targets). During 2021 deferred bonus awards were made based on the 2020 performance outcomes. The economic climate made it very difficult to set and calibrate appropriate three-year forward-looking performance measures. The lack of any performance awards in 2020 and 2021, may be addressed with a supplemental performance award during 2022, at the discretion of the Committee. In line with our policy the award will be subject to three-year forward looking performance measures aligned to long-term shareholder value creation. In considering the award, the Committee will also have due regard to the potential cost to shareholders and uncapped gains to Executives.

ROLE OF THE COMMITTEE AND KEY DECISIONS TAKEN

The Committee was established by the Bushveld Minerals Board. The Committee is responsible for and oversees the governance of all Group remuneration matters. It is specifically responsible for determining the individual remuneration of Directors (Executive and Non-Executive) and senior executives. In all compensation matters, the committee retains full discretion to amend pay outcomes in light of performance and reasonableness. In order to discharge its responsibility, the Committee is required to:

a. Oversee the establishment of a remuneration policy that will promote the achievement of strategic objectives, encourage individual performance and support Bushveld's long-term interests. The final approval of the policy rests with the Board;
b. Determine the remuneration framework applicable to executives of Bushveld Minerals; and
c. Review the Group's remuneration strategy and its implementation on an annual basis.

In the 2021 financial period the Committee engaged in the following:

Executive remuneration

a. Reviewed total remuneration against external benchmarks.
b. Recommended individual remuneration for executives.
c. Reviewed and considered remuneration best practices to ensure that Bushveld's current practices remain progressive and relevant.

Non-Executive Director remuneration

a. To demonstrate leadership in constraint and reflect Group performance the Non-Executive Directors fees were reduced by 10 per cent for 2022.

Group-wide remuneration matters

a. Reviewed the impact of COVID-19 on remuneration decisions.
b. Reviewed the group's pay scales.
c. Approved the pay progression approach for annual increases for 2022.
d. Considered fair and responsible pay (see details below).
e. Reviewed retirement and risk benefits across the Group.
f. Approved STI targets for all Group companies.
g. Approved increases and adjustments for executives, management and employees.
h. Approved STIs for executives, management and employees.
i. Approved the STI and LTI rule amendments relating to acceptance of awards.
j. Performed progress testing pertaining to the 2019 performance share award.

Performance – relating to the forthcoming performance cycle

a. Set short-term performance targets; and
b. Set performance targets for the 2022 LTI award.

Compliance

a. Reviewed and approved the Committee's annual work plan.
b. Reviewed and approved the Remuneration Report for publication.

FAIR AND RESPONSIBLE REMUNERATION

During the past year the Committee actively engaged on the subject of fair and responsible remuneration. The Committee's stance is that 'fair' remuneration is impartial and free from discrimination. It is also free from self-interest, prejudice or favouritism.

It is rational, and not based on an irrational or emotional basis. 'Fair' does not mean 'the same' and remuneration levels will differ according to a number of factors, such as productivity, performance, skill, experience, risk and complexity, degree of challenge, level of responsibility of decision making, consequence and impact on the organisation. Equal contributions to performance should, however, be rewarded equally. The Company's policy on fair and responsible remuneration can be summarised as follows:

2021 Remuneration Report *continued*

PART 1: BACKGROUND STATEMENT FROM THE REMUNERATION COMMITTEE CHAIRMAN ON FAIR AND RESPONSIBLE REMUNERATION *CONTINUED*

Responsible pay

a. All variable pay is subject to the achievement of performance metrics, carefully calibrated and approved by the Committee, ensuring a close alignment with shareholder value creation over the performance period.
b. A portion of the STI is deferred and delivered in shares (bonus awards) which will be determined following the publication of the accounts. The LTI, taking the form of prospective Conditional Shares, may also be subject to a post vesting holding period which further enforces shareholder alignment;
c. The link between pay and performance is publicly disclosed by the Company in its Remuneration Report;
d. The Committee and, ultimately, the Board reviews and approves the remuneration of Directors and senior management, ensuring independence and transparency; and
e. Although remuneration is benchmarked, affordability is a key consideration when making pay adjustments. Variable pay is subject to reduction (malus) and recoup (claw-back). Executives are also expected to build and maintain a minimum shareholding in the Company.

Fair pay

a. Job profiles are in place for all roles within the organisation. Jobs are evaluated in accordance with a robust methodology and employees are remunerated in accordance with the determined pay scales;
b. The Group is committed to eliminating any unfair or unjustified differentiation within its remuneration implementation.
c. Horizontal fairness is applied and employees performing the same or similar job requirements at the same or similar level of performance receive similar remuneration, aligned to the Group pay scale;
d. Vertical fairness is applied by assessing the pay ratio between the CEO and the pay levels of employees below the executive level; and
e. Pay is well administered, with employees paid accurately, on time and in a way that is convenient.

The Company conducted the following benchmarks and pay analysis during the period to test the principles of responsible and fair pay:

Gini coefficient

a. An internal Gini coefficient was determined on a total reward basis and compared to both the South African mining specific and national Gini (based on a salary survey database). The outcome was considered by the Committee; and
b. The Committee will continue to monitor this on an annual basis.

Executive pay benchmarks

a. Executives and Executive Directors are paid in line with the Group's pay policy. Their guaranteed packages are targeted between the lower quartile and median of the market; and
b. Executive pay is benchmarked against a comparator group with similar company features to the Group or subsidiary to ensure the reliability and validity of the benchmark data.

SHAREHOLDER ENGAGEMENT

When the shareholder register reflects more institutional shareholders, the Company will engage to obtain views and comments on remuneration Policy and its implementation. For the time being, the Remuneration Committee will respond to any inward enquiries relating to this report.

FUTURE FOCUS AREAS

In 2022, the focus is to continue embedding and strengthening the Group's remuneration and performance philosophy into the wider people management framework.

- Align the annual performance increase and annual performance bonus payment dates with the release of financial results;
- Review Production bonus and Annual performance Bonus metrics for operations (Vametco and Vanchem).
- Consider a retention scheme for key and at risk employees.
- Furthermore, the Committee will prioritise the consolidation of the Provident Fund and Risk Benefits in order to achieve economies of scale on cost incurred and standardise offerings across the Group.

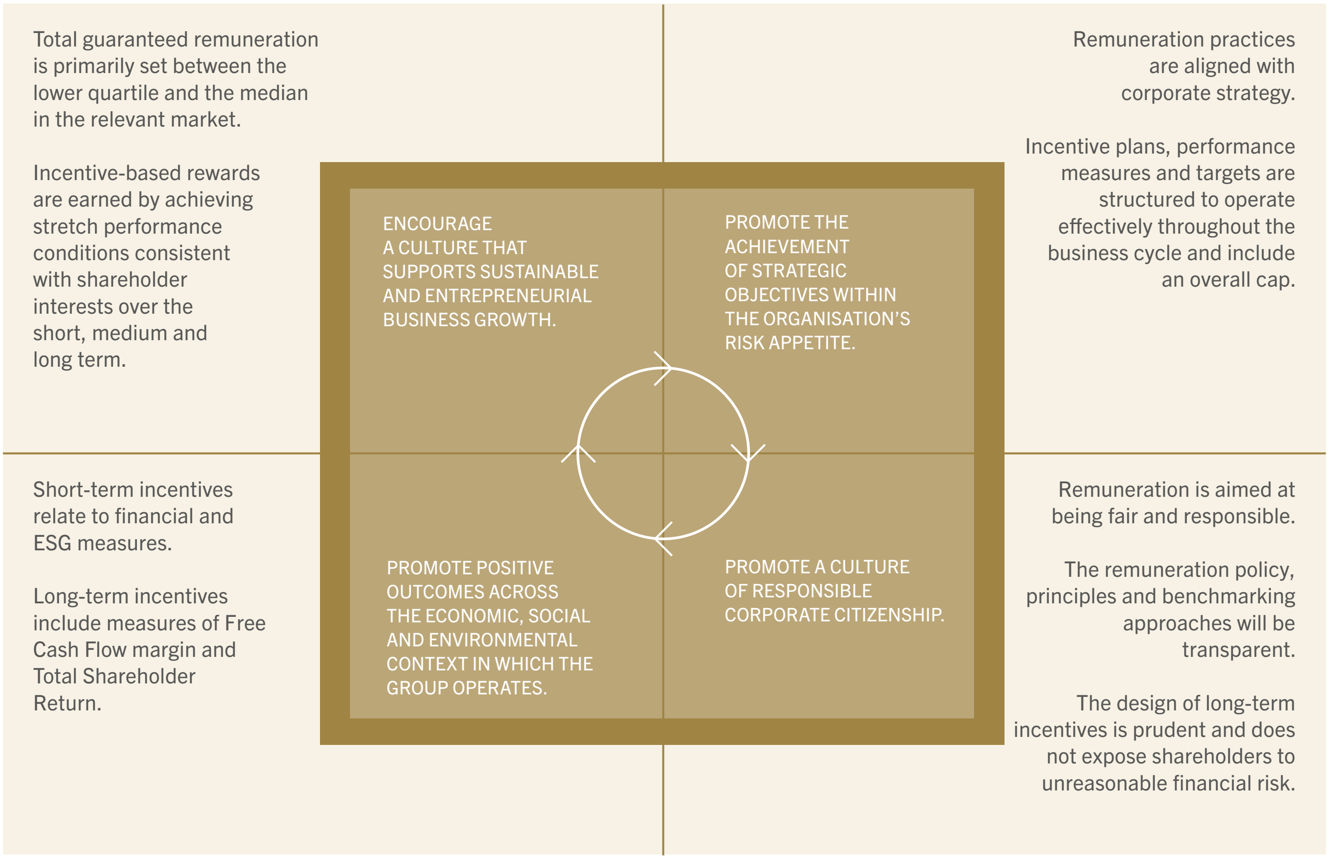
REMUNERATION ADVISORS

The Committee renewed the services of PricewaterhouseCoopers (PwC), an independent professional services firm with a global remuneration practice, to act as independent advisors to the Committee. The Committee is satisfied that they act independently.

We encourage and pursue open and regular dialogues with all our stakeholders. Constructive input is valued and appreciated as we continue to improve the remuneration system. On behalf of the Remuneration Committee, I thank you for your continued support and feedback regarding our remuneration framework.

Michael J. Kirkwood
Chairman of the Remuneration Committee
30 June 2022

In all compensation matters, the committee retains full discretion to amend pay outcomes in light of performance and reasonableness.



2021 Remuneration Report *continued*

PART TWO: REMUNERATION POLICY

GENERAL REMUNERATION POLICY

The Group Remuneration Policy seeks to enable Bushveld Minerals to attract, motivate and retain high-performing individuals. It guides decision-making in relation to all aspects of remuneration and supports the execution of strategic deliverables, as expressed in the Group's performance framework.

The policy applies to Bushveld Minerals' head-office employees, Bushveld Energy, Bushveld Vanchem, Bushveld Vametco Alloys and Lemur Investments. The Committee aims for the policy to be rolled-out to all subsidiaries where it makes sense, taking into account existing contractual obligations and terms and conditions of employment. The Remuneration Policy conforms to the Quoted Companies Alliance governance code and is anchored on the following remuneration **philosophy statements and principles:**

Bushveld's **remuneration and performance philosophy** through the application of this policy, aims to:

- Encourage a culture that supports sustainable and entrepreneurial business growth through the provision of appropriate individual and Group short-term and long-term performance-related rewards that are fair and responsible;
- Promote the achievement of strategic objectives within the organisation's risk appetite;
- Promote positive outcomes across the economic, social and environmental context in which the Group operates; and
- Promote a culture and responsible corporate citizenship.

ELEMENTS OF REMUNERATION

The Bushveld Minerals remuneration structure is made up of a combination of fixed and variable pay. The fixed pay component is referred to as the total guaranteed pay (TGP) and the variable component includes the Group's STIs and LTIs. The main objective of the TGP is to provide individuals with a fixed income, priced in line with the market and aligned with the job that they do.

The variable pay component is performance-related, designed to reward superior performance and to align the interests of executives and management with those of the shareholders over the medium-and long-term. Below is a summary of the policy as it applies to designated employees in the organisation (exclusions as explained above), together with the link to strategy.

OVERVIEW AND ELIGIBILITY:

Fixed Pay	Element	Definition	Applicable Grades
Total Guaranteed Pay	Base Salary	It is the rate of remuneration an employee receives in exchange for services. An employee's base salary can be expressed as an hourly rate or as a weekly, monthly, or annual salary.	All employees
	Standard Benefits	Benefits are over and above the base salary and include the Company contribution towards the retirement fund and any other employer-funded Group benefits.	All employees
	Conditional Benefits or allowances	Benefits received based on job specific requirements, and legislative requirements e.g. Shift allowance.	According to job requirements
Variable Pay	Production Bonus	Cash bonus paid monthly, as per the scheme rules, aimed to achieve alignment between the Company and employees in the achievement of production, safety, and productivity targets at an operational level.	Employees represented in the bargaining counsel
	Annual Bonus	Annual bonus is paid in cash and gives employees an incentive for the achievement of the Group's short and medium-term goals, with payment levels based on both business unit and individual performance, depending on the level of the job. Certain job categories (D-F) STI is paid partly in cash (annual bonus) and partly as equity (deferred bonus). The deferred bonus is settled as bonus shares under the CSP (as described below) scheme.	D, E and F Bands
Long-Term Incentives (LTI)	CSP	The vesting of conditional share awards is subject to forward looking Group performance conditions and continued employment.	D, E and F Bands

Fixed Pay	Element	Definition	Applicable Grades
	Bonus Shares	Bonus shares are based on the STI deferral and therefore not subject to forward looking performance vesting conditions, but continued employment is used as a vesting condition.	D, E and F Bands

POLICY APPLICABLE TO THE VARIOUS ELEMENTS

Remuneration element	Policy
TOTAL GUARANTEED PAY, COMPRISING FIXED CASH SALARY PLUS BENEFITS	
Policy	Our policy is to set TGP for all levels of staff between the lower quartile and median while the total package opportunity (inclusive of incentives) is set at the median or above in the case of the achievement of stretched targets, subject to discretion in the case of business needs to attract scarce skills to the Company.
Policy's link to Company strategy	In light of the fact that the Group is still in a growth phase, the Committee has determined to target fixed pay for all employees between the lower quartile and the median.
Approach to benchmarking and salary adjustments	For executives, the benchmark is derived from listed companies with a similar profile to that of Bushveld Minerals. Other employees are benchmarked against the mining circle of the REMchannel® Remuneration Survey. The total cost of annual increases for all employees who fall outside collective bargaining agreements is approved by the Committee and set in accordance with expected market movement and affordability. Distribution of increases to employees outside the bargaining forums is done with reference to individual performance, inflation, internal equity, competence and potential. Increases occur annually with effect from 1 January for Corporate, Vanchem employees and 1 July for Vametco employees.
Benefits	Benefits include a Medical Aid, Retirement Fund, Group Life Cover, Disability Benefit and Death-in-Service-Benefit
SHORT-TERM INCENTIVES	
Purpose	The purpose of the STI is to reward and incent employees for prior year performance. For managerial level employees, the STI has a deferred component, aligning employees with shareholders beyond the short-term. The STI is partly paid in cash and partly deferred into shares for employees on managerial levels, while non-managerial employees receive their STI in cash. The STI gives employees an incentive to achieve the Group's annual goals, with payment levels based on both business (Group and/or subsidiary) and personal performance, depending on the level of the employee.
Policy's link to Company strategy and performance measures	The STI is designed to encourage and reward superior performance. Annual Group performance targets as well as subsidiary targets and measures are set and approved by the Board. Following the annual Board strategy review process, it approves the strategic focus areas for the year, and these are translated into a Group performance balanced scorecard which reflects on-target and stretch deliverables for the year. These would include measures such as: – Consolidated Economic Profit; – Group Strategic Priorities (as mandated by the Board); – Production Costs (Mining and Processing); – Production Volumes (Mining and Processing); – Normalised Revenue (Mining and Processing); – LTIFR (Lost time injury frequency rate); and – Community Development and Environmental targets. Participants with line of sight on Group financial targets as well as strategic priorities will be allocated a split weighting between the Group performance targets and functional targets. The targets for 2022 are disclosed below on page 87.

2021 Remuneration Report *continued*

PART TWO: REMUNERATION POLICY *CONTINUED*

Remuneration element	Policy
Bonus formula	The STI operates as follows: – Qualifying Annual TGP x On-Target Incentive Percentage x {(Personal Score x Personal Weighting) + (Business Score x Business Weighting)} – For qualifying participants (middle management and above), the STI is partly paid in cash (annual bonus) and partly deferred (deferred bonus); which is then settled as bonus awards under the LTI (as described below); and – The remainder of the participants (non-managerial) receive the full STI in cash.
On-target incentive percentages	The on-target incentive percentages are determined per grade and expressed as a percentage of an employee's qualifying TGP. The on-target incentive percentages will be determined by the Remuneration Committee from time to time, informed by prevailing market trends. The on-target ranges are indicated below.
Performance measure weightings	A combination of financial and personal measures are used, each with an assigned weighting depending on seniority. Executive performance is heavily weighted toward business performance, to ensure executive and shareholder alignment. The following weightings apply at Group and subsidiary level respectively:

Group:

Level	Business weighting	Personal weighting
CEO and CFO	80%	20%
Executives	70%	30%
Senior management	60%	40%
Middle management or Professional Specialists	50%	50%
Non-managerial	0%	100%

Subsidiary:

Level	Business weighting	Personal weighting
Executives	60%	40%
Senior management	50%	50%
Middle management or Professional specialists	40%	60%
Non-managerial	0%	100%

Subsidiary weightings for Vametco and Vanchem:

Personal Weighting	40%
Business – Vametco	40%
Business – Group	20%

Remuneration element	Policy
Business performance measures and targets	As mentioned above, the business score will include a combination of financial and non-financial performance measures. The applicable targets are disclosed below. Performance outcomes are measured on the following business scale:

Performance achievement	Business score
Threshold performance	50%
Target performance	100%
Stretch performance	150%

As a result of the volatility in the market of the Vanadium price and exchange rate, the Committee implemented a collar and cap approach for the "consolidated economic profit" target. The intention of the collar and cap on the Vanadium price and foreign exchange rate is to ensure that management are partially insulated from factors that are beyond their control on both the upside and downside.

For 2022, the collar and cap for the Vanadium price was set at US$35-US$45 while the exchange rate was set at R14.45 with a tolerance level of 10 per cent up and down.

Remuneration element	Policy
Personal performance measures and targets and related personal score	The personal score will be dependent on the personal performance rating of the employee for the relevant financial year. Personal performance achievement will translate into the following personal scores. A personal score below threshold acts as a gatekeeper, which means even if the business score was achieved, a participant with a personal score below threshold will not qualify for any bonus.

Rating	Description	Performance Score
1	Non performance	0%
2.5	Threshold	50%
3	On-Target	100%
4	Exceeds expectation	125%
5	Stretch performance	150%

Remuneration element	Policy
STI opportunity	Threshold, target and stretch performance levels are set for each performance target. No bonus is payable if threshold performance is not achieved. The on-target and stretch bonus levels for executives are explained below under the heading "Package Design".
Deferral operation	For employees who hold jobs graded between Paterson Grades D and F, the STI is partly paid in cash (annual bonus) and partly deferred (deferred bonus) which is then settled as bonus awards under the LTI (as described below). The deferral is designed partly as a retention mechanism and to further align management's short-term interests with those of the shareholders. The cash vs deferred on-target percentages are as follows:

	On-target bonus as a % of qualifying TGP	
Level	Business weighting	Personal weighting
CEO and CFO	45%	28%
Executives	35%	23%
Senior management	30%	18%
Middle management or Professional Specialists	20%	8%

LTIs

Purpose	The Company adopted a new LTI, namely the Conditional Share Plan (CSP) during 2018. The purpose of the CSP is to align the interests of executives with those of shareholders over the medium to long-term. Awards vest after a three-year period and are then subject to a further two-year holding period.
Policy's link to Company strategy	LTIs are inherently retentive but there are no schemes specifically in place for the sole purpose of retaining key employees. Through the delivery of real equity, employees will become shareholders in the Company.

2021 Remuneration Report *continued*

PART TWO: REMUNERATION POLICY *CONTINUED*

Remuneration element	Policy
Nature of LTI	In terms of the CSP, eligible employees will receive conditional rights to shares and the following instruments are available: – Performance awards are subject to forward-looking Company performance conditions, measured over a three-year performance period. Awards will vest subject to the achievement of the performance measures and continued employment for the duration of the vesting period; and – Bonus awards linked to STI performance which is deferred and subject to continued employment but is not subject to forward-looking performance vesting conditions.
Eligibility	Middle management and above.
Instruments and their application	A mix between performance and bonus awards will be awarded. The policy as it applies to executives is explained in the "Package Design" section below.
Performance measures and period	Performance awards are subject to performance measures over a three-year period. To ensure Group alignment, all performance awards will be subject to Group performance measures. Applicable performance measures will be determined by the Committee each time an award is made and will be communicated to participants in the award letter. Once the CSP has been implemented, retrospective achievement against targets will be disclosed. The LTI targets include: – Free Cash Flow Margin | 40 per cent – Absolute TSR | 60 per cent
Award levels	Intended on-target award levels are expressed as a percentage of TGP and are disclosed in the Package Design section below.
Vesting levels	In recognition of the fact that TGP is set between the lower quartile and median, the CSP will comprise an outperformance element in the case of superior performance as follows: – Threshold performance – 50 per cent linear vesting – Target performance – 100 per cent linear vesting – Stretch performance – up to 250 per cent linear vesting, at the Committee's discretion.
Vesting period	Bonus awards vest in equal tranches after 12 and 18 months respectively after the end of the performance period in relation to which the deferral relates to. Bonus awards are not subject to a holding period. Performance awards are subject to a three-year vesting period, whereafter the shares will be settled. In addition, at the discretion of the Committee, 50 per cent of vested performance shares are subjected to additional holding periods of one year (25 per cent of the shares) and two years (the remaining 25 per cent) during which they cannot be disposed of, post vesting retrospectively. During the holding period the vested shares may also be subject to claw-back, as explained in further detail below.
Dilution limit	The Company voluntarily imposed a dilution limit for the CSP. Up to five per cent of the issued share capital can be issued in settlement of awards granted under the CSP. When required under listing rules, the Company would seek to formalise the limit in a general meeting.

2022 STI PERFORMANCE TARGETS

The Committee has agreed the following financial and non-financial targets for the year:

Company targets for 2022:

			BUSINESS MEASURES: 80% weighted score			
Key performance area	Overall Weighting	Sub-weighting	Key Performance Indicator	Threshold (50% vesting)	On target (100% vesting)	Stretch (150% vesting)
FINANCIAL MEASURES	**70%**					
Consolidated economic profit		100%	RONA vs WACC	RONA = WACC	RONA = WACC + 1.5%	RONA = WACC + 3.0%
NON-FINANCIAL MEASURES	**30%**					
Comprehensive ESG		20%	Compliance to IFC Environmental and Social Performance Standards	N/A	100%	N/A
Occupational health + safety		10%	Total Recordable Injury Frequency Rate (TRIFR)	≥2.5% performance improvement	≥5% performance improvement	≥10% performance improvement
		10%	Lost Time Injury	N/A	≥50% performance improvement	100% performance improvement
		5%	New Occupational disease cases	N/A	0	N/A
Environmental		5%	Major Environmental Incidents	N/A	0	N/A
		5%	Environmental non-compliance fines/ directives	N/A	0	N/A
		5%	Environmental authorisations	N/A	100% retained	N/A
		5%	ISO 14001 certifications (Vametco)/ ISO 9001 accreditation (Vanchem)	N/A	100%	N/A
Social license To operate		20%	Acquire and maintain social license to operate	Compliance to applicable regulatory frameworks (MCII, B-BBEE & DTI Codes, etc)	Additional: Adherence to MCIII plan milestones and improvement on previous year ratings on DTI Scorecards	Additional: Effective cross-functional internal forums such as transformational forums inclusive of Business Unit Management, Finance, Procurement, HR and Stakeholder Engagement
Governance		15%	Adherence to the QCA Corporate Governance Code	N/A	Full adherence to the QCA Code	N/A

2021 Remuneration Report *continued*

PART TWO: REMUNERATION POLICY *CONTINUED*

LTI (CSP performance awards) targets for 2022

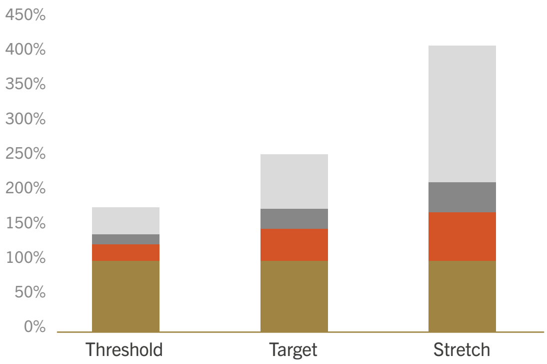
Measure	Weighting	Threshold (50% vesting)	Target (100% vesting)	Stretch (up to 250% vesting)
Free cash flow margin	40%	US Based cost of equity (COE)	US Based COE + 1.5%	US Based COE + 3%
Absolute TSR	60%	US Based COE	US Based COE + (3% to 5%)	US Based COE + (10% to 15%)

PACKAGE DESIGN

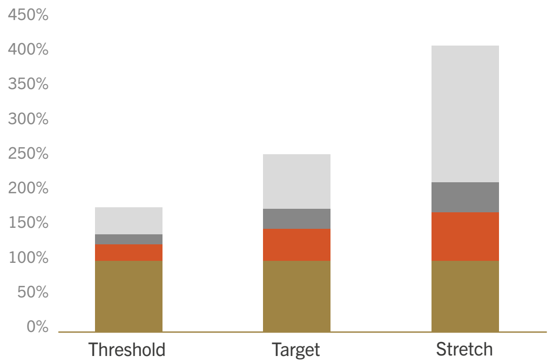
The remuneration policy is linked to our strategy and is an enabler for the achievement of the Group's key performance indicators. The structure of the remuneration package supports the Group's strategic objectives and is made up of fixed and variable remuneration.

The mix between fixed and variable pay for executive directors linked to various performance outcomes (Threshold, On-target and Stretch) under the terms of the policy are indicated in the following graphs:

CEO (%)



CFO (%)



TPG STI Deferred STI LTI

In line with Bushveld's overall remuneration philosophy it can be observed that the largest portion of the CEO's and CFO's total reward, in the scenario of stretch performance, is weighted towards the stretch vesting of the performance LTI award. Consequently, in order to ensure that a strong pay for performance link is sustained a stretch LTI outcome is dependent on a significant delivery of total shareholder return. However, to ensure that the principle of fair and responsible pay is maintained and to mitigate against a windfall gain outcome, the Committee retains full discretion to amend pay outcomes in the light of performance and reasonableness.

FURTHER DETAIL RELATING TO EXECUTIVES AND DIRECTORS

Minimum Shareholding Requirements

To ensure further shareholder alignment, executives are required to build up and maintain a percentage of their TGP in unencumbered Company shares over a three-year period from date of implementation of the policy, or appointment.

This shareholding can be built up as desired by executives. Any existing shareholding, as well as vested CSP shares (including those that are subject to the holding period), will be taken into consideration when calculating the shareholding percentage.

The required shareholding levels, as a percentage of TGP (before tax) are as follows:

Chief Executive Officer	200%
Finance Director	175%
Other Executives	150%

Malus and Claw-Back Policy

As a result of increased corporate governance requirements pertaining to executive remuneration, variable remuneration is subject to malus and claw-back. The purpose of such a policy is to give the Board the discretion to recoup vested, settled and/or paid incentives (also referred to a "claw-back") and to reduce and cancel any unvested and/or unpaid incentive remuneration (also referred to as "malus") when trigger event(s) occur.

The policy may be implemented by the Board where there were material misstatements of financial results or other calculation errors that resulted in the overpayment of incentives and gross misconduct on the part of the employee leading to dismissal. The policy applies to all variable pay as follows:

- Unpaid STIs and unvested LTIs are subject to malus as a pre-vesting forfeiture provision;
- Paid STI and 50 per cent of vested LTIs may be subject to claw-back as a post vesting recoupment of paid and vested incentives; and
- LTIs that are subject to a holding period will be subject to claw-back as follows: 25 per cent can be clawed back for a one-year period post vesting and the final 25 per cent for a two-year period post vesting.

Executive employment contracts and termination of employment

During this period the Committee appointed ENS Africa, one of the largest independent law firms in South Africa, to review existing and draft new executive employment contracts that include restraint of trade provisions. All newly-appointed executives are engaged on the basis of the new contract and tied to a six-month restraint period.

The STI and LTI make a distinction between fault and no-fault terminations as follows:

STI & LTI

Fault termination (resignation and dismissal)	The incentive is forfeited.
No-fault termination (termination due to death, ill health, disability, retrenchment, sale of an employer, retirement)	A pro-rata portion of the incentive is received, based on the number of complete months in service, and in the case of performance shares awards are adjusted for performance. The unvested or unpaid portion will lapse.

SHAREHOLDER ENGAGEMENT

Bushveld Minerals is committed to fair, responsible and transparent remuneration. As such the Company invites shareholders to engage with the Group on remuneration-related matters. In response to shareholder queries, where appropriate, the Board may resolve to amend relevant elements of the Remuneration Policy.

NON-EXECUTIVE DIRECTOR FEES

Non-executive directors are appointed to the Bushveld Minerals Group based on their ability to contribute competence, insights and experience appropriately to assist the Group to set and achieve its objectives. Consequently, fees are set at levels to attract and retain the calibre of directors necessary to contribute to a highly effective Board.

They do not participate in either the STI or LTI. No arrangements exist for compensation in respect of loss of office. The aggregate fees of all directors shall not exceed GBP500,000 per annum, or such higher amount as may be determined by ordinary resolution (excluding amounts payable under any other provisions of the Articles).

2021 Remuneration Report *continued*

The current approved fee structure is as follows:

Board Position	Annual Fee – US$
Chairperson	96,278
Non-executive director	51,348
Senior non-executive director	64,185

Board Committee Chairperson	Annual Fee – US$
Remuneration committee	6,419
Audit committee	6,419
Nominations committee	3,209
Disclosure committee	3,209

PART THREE: REMUNERATION IMPLEMENTATION REPORT

TGP INCREASES AWARDED TO EXECUTIVES VERSUS OTHER EMPLOYEES

In line with the Company's philosophy to address the wage gap, some increases were awarded to lower levels of staff. The following TGP increases were awarded with effect from 1 January 2022:

Occupational Level	% Increase
CEO and CFO	3%
Executives	4.6%
Middle management/professional specialists	4.7%
Non-management	5.1%

2021 STI OUTCOMES

Metrics and weightings

The relative weighting and composition of Group and Individual objectives for 2021 were:

Performance category	CEO and CFO	Other Executives	Subsidiary Executives
Personal performance	20%	30%	40%
Business performance	80%	70%	60%

Business targets and outcomes

			2021 Target				
Measure	Weighting	Sub-weighting	Threshold	Target	Stretch	2021 outcomes	2021 weighted outcome
Consolidated Economic Profit (EVA = RONA vs WACC)	**70%**		RONA = WACC	RONA = WACC + 1.5%	RONA = WACC + 3%	0%	0%
ESG	**30%**		80% of target	100% of target	150% of target	81.5%	24%
Occupational health and safety		30%	5%	10%	15%	80%	24%
Environment		25%	90%	95%	100%	50%	12.5%
Social license to operate		25%	2	0	0	100%	25%
Governance		20%	full adherence to QCA code			100%	20%

For the business performance measure in 2021, the collar was applied to the Vanadium price at US$35/kgV.

The overall STI performance achievement for business targets is 24 per cent, resulting in the achievement of a "below threshold" business performance outcome.

Personal targets and outcomes

Depending on the participant's role, personal metrics and targets were set and evaluated with reference to the following performance categories:

a. Strategy Implementation
b. Production Volumes
c. Production Costs
d. Capital Projects
e. Sustainability
f. Organisational Health

STI calculation and payments

The STI is calculated based on the following formula, which incorporates six variables derived from the end of year performance evaluation scores:

a. Qualifying Annual TGP x On-Target Incentive Percentage x ((Personal Score x Personal Weighting) + (Business Score x Business Weighting)).
b. The STIs (cash and deferred shares) were as follows for the Company's two executive directors, the CEO and CFO during 2021.

Qualifying Annual TGP x On-Target Incentive Percentage x ((Personal Score x Personal Weighting) + (Business Score x Business Weighting)). Name	TGP US$(A)	On-target % (B)	Personal Score (20%) C	Business score (80%) (D)		STI = A X B X {C+D}	Final STI
				Financial weighted outcome	Non-financial weighted outcomes		
F. Mojapelo	424,328	45%	14%	0%	19%	63,013	Zero – No STI was paid as financial performance measures were not met.
T. Chikanza	318,050	45%	16%	0%	19%	50,093	

The remainder of the employees have received bonuses based on the outcome of the non-financial and personal outcomes.

2021 CONDITIONAL SHARES AWARDED

The CSP comprises two elements: performance shares and bonus shares. During 2021, no conditional performance shares were granted. Bonus shares were awarded based on the outcomes of the 2021 STI and are disclosed in the prior year's report. No bonus awards will be awarded to the CEO and CFO in 2022 due to the non-payment of STI for 2021.

MINIMUM SHAREHOLDING REQUIREMENTS

Minimum shareholding requirements for the Executives were adopted at the beginning of this financial year. Executives are given three years from this date, or the date of their employment, to build up the required shareholding. The current levels of ownership are depicted below:

Executives	% of TGP held in shares (as at 31 Dec 2021)	MSR target and target date
F. Mojapelo	589%	200% (31 Dec 2021)
T. Chikanza	0%	150% (1 Oct 2022)

2021 Remuneration Report *continued*

PART THREE: REMUNERATION IMPLEMENTATION REPORT *CONTINUED*

REMUNERATION DISCLOSURE

Remuneration paid to executive directors during the year

Single figure of remuneration table:

Name	Year	Guaranteed pay US$	Benefits US$	STI[1] US$	LTI Reflected US$	Other	**Total single figure of Remuneration US$**
Executive Directors							
F Mojapelo[2,3]	2021	424,067	–	–	–	–	**424,067**
	2020	381,107	–	137,198	85,368	–	**603,673**
T Chikanza[3,4]	2021	318,050	–	–	–	–	**318,050**
	2020	285,760	–	103,388	64,330	–	**453,478**

Footnotes:
1. The STI included in the 2021 and 2020 financial years relates to the cash component accrued to incumbents relating to performance in the 2021 and 2020 financial year respectively, however the STI is only paid after year end. For FY20, 1/3 of the STI will be settled in cash and 2/3 in shares which will vest in December 2021.
2. The LTI reflected in the 2020 financial year includes the bonus share awards which relate to performance in the 2020 financial year and will be awarded after year end.
3. No cash STI or Bonus shares were awarded for the FY2021 financial year

* All amounts for the 2021 single figure disclosure were converted to US$ using the average exchange rate of 14.7854 for the 2021 financial year (2020: 16.4622).

Schedule of unvested awards and cash flow on settlement:

Names	Award date	Vesting date	Opening balance on 1 Jan 2020	Granted during 2020	Forfeited during 2020	Settled during 2020	Closing balance on 31 Dec 2020	Cash value of receipts 2020 (US$)[1]	Estimated closing fair value on 31 Dec 2020 (US$)[2]	Granted during 2021	Forfeited during 2021	Settled during 2021	Closing balance on 31 Dec 2021	Cash value of receipts 2021 (US$)[1]	Estimated closing fair value on 31 Dec 2021 (US$)[2,3]
Executive directors															
F Mojapelo															
CSP awards:															
– Performance share award	Oct-19	Oct-22	678,572	–	–	–	678,572	–	–	–	–	–	678,572	–	–
– Bonus share award	Jul-20	50% in Dec 2020 and 50% in June 2021	880 745	–	–	(440 373)	440,373	117,319	117,319	–	–	-440,373	–	52,845	–
– Bonus share award	Jul-21	75% in Dec 2021 and 25% in June 2022	–	–	–	–	–	–	–	827,850	–	–	827,850	–	99,342
T. Chikanza															
CSP awards:															
– Bonus share award	Jul-21	75% in Dec 2021 and 25% in June 2022	–	–	–	–	–	–	–	623,838	–	–	623,838	–	74,861

Footnotes:
1. Includes the proceeds from the awards settled during the year based on the market value on vesting date.
2. The performance share awards and bonus share awards are included at the year end share price of US$0.12 (2020: US$0.27) with an estimated vesting percentage of 0 per cent (2020: 0 per cent) and 100 per cent (2020:100 per cent) for the bonus shares.
3. The bonus share awards made in the 2020 financial year are included at the year end share price of US$0.27.
4. The bonus share awards made in the 2020 financial year and which vested in June 2021 vested a share price of US$0.12.
5. During 2021 bonus shares and shares in lieu of annual cash bonus were warded. 50 per cent of the bonus shares and 100 per cent of the shares in lieu of annual cash bonus would have vested on 31 December 2021, however, due to an extended closed period the vesting of the shares have been deferred to 30 June 2022.

Non-executive director fees paid during the year

No increases to the fees of non-executive directors were approved for the 2021 year. The fees paid during 2021 compared to 2020 are disclosed below.

	2021 Fees received by non-executive directors (US$)							
Non-executive directors	Board	Remuneration Committee Chair	Audit Committee Chair	Nominations Committee Chair	Attendance of ad-hoc meetings	Disclosure Committee Chair	Total fees received 2021	Total fees received 2020
Ian Watson	103,178	–	–	3,439	12,381	3,439	122,437	109,115
Michael Kirkwood	68,785	6,879	6,879	–	13,757	–	92,299	82,157
Jeremy Friedlander	55,028	–	–	–	11,006	–	66,034	57,767
Anthony Viljoen	55,028	–	–	–	11,006	–	66,034	55,199

Directors' Report

The Directors of Bushveld Minerals Limited ("Bushveld" or the Group") hereby present their report together with the consolidated financial statements for the year ended 31 December 2021.

PRINCIPAL ACTIVITIES, BUSINESS REVIEW AND FUTURE DEVELOPMENTS

Bushveld Minerals is a low-cost, vertically integrated primary vanadium producer. As the owner of two of the world's four operating vanadium processing facilities, the Company is one of only three primary producers globally. In 2021, Bushveld Minerals produced approximately 3,600 mtV, representing approximately three per cent of the global vanadium market. With a diversified vanadium product portfolio serving the needs of the steel, energy and chemical sectors, the Company participates in the entire vanadium value chain through its two main pillars: Bushveld Vanadium, which mines and processes vanadium ore; and Bushveld Energy, an energy storage solutions provider.

With Vanchem's recently refurbished Kiln 3, Bushveld Vanadium expects to achieve a fully funded annualised steady state production run rate of between 5,000 mtVp.a. and 5,400 mtVp.a. by the end of 2022. With production at this rate, we have a business that is sustainable with an attractive cost proposition and good cash generation capacity. Beyond that, the full production potential of the Company's assets is much greater and our investment proposition offers significant further growth production to a level of 8,000 mtVp.a. over the medium to long term. This growth would be facilitated through the advancement of the feasibility and pre-feasibility studies at Vametco and Vanchem, respectively, which would require modest capital expenditure relative to a greenfield operation. The potential growth to 8,000 mtVp.a. would provide an opportunity to reduce unit costs further and could be done in incremental, value accretive phases.

Bushveld Energy is focused on developing and promoting the role of vanadium in the growing global energy storage market through the advancement of vanadium-based energy storage systems, specifically VRFBs.

With respect to non-core interests, Bushveld Energy holds an indirect interest in Cellcube of 25.25 per cent. In addition, the Group also has interests in Lemur, an integrated thermal coal mining and independent power producer project in Madagascar. In September 2021, the Company disposed of its 4.76 per cent shareholding in AIM-listed AfriTin Mining Limited, the company demerged from Bushveld Minerals in November 2017, and realised a total of approximately US$3.5 million.

Bushveld Minerals is the holding company of several companies. The Group structure is described in Note 1 of the financial statements.

Reviews of the Group's financial and operational performance and future developments are provided in the Chairman's Statement, Chief Executive Officer's review and the Finance Director's review.

RESULTS AND DIVIDEND

The Group's results show a loss before tax for the year of US$37.7 million (2019: profit of US$83.3 million). While its value proposition to shareholders is primarily of a capital growth nature, the intention is to create shareholder value through delivering on strategy. Further analysis of the results is disclosed in the Finance Director's statement.

SHARE CAPITAL AND FUNDING

Full details of the authorised and issued share capital, together with details of the movements in the Company's issued share capital during the year, are shown in note 22. The Company has one class of ordinary shares which carry no right to fixed income. Each share carries the right to one vote at general meetings of the Company.

DIRECTORS

The Directors who served the Company since 1 January 2021 are as follows:

Fortune Mojapelo	Chief Executive Officer
Tanya Chikanza	Finance Director
Ian Watson	Chairman and Independent Non-Executive Director
Michael J. Kirkwood	Senior Independent Non-Executive Director
Anthony Viljoen	Non-Executive Director (retired 26 May 2022)
Jeremy Friedlander	Independent Non-Executive Director (retired 16 March 2022)
Kevin Alcock	Independent Non-Executive Director (appointed 16 March 2022)
Mirco Bardella	Independent Non-Executive Director (appointed 16 March 2022)
Jacqueline Musiitwa	Independent Non-Executive Director (appointed 16 March 2022)
David Noko	Independent Non-Executive Director (appointed 26 May 2022)

DIRECTORS' INTERESTS

The Directors' beneficial interests in the shares of the Company at 31 December 2021 were:

	Ordinary shares of 1p each 31 December 2021	Ordinary shares of 1p each 31 December 2020
Fortune Mojapelo	13,253,794	12,580,000
Tanya Chikanza	–	–
Ian Watson	2,455,000	3,555,000
Michael J. Kirkwood	300,000	300,000
Anthony Viljoen	9,746,667	12,746,667
Jeremy Friedlander	1,050,000	1,050,000

Fortune Mojapelo held 9,173,794 Ordinary Shares in Bushveld Minerals directly and has a beneficial interest in a further 8,160,000 shares held through VM Investment Company (Pty) Ltd, a company in which he has a 50 per cent interest, resulting in a total of 13,253,794 shares.

Anthony Viljoen held 5,666,667 Ordinary Shares in Bushveld Minerals directly and has a beneficial interest in a further 8,160,000 Ordinary Shares held through VM Investment Company (Pty) Ltd, a company in which he has a 50 per cent interest, resulting in a total of 9,746,667 shares.

The Bushveld Minerals remuneration structure includes an incentive component which includes the Short-term Incentives (STI) and Long-term Incentives (LTI) schemes. Refer to the Remuneration Report for details of options awarded and the vesting thereof.

DIRECTORS' INDEMNITY INSURANCE

The Group has maintained insurance throughout the year for its Directors and officers against the consequences of actions brought against them in relation to their duties for the group.

EMPLOYEE INVOLVEMENT POLICIES

The Group places considerable value on the awareness and involvement of its employees in the Group's activities. Within the bounds of commercial confidentiality, information is disseminated to all levels of staff about matters that affect the progress of the Group, and that are of interest and concern to them as employees.

CREDITOR PAYMENT POLICY AND PRACTICE

The Group's policy is to ensure that, in the absence of disputes, all suppliers are dealt with in accordance with its standard payment policy and it abides by the terms of payment agreed with suppliers when agreeing the terms of each transaction. Suppliers are made aware of the terms of payment.

RELATED PARTY TRANSACTIONS

Details of related party transactions are detailed in note 34 of the financial statements.

EVENTS AFTER THE REPORTING DATE

Events after the reporting date are detailed in note 36 of the financial statements, including the COVID-19 pandemic, the impact of which is also described in the Chairman's Statement, Chief Executive's Review and Finance Director's Review.

STATEMENT AS TO DISCLOSURE OF INFORMATION TO AUDITOR

The Directors who were in office on the date of approval of these financial statements have confirmed that, as far as they are aware, there is no relevant audit information of which the auditor is unaware. Each of the Directors have confirmed that they have taken all the steps that they ought to have taken as Directors in order to make themselves aware of any relevant audit information and to establish that it has been communicated to the auditor.

AUDITOR

The Company's auditor is RSM UK Audit LLP.

ELECTRONIC COMMUNICATIONS

The maintenance and integrity of the Group's website is the responsibility of the Directors. The work carried out by the auditor does not involve consideration of these matters and, accordingly, the auditor accepts no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the website.

The Group's website is maintained in compliance with AIM Rule 26.

By order of the Board

K Bredin
Company Secretary
30 June 2022

Statement of Directors' Responsibilities

The Directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulations.

Guernsey company law requires the Directors to prepare group financial statements for each financial year in accordance with generally-accepted accounting principles. The Directors are required by the AIM Rules of the London Stock Exchange to prepare group financial statements in accordance with International Financial Reporting Standards ("IFRS") in conformity with the requirements of the Companies Act of 2006.

The financial statements of the Group are required by law to give a true and fair view of the state of the group's affairs at the end of the financial year and of the profit or loss of the Group and are required by IFRS, in conformity with the requirements of the Companies Act of 2006 to fairly present the financial position and performance of the Group.

The Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and of the profit or loss of the Group for that year.

In preparing the Group financial statements, the Directors are required to:

(i) select suitable accounting policies and apply them consistently;
(ii) make judgements and accounting estimates that are reasonable and prudent;
(iii) state whether they have been prepared in accordance with IFRS in conformity with the requirements of the
Companies Act of 2006; and
(iv) prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Group's transactions, and disclose with reasonable accuracy, at any time, the financial position of the Group and enable them to ensure that the financial statements comply with applicable law. They are also responsible for safeguarding the assets of the Group and taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the Group's website. Legislation in Guernsey governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

The Directors confirm they have discharged their responsibilities as noted above.

Financial Statements

To fuel human freedom in advancing a *better, safer, more durable existence* for us all.

Independent Auditor's Report

OPINION

We have audited the financial statements of Bushveld Minerals Limited and its subsidiaries (the 'group') for the year ended 31 December 2021 which comprise of the Consolidated Statement of Profit or Loss, Consolidated Statement of Comprehensive Loss, Consolidated Statement of Financial Position, Consolidated Statement of Changes in Equity, Consolidated Statement of Cash Flows and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and UK adopted International Accounting Standards.

In our opinion, the financial statements:

- give a true and fair view of the state of the group's affairs as at 31 December 2021 and of the group's loss for the year then ended;
- are in accordance with UK-adopted International Accounting Standards; and
- comply with the requirements of The Companies (Guernsey) Law, 2008.

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

CONCLUSIONS RELATING TO GOING CONCERN

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. Our evaluation of the directors' assessment of the group's ability to continue to adopt the going concern basis of accounting is described in the Key Audit Matters section, below.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Summary of our audit approach

Key audit matters	**Group** – Impairment of property, plant and equipment and intangible exploration and evaluation assets – Going concern
Materiality	**Group** – Overall materiality: $2,070,000 (2020: $3,000,000) – Performance materiality: $1,550,000 (2020: $2,250,000)
Scope	Our full-scope audit procedures covered 99% of revenue, 97% of total assets and 98% of profit before tax.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the group financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) we identified, including those which had the greatest effect on the overall audit strategy, the allocation of resources in the audit and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the group financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Impairment of property, plant and equipment and intangible assets

Key audit matter description	The group has made of loss before tax of $47 million (2020: loss of US$38 million). As a result, there is a risk that the carrying value of the group's property, plant and equipment and intangible exploration and evaluation may be impaired. The use of estimates and judgements in respect of impairment is disclosed in the "use of estimates and judgements" section of note 3 and details of intangible exploration and evaluation assets and property, plant and equipment are disclosed in notes 12 and 13 respectively. This is considered to be a Key Audit Matter due to the use of significant management estimates and judgements in estimating the recoverable amount of the assets based on long-term forecasts which require the use of assumptions, including future vanadium price, production volumes, foreign exchange rates and costs.
How the matter was addressed in the audit	Our work included: – Review of the work of component auditors on component management's impairment reviews; – Checking the integrity and arithmetic accuracy of the cash flow forecasts as provided to the Board of directors by management; – Challenging management on the reasonableness of the assumptions made in the forecasts, particularly in respect of production levels, vanadium prices, operating costs and capital expenditure; – Corroborating the reasonableness of assumptions and explanations provided by management to supporting information where available; – Stress-testing management's cash flow forecasts to assess the impact of downside scenarios more severe than those included in management's forecasts; – Considering mitigating actions available to management and the level of headroom in the forecasts under various scenarios; – Discussing our findings with management and the Audit Committee; – Auditing the accuracy and completeness of disclosures made in the financial statements in respect of impairment and the application of a fair value less cost of disposal model.
Key observations	The model used by management in relation to the assessment of the Vanchem CGU is particularly sensitive to changes in the production volumes in the near term.

Going concern

Key audit matter description	The group made a loss before tax for the year of $47 million (2020: loss of $38 million) and has significant borrowings which are secured on the trade and assets of the group, some of which are subject to financial covenants. The group has undertaken significant capital expenditure in the year to increase the production capacity of its operations and the forecasts used in management's assessment of going concern rely on the successful implementation and integration of these new facilities. The group is also directly impacted by changes in the market price of vanadium and the ZAR:USD exchange rate, both of which are outside the group's control. Fluctuations in either of these assumptions can materially affect the results of the group. As an area that inherently contains a considerable degree of management estimation and judgement, going concern is an area that requires a significant amount of audit effort and senior audit personnel time.

Independent Auditor's Report *continued*

Going concern

How the matter was addressed in the audit	Our work included:
	– Obtain and review management's assessment of going concern and consider the reasonableness of assumptions used, corroborating them to external market information where possible.
	– Challenging management on the implications of disaffirming evidence and alternative viewpoints.
	– In relation to the forecasts and sensitivity analysis used in the going concern assessment we:
	  – Checked the arithmetic accuracy of the forecasts;
	  – Reviewed management's sensitivity analysis to understand the impact of reasonably possible changes (deemed to be 10%) in the vanadium price, production volumes and exchange rate.
	  – Challenged management on the key assumptions made, particularly with regards to the production volumes of Kiln 3 and requested management undertake additional sensitivity analysis beyond their original base-case;
	  – Assessed the accuracy of the forecasts through comparison FY22 actual results to the date of approval.
	– Compared the forecasts produced as part of the 2020 audit, to the actual results for 2021 to assess the accuracy of management's forecasts.
	– Reviewed management's forward-looking covenant compliance assessment to assess consistency with the forecasts.
	– Considered the relevance, accuracy and balance of disclosures made in the financial statements including the front end.

Key observations	Management's going concern assessment is particularly sensitive to changes in the production volumes of the Vanchem business in the near term.

Our application of materiality

When establishing our overall audit strategy, we set certain thresholds which help us to determine the nature, timing and extent of our audit procedures. When evaluating whether the effects of misstatements, both individually and on the financial statements as a whole, could reasonably influence the economic decisions of the users we take into account the qualitative nature and the size of the misstatements. Based on our professional judgement, we determined materiality as follows:

	Group
Overall materiality	$2,070,000 (2020: $3,000,000)
Basis for determining overall materiality	Formula based on 5% of result before tax
Rationale for benchmark applied	As a listed entity, result before tax is considered to be the most appropriate benchmark for users of the financial statements
Performance materiality	$1,550,000 (2020: $2,250,000)
Basis for determining performance materiality	75% of overall materiality
Reporting of misstatements to the Audit Committee	Misstatements in excess of $103,000 and misstatements below that threshold that, in our view, warranted reporting on qualitative grounds.

An overview of the scope of our audit

The group consists of 30 components, located in the following countries;

- Guernsey
- South Africa
- Mauritius
- Madagascar
- United States of America
- United Kingdom

The coverage achieved by our audit procedures was:

	Number of components	Revenue	Total assets	Loss before tax
Full scope audit	5	99%	95%	89%
Specific audit procedures	3	0%	2%	9%
Total	8	99%	97%	98%

Analytical procedures at group level were performed for the remaining components.

Of the above, full scope audits for 3 components and specific audit procedures for 2 components were undertaken by component auditors.

OTHER INFORMATION

The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The directors are responsible for the other information contained within the annual report. Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION

We have nothing to report in respect of the following matters where The Companies (Guernsey) Law 2008 requires us to report to you if, in our opinion:

– proper accounting records have not been kept by the parent company; or
– the financial statements are not in agreement with the accounting records; or
– we have failed to obtain all the information and explanations which, to the best of our knowledge and belief, are necessary for the purposes of our audit.

RESPONSIBILITIES OF DIRECTORS

As explained more fully in the Directors' responsibilities statement set out on page 95, the Directors are responsible for the preparation of the group's financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the group or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

THE EXTENT TO WHICH THE AUDIT WAS CONSIDERED CAPABLE OF DETECTING IRREGULARITIES, INCLUDING FRAUD

Irregularities are instances of non-compliance with laws and regulations. The objectives of our audit are to obtain sufficient appropriate audit evidence regarding compliance with laws and regulations that have a direct effect on the determination of material amounts and disclosures

Independent Auditor's Report *continued*

in the financial statements, to perform audit procedures to help identify instances of non-compliance with other laws and regulations that may have a material effect on the financial statements, and to respond appropriately to identified or suspected non-compliance with laws and regulations identified during the audit.

In relation to fraud, the objectives of our audit are to identify and assess the risk of material misstatement of the financial statements due to fraud, to obtain sufficient appropriate audit evidence regarding the assessed risks of material misstatement due to fraud through designing and implementing appropriate responses and to respond appropriately to fraud or suspected fraud identified during the audit.

However, it is the primary responsibility of management, with the oversight of those charged with governance, to ensure that the entity's operations are conducted in accordance with the provisions of laws and regulations and for the prevention and detection of fraud.

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud, the group audit engagement team and component auditors:
– obtained an understanding of the nature of the industry and sector, including the legal and regulatory frameworks, that the group operate in and how the group is complying with the legal and regulatory frameworks;
– inquired of management, and those charged with governance, about their own identification and assessment of the risks of irregularities, including any known actual, suspected or alleged instances of fraud;
– discussed matters about non-compliance with laws and regulations and how fraud might occur including assessment of how and where the financial statements may be susceptible to fraud.

All relevant laws and regulations identified at a Group level and areas susceptible to fraud that could have a material effect on the consolidated financial statements were communicated to component auditors. Any instances of non-compliance with laws and regulations identified and communicated by a component auditor were considered in our group audit approach.

The most significant laws and regulations were determined as follows:

Legislation/Regulation	Additional audit procedures performed by the Group audit engagement team and component auditors included:
IFRS and The Companies (Guernsey) Law 2008	– Review of the financial statement disclosures and testing to supporting documentation; – Completion of disclosure checklists to identify areas of non-compliance.
Tax compliance regulations in the jurisdictions in which the group operates	– Inspection of advice received from internal/external tax advisors where relevant; – Consideration of whether any matter identified during the audit required reporting to an appropriate authority outside the entity.
Mining Charter of South Africa and associated laws	– Enquiry of management as to whether any breaches had been identified; – Review of supporting documentation where relevant.

The areas that we identified as being susceptible to material misstatement due to fraud were:

Risk	Audit procedures performed by the Group audit engagement team and component auditors
Revenue recognition	– Tests of controls, tests of details, analytical procedures and cut-off testing.
Management override of controls	– Testing the appropriateness of journal entries and other adjustments; – Assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and – Evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.

A further description of our responsibilities for the audit of the financial statements is included in appendix 1 of this auditor's report. This description, which is located on page 103, forms part of our auditor's report.

USE OF THIS REPORT

This report is made solely to the company's members, as a body, in accordance with section 262 of The Companies (Guernsey) Law 2008. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

RSM UK Audit LLP, Auditor
Chartered Accountants
25 Farringdon Street
London, EC4A 4AB
Date: 30 June 2022

Appendix 1: Auditor's responsibilities for the audit of the financial Statements

As part of an audit in accordance with ISAs (UK), we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Directors.
- Conclude on the appropriateness of the Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, including the FRC's Ethical Standard, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current year and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Consolidated Statement of Profit or Loss

For the year ended 31 December 2021

	Note	2021 US$	2020 Restated* US$
Continuing operations			
Revenue	5	**106,857,285**	89,988,078
Cost of sales		**(102,782,583)**	(91,260,760)
Gross profit/(loss)		**4,074,702**	(1,272,682)
Other operating income		**2,618,971**	2,304,528
Impairment losses	12&13	**(2,438,890)**	–
Selling and distribution costs		**(6,406,621)**	(4,828,710)
Other mine operating costs		**(3,224,407)**	(4,699,892)
Idle plant costs		**(3,386,899)**	(4,152,153)
Share-based payment	23	**375,008**	(375,008)
Administration expenses	7	**(20,894,292)**	(19,783,176)
Operating loss		**(29,282,428)**	(32,807,093)
Finance income	8	**935,347**	1,077,991
Finance costs	9	**(12,184,059)**	(5,732,249)
Remeasurement of financial liabilities	28	**(1,902,172)**	–
Loss from Joint venture	17	**(4,351,356)**	–
Movement in earnout estimate	26	**–**	(206,066)
Loss before taxation		**(46,784,668)**	(37,667,417)
Taxation*	10	**4,671,255**	6,570,026
Loss for the year		**(42,113,413)**	(31,097,391)
Earnings per share			
Loss per ordinary share			
Basic (loss)/earnings per share (cents)	11	**(3.39)**	(2.63)
Diluted (loss)/earnings per share (cents)	11	**(3.39)**	(2.63)
		–	–
Loss attributable to:			
Owners of the parent		**(40,779,853)**	(30,595,243)
Non-controlling interest		**(1,333,560)**	(502,148)
		(42,113,413)	(31,097,391)

* Refer to note 35 for details of restatement.

The accounting policies on pages 110 to 121 and the notes on pages 109 to 147 form an integral part of the consolidated financial statements.

Consolidated Statement of Comprehensive Loss

For the year ended 31 December 2021

	Note	2021 US$	2020 Restated* US$
Loss for the year		**(42,113,413)**	(31,097,391)
Consolidated other comprehensive income:			
Items that will not be reclassified to profit or loss:			
(Losses)/gains on valuation of investments in equity instruments		**(3,771,367)**	13,483,194
Other fair value movements		**13,830**	103,448
Total items that will not be reclassified to profit or loss		**(3,757,537)**	13,586,642
Items that may be reclassified to profit or loss:			
Currency translation differences		**(9,712,355)**	(9,660,609)
Other comprehensive income for the year net of taxation		**(13,469,892)**	3,926,033
Total comprehensive (loss) income		**(55,583,305)**	(27,171,358)
Total comprehensive (loss) income attributable to:			
Owners of the parent		**(55,918,489)**	(25,790,347)
Non-controlling interest		**335,184**	(1,381,011)
		(55,583,305)	(27,171,358)

* Refer to note 35 for details of restatement.

All results relate to continuing activities.

The accounting policies on pages 110 to 121 and the notes on pages 109 to 147 form an integral part of the consolidated financial statements.

Consolidated Statement of Financial Position

For the year ended 31 December 2021

	Note	2021 US$	2020 Restated* US$	2019 Restated* US$
Assets				
Non-Current Assets				
Intangible assets	12	**59,254,372**	59,003,825	59,408,821
Property, plant and equipment	13	**153,110,702**	167,579,993	185,269,063
Investment property	14	**2,595,359**	2,811,017	2,905,449
Financial assets at fair value	16	–	–	4,420,891
Investment in joint venture	17	**7,855,237**	–	–
Total Non-Current Assets		**222,815,670**	229,394,835	252,004,224
Current Assets				
Inventories	18	**41,646,156**	34,081,625	35,082,342
Trade and other receivables	19	**17,642,216**	10,425,363	4,516,287
Restricted investment	20	**2,868,886**	3,111,465	6,605,465
Current tax receivable		**275,017**	814,067	493,178
Financial assets at fair value	16	–	22,452,877	1,952,227
Cash and cash equivalents	21	**15,432,852**	50,540,672	34,011,557
Total Current Assets		**77,865,127**	121,426,069	82,661,056
Total Assets		**300,680,797**	350,820,904	334,665,280
Equity and Liabilities				
Share capital	22	**16,797,180**	15,858,428	15,357,271
Share premium	22	**125,550,674**	117,065,907	111,067,064
Retained income*	22	**(1,265,040)**	28,367,659	58,962,902
Share-based payment reserve	23	–	375,008	633,277
Convertible loan note reserve		**54,814**	54,814	–
Foreign currency translation reserve*	22	**(20,851,187)**	(9,470,088)	(2,289,138)
Fair value reserve	22	**(1,938,397)**	12,966,294	(620,349)
Equity attributable to owners of the parent		**118,348,044**	165,218,022	183,111,027
Non-controlling interest		**32,481,896**	32,146,712	33,527,723
Total Equity		**150,829,940**	197,364,734	216,638,750
Liabilities				
Non-Current Liabilities				
Retirement benefit obligation	24	**1,905,739**	2,076,023	2,331,325
Environmental rehabilitation liability	25	**18,031,321**	17,998,366	17,844,066
Deferred consideration	26	**1,684,021**	1,802,884	7,108,819
Loans	27	**3,280,948**	1,597,972	–
Borrowings	28	**67,435,647**	70,909,370	41,756,152
Lease liabilities	29	**3,920,698**	4,376,483	4,677,338
Deferred tax	15	**6,014,244**	11,549,862	24,278,644
Total Non-Current Liabilities		**102,272,618**	110,310,960	97,996,344
Current Liabilities				
Trade and other payables	30	**33,080,670**	22,065,601	15,809,996
Provisions	31	**3,721,853**	3,296,894	3,432,619
Borrowings	28	**10,211,102**	13,337,406	–
Lease liabilities	29	**564,614**	625,661	787,571
Deferred consideration	26	–	3,819,648	–
Total Current Liabilities		**47,578,239**	43,145,210	20,030,186
Total Liabilities		**149,850,857**	153,456,170	118,026,530
Total Equity and Liabilities		**300,680,797**	350,820,904	334,665,280

* Refer to note 35 for details of restatement.

The consolidated financial statements and the notes on pages 109 to 147, were approved by the board of directors on the 30 June 2022 and were signed on its behalf by:

Tanya Chikanza
Finance Director

The accounting policies on pages 110 to 121 and the notes on pages 109 to 147 form an integral part of the consolidated financial statements.

Consolidated Statement of Changes in Equity

For the year ended 31 December 2021

	Share capital US$	Share premium US$	Foreign exchange translation reserve US$	Share-based payment reserve US$	Convertible loan note reserve US$	Fair value reserve US$	Retained income US$	Total attributable to equity holders of the group/ company US$	Non-controlling interest US$	Total equity US$
Opening balance as previously reported	15,357,271	111,067,064	(1,655,861)	–	–	(620,349)	83,415,438	207,563,563	33,527,723	241,091,286
Prior year adjustment*	–	–	–	–	–	–	(24,452,536)	(24,452,536)	–	(24,452,536)
Balance at 01 January 2020 as restated	**15,357,271**	**111,067,064**	**(1,655,861)**	–	–	**(620,349)**	**58,962,902**	**183,111,027**	**33,527,723**	**216,638,750**
Loss for the year	–	–	–	–	–	–	**(30,595,243)**	(30,595,243)	(502,148)	(31,097,391)
Other comprehensive income, net of tax:										
Currency translation differences	–	–	(7,814,227)	–	–	–	–	(7,814,227)	(878,863)	(8,693,090)
Fair value movement on investments	–	–	–	–	–	13,483,194	–	13,483,194	–	13,483,194
Other fair value movements	–	–	–	–	–	103,449	–	103,449	–	103,449
Total comprehensive Loss for the year	–	–	**(7,814,227)**	–	–	**13,586,643**	**(30,595,243)**	**(24,822,827)**	**(1,381,011)**	**(26,203,838)**
Transaction with owners:										
Issue of shares	501,157	5,998,843	–	–	–	–	–	6,500,000	–	6,500,000
Share-based payment	–	–	–	375,008	–	–	–	375,008	–	375,008
Equity component of convertible loan note	–	–	–	–	54,814	–	–	54,814	–	54,814
Balance at 01 January 2021	**15,858,428**	**117,065,907**	**(9,470,088)**	**375,008**	**54,814**	**12,966,294**	**28,367,659**	**165,218,022**	**32,146,712**	**197,364,734**
Loss for the year	–	–	–	–	–	–	(40,779,853)	(40,779,853)	(1,333,560)	(42,113,413)
Other comprehensive income, net of tax:										
Currency translation differences	–	–	(11,381,099)	–	–	–	–	(11,381,099)	1,668,744	(9,712,355)
Other fair value movements	–	–	–	–	–	(3,757,537)	–	(3,757,537)	–	(3,757,537)
Total comprehensive Loss for the year	–	–	**(11,381,099)**	–	–	**(3,757,537)**	**(40,779,853)**	**(55,918,489)**	**335,184**	**(55,583,305)**
Transaction with owners:										
Issue of shares	938,752	8,484,767	–	–	–	–	–	9,423,519	–	9,423,519
Share-based payment	–	–	–	(375,008)	–	–	–	(375,008)	–	(375,008)
Transfer between reserves	–	–	–	–	–	(11,147,154)	11,147,154	–	–	–
Balance at 31 December 2021	**16,797,180**	**125,550,674**	**(20,851,187)**	–	**54,814**	**(1,938,397)**	**(1,265,040)**	**118,348,044**	**32,481,896**	**150,829,940**
Note	22	22								

* Refer to note 35 for details of restatement.

The accounting policies on pages 110 to 121 and the notes on pages 109 to 147 form an integral part of the consolidated financial statements.

Consolidated Statement of Cash Flows

For the year ended 31 December 2021

	Note	2021 US$	2020 US$
Cash flows from operating activities			
Loss before taxation		**(46,784,668)**	(37,667,417)
Adjustments for:			
Depreciation property, plant and equipment (including right-of-use assets)	13	**19,395,496**	17,866,153
Loss from joint venture		**4,351,356**	–
Movement in earnout estimate	26	**–**	206,066
Remeasurement of financial liabilities	28	**1,902,172**	–
Interest income	8	**(935,347)**	(1,077,991)
Finance costs	9	**12,184,059**	5,732,249
Impairment losses	12&13	**2,438,890**	–
Changes in working capital		**(5,022,120)**	1,253,029
Income taxes received/(paid)		**394,069**	(3,452,492)
Net cash outflow from operating activities		**(12,076,093)**	(17,140,403)
Cash flows from investing activities			
Finance income	8	**935,347**	985,901
Purchase of property, plant and equipment	13	**(19,449,657)**	(9,269,924)
Payment of deferred consideration	26	**(3,874,449)**	(1,680,459)
Purchase of investments	16	**(9,987,735)**	(1,883,208)
Purchase of exploration and evaluation assets	12	**(928,960)**	(1,471,142)
Disposal of financial assets held at fair value		**16,147,154**	286,643
Net cash outflow from investing activities		**(17,158,300)**	(13,032,189)
Cash flows from financing activities			
Proceeds from loans	27	**1,335,735**	1,597,972
Finance costs		**(2,947,577)**	(3,115,205)
Repayment of borrowings	28	**(4,731,932)**	–
Proceeds from borrowings	28	**–**	49,417,161
Lease payments		**(705,373)**	(753,302)
Net cash (outflow)/inflow from financing activities		**(7,049,147)**	47,146,626
Total cash movement for the year		**(36,283,540)**	16,974,034
Cash and cash equivalents at the beginning of the year		**50,540,672**	34,011,557
Effect of translation of foreign rate		**1,175,720**	(444,919)
Total cash and cash equivalents at end of the year	21	**15,432,852**	50,540,672
Reconciliation of net cash flow to movement in net debt			
Net debt at 1 January		**(38,708,248)**	(7,744,604)
Decrease/(increase) in borrowings		**4,731,932**	(49,417,161)
Increase in loans		**(1,335,735)**	(1,597,972)
Net (decrease)/increase in cash and cash equivalents		**(36,283,540)**	16,974,034
Decrease in lease liabilities		**245,943**	256,260
Effects of exchange rate changes		**4,499,970**	2,821,195
Net debt as at 31 December		**(66,849,678)**	(38,708,248)
Net cash and bank debt		**(62,213,897)**	(33,706,104)
Lease liabilities		**(4,635,781)**	(5,002,144)
Net debt as at 31 December		**(66,849,678)**	(38,708,248)

The accounting policies on pages 110 to 121 and the notes on pages 109 to 147 form an integral part of the consolidated financial statements.

Notes to the Consolidated Financial Statements

For the year ended 31 December 2021

1. CORPORATE INFORMATION AND PRINCIPAL ACTIVITIES

Bushveld Minerals Limited (Bushveld) was incorporated and domiciled in Guernsey on 5 January 2012 and admitted to the AIM market in London on 26 March 2012.

The address of the Company's registered office is Oak House, Hirzel Street, St Peter Port, Guernsey, GY1 3RH. The consolidated financial statements of the Company as at and for the year ended 31 December 2021 comprise of the Company and its subsidiaries (The "Group") and the Group's interest in equity accounted investments.

As at 31 December 2021, the Bushveld Group comprised of:

Company	Note	Equity holding and voting rights	Country of incorporation	Nature of activities
Bushveld Minerals Limited		N/A	Guernsey	Ultimate holding company
Bushveld Resources Limited	1	100%	Guernsey	Holding company
Ivanti Resources (Pty) Limited	2	100%	South Africa	Mining and manufacturing company
Pamish Investments No 39 (Pty) Limited	2	64.00%	South Africa	Mining right holder
Amaraka Investments No 85 (Pty) Limited	2	68.50%	South Africa	Vanadium and iron ore exploration
Bushveld Minerals SA (Pty) Limited	2	100%	South Africa	Group support services
Bushveld Vanchem (Pty) Limited	13	100%	South Africa	Processing company
Great 1 Line Invest (Pty) Limited	2	62.5%	South Africa	Vanadium and iron ore exploration
Gemsbok Magnetite (Pty) Limited	2	74%	South Africa	Vanadium and iron ore exploration
Caber Trade and Invest 1 (Pty) Limited	2	51%	South Africa	Vanadium and iron ore exploration
Bushveld Vanadium 2 (Pty) Limited	2	100%	South Africa	Holding company
Bushveld Energy Limited	1	84.00%	Mauritius	Holding company
Bushveld Energy Company (Pty) Limited	4	100%	South Africa	Energy development
Bushveld Vametco Hybrid Mini Grid Company (RF) (Pty) Limited	12	100%	South Africa	Energy development
Bushveld Electrolyte Company (Pty) Ltd	12	55%	South Africa	Energy development
VRFB Holdings Limited	4	50.5%	Guernsey	Holding company
Vanadium Electrolyte Rental Limited	1&4	40% & 30%	UK	Energy development
Enerox Holdings Limited	14	50%	Guernsey	Holding company
Bushveld Vametco Limited	2	100%	Guernsey	Holding company
Strategic Minerals Connecticut LLC	7	100%	United States	Holding company
Bushveld Vanadium 1 (Pty) Limited	8	100%	South Africa	Holding company
Bushveld Vametco Holdings (Pty) Limited	11	74%	South Africa	Mining right holder
Bushveld Vametco Alloys (Pty) Limited	9	100%	South Africa	Mining and manufacturing company
Bushveld Vametco Properties (Pty) Limited	10	100%	South Africa	Property owning company
Lemur Holdings Limited	1	100%	Mauritius	Holding company
Coal Mining Madagascar SARL	5	99%	Madagascar	Coal exploration
Imaloto Power Project Limited	3	100%	Mauritius	Holding company
Imaloto Power Project Company SARL	6	99.00%	Madagascar	Power generation company
Lemur Investments Limited	3	100%	Mauritius	Holding company
Lemur SA (Pty) Ltd	3	100%	South Africa	Coal trading

1 Held directly by Bushveld Minerals Limited
2 Held by Bushveld Resources Limited
3 Held by Lemur Holdings Limited
4 Held by Bushveld Energy Limited
5 Held by Lemur Investments Limited
6 Held by Imaloto Power Limited
7 Held by Bushveld Vametco Limited
8 Held by Strategic Minerals Connecticut LLC
9 Held by Bushveld Vametco Holdings (Pty) Limited
10 Held by Vametco Alloys (Pty) Limited
11 Held by Bushveld Vanadium 1 (Pty) Limited
12 Held by Bushveld Energy Company (Pty) Limited
13 Held by Bushveld Vanadium 2 (Pty) Limited
14 Held by VRFB Holdings Limited

Notes to the Consolidated Financial Statements *continued*

2. ADOPTION OF NEW AND REVISED STANDARDS

Accounting standards and interpretations applied

In the current year, the Group has adopted the following standards and interpretations that are effective for the current financial year and that are relevant to its operations:

COVID-19-Related Rent Concessions (Amendments to IFRS 16)	The new standard provides lessees with an exemption from assessing whether a COVID-19-related rent concession is a lease modification.
Interest Rate Benchmark Reform (Amendments to IFRS 9, IAS 39 and IFRS 7) – Phase 2	The new standard is aimed at resolving the potential effects the IBOR reform could have on financial reporting.

The adoption of these Standards and Interpretations, which become effective for annual periods beginning on or after 1 January 2021, had no material impact on the financial statements of the Group.

Accounting standards and interpretations not applied

Standards, amendments and interpretations to existing standards that are not yet effective and have not been early adopted by the Group:

Reference to the Conceptual Framework (Amendments to IFRS 3)	The amendments update an outdated reference in IFRS 3 without significantly changing its requirements.
Onerous Contracts — Cost of Fulfilling a Contract (Amendments to IAS 37)	The amendments address costs a company should include as the cost of fulfilling a contract when assessing whether a contract is onerous.
Property, Plant and Equipment — Proceeds before Intended Use (Amendments to IAS 16)	The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management.
Classification of Liabilities as Current or Non-current (Amendments to IAS 1)	The amendments provide a more general approach to the classification of liabilities under IAS 1 based on the contractual arrangements in place at the reporting date.
Subsidiary as a First-time Adopter (amendments to IFRS 1)	The amendments simplified the application of IFRS 1 by a subsidiary that becomes a first-time adopter after its parent. Subsidiary, associate or joint venture can elect to apply exemption in par D16(a) to the cumulative translation difference.
Taxation in Fair Value Measurements (Amendments to IAS 41)	The amendments removed the requirement to exclude cash flows for taxation when measuring fair value.
Fees in the '10 per cent' Test for Derecognition of Financial Liabilities (Amendments to IFRS 9)	The amendments clarify what is included in fees paid and fees received.

The Directors anticipate that the adoption of these Standards and Interpretations, which become effective for annual periods beginning on or after 1 January 2022, in future periods will have no material impact on the financial statements of the Group.

3. SIGNIFICANT ACCOUNTING POLICIES

Basis of accounting

These financial statements have been prepared in accordance with International Financial Reporting Standards and UK adopted International Accounting Standards.

The financial year covers the 12 months to 31 December 2021. The comparative period covered the 12 month period to 31 December 2020. The notes to the financial statements for the year ended 31 December 2019 have only been presented where impacted by the restatement (see note 35).

The consolidated financial statements have been prepared under the historical cost basis, except for the revaluation of certain financial instruments and investment properties to fair value. Historical cost is generally based on the fair value of the consideration given in exchange for the assets. The principal accounting policies are set out below.

Going concern

The Group closely monitors and manages its liquidity risk and day to day working capital requirements. The Group has a R125 million (around $5.8million) Revolving Credit Facility with Nedbank at Vametco which is subject to financial covenants. Cash forecasts are regularly produced, taking into account the global logistical challenges around sales to ensure sufficient cash within the Group to meet its obligations. The Group runs sensitivities for different scenarios, including but not limited to changes in commodity prices and exchange rates. The Group also routinely monitors the covenants associated with the RCF and proactively engages with Nedbank, the lender, where there is a risk of a breach. The accounting treatment of IFRS 9 on the Orion Product Finance Agreement led to an increase in accounting interest, over and above the actual interest paid and resulted in a breach of the net debt to EBITDA covenant as at 31 December 2021. The Group sought and was granted a waiver for the interest cover covenant by Nedbank and as part of that waiver, the definitions of the covenant have been clarified and amended to exclude the impact of IFRS 9. There was no change to the presentation in the financial statements due to breach, as the RCF facility is due for repayment in November 2022 (the cash outflows for which are included within the group forecasts) and was therefore already disclosed as a short term liability. Through our regular monitoring, based on Vametco's actual performance to 30 May 2022 and forecast to 30 June 2022, we are confident of passing the 30 June 2022 covenant testing period.

The main sensitivities considered as part of management's going concern assessment are production, vanadium prices and exchange rates. In terms of production, the newly refurbished Kiln 3 at Vanchem has been commissioned and is ramping up. The Group's ability to achieve its future production profile is predicated on the Kiln's successful increase in production during the first three to four months following commissioning as this will result in the Group reaching its target of steady state production run rate of 5,000 to 5,400 mtV per annum by the end of the 2022 financial year. This assumes forecast production volumes at Vanchem of 222 mtV by December 2022. The pace of ramp up of the kiln has been slower than planned, impacted by electricity loadshedding and technical issues that are consistent with a ramp up. The June 2022 production for Vanchem was 108 mtV. As part of our assessment of going concern, additional sensitivity analysis has been performed on the production profile of Kiln 3, in particular over the next three to four months, where production is assumed to remain at 108 mtV, before ramping up to the year-end target of 222 mtV. We have not identified a cash flow shortfall at group level as part of this sensitivity analysis. These forecasts assume that Vametco continues to perform in line with historic levels and planned maintenance shutdowns are undertaken annually, these shutdowns proceed in line with the planned timetable and no unplanned shutdowns are experienced during the going concern period. We have also stress tested the kiln's long term production plan as well given its planned significant future contribution to the Group's production profile and cash flows.

With regards to pricing, the short to medium term assumptions are that the average price achieved by the Group will be $40.99 through to 31 December 2022 and average at $35.04 throughout 2023. The year to date average price achieved by the group was $44.89. We have performed sensitivity analysis on the basis of the prices falling 10 per cent below those forecast and have not identified a cash shortfall at this level.

The forecasts assume a ZAR/USD rate of 15. This compares to a current spot rate of 15.89 and a 1 year forward rate of 15.29.

As noted above, the Nedbank RCF is due to be repaid in November 2022 and this is modelled in the cash flow forecasts. In November 2023 the convertible loan note with Orion of $35million plus interest is due for repayment. Although this is beyond the 12 month going concern review period as considered by the board, repayment of the convertible loan note is included in the group's long term forecasts through to December 2023. Where additional funding may be required, the Group believes it has several options available to it, including but not limited to, use of the overdraft facility, restructuring of the debt, cost reduction strategies as well as selling of non-core assets.

Based on the current Group finances, having considered group budgets and cash flow forecasts, possible downside scenarios around commodity pricing and exchange rate and in particular around Vanchem's Kiln production profile, the cash flow forecasts demonstrate the Group will have sufficient headroom in its liquid resource to meet its obligations in the ordinary course of business for the next 12 months from the date of approval of the financial statements. Accordingly, the Directors continue to adopt the going concern basis in preparing the consolidated financial information.

Basis of consolidation

The consolidated financial statements present the statement of financial position and changes therein, statement of profit or loss and cash flow information of the Group. Where necessary, adjustments are made to the results of subsidiaries to ensure the consistency of their accounting policies with those used by the group. Intercompany transactions, balances and unrealised profits and losses between group companies are eliminated on consolidation.

Notes to the Consolidated Financial Statements *continued*

3. SIGNIFICANT ACCOUNTING POLICIES *CONTINUED*

Subsidiaries

Subsidiaries are all entities (including structured entities) over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

The Group applies the acquisition method to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair values of the assets transferred, the liabilities incurred to the former owners of the acquiree and the equity interests issued by the Group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The Group recognises any non-controlling interest in the acquiree on an acquisition-by-acquisition basis, either at fair value or at the non-controlling interest's proportionate share of the recognised amounts of acquiree's identifiable net assets.

Acquisition-related costs are expensed as incurred.

If the business combination is achieved in stages, the acquisition date carrying value of the acquirer's previously held equity interest in the acquiree is re-measured to fair value at the acquisition date; any gains or losses arising from such re- measurement are recognised in profit or loss.

Subsequent transactions that do not result in the obtaining of control are accounted for as equity transactions as follows:

- The carrying amounts of the controlling and non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiary
- Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid is recognised directly in equity and attributed to the owners of the parent

Any contingent consideration to be transferred by the Group is recognised at fair value at the acquisition date. Subsequent changes to the fair value of the contingent consideration that is deemed to be an asset or liability is recognised in accordance with IFRS 9 in profit or loss. Contingent consideration that is classified as equity is not re-measured, and its subsequent settlement is accounted for within equity.

Disposal of subsidiaries

When the Group ceases to have control, any retained interest in the entity is re-measured to its fair value at the date when control is lost, with the change in carrying amount recognised in profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognised in other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets or liabilities. This may mean that amounts previously recognised in other comprehensive income are reclassified to profit or loss.

Joint Ventures

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Investments in joint ventures are accounted for using the equity method. Under the equity method, the share of the profits or losses of the joint venture is recognised in profit or loss and the share of the movements in equity is recognised in other comprehensive income. Investments in joint ventures are carried in the statement of financial position at cost plus post-acquisition changes in the consolidated entity's share of net assets of the joint venture. Goodwill relating to the joint venture is included in the carrying amount of the investment and is neither amortised nor individually tested for impairment. Income earned from joint venture entities reduce the carrying amount of the investment.

Non-controlling interests

Non-controlling interests in subsidiaries are identified separately from the Group's equity therein. Those interests of non- controlling shareholders that present ownership interests entitling their holders to a proportionate share of the net assets upon liquidation are initially measured at fair value. Subsequent to acquisition, the carrying amount of non-controlling interests is the amount of those interests at initial recognition plus the non-controlling interests' share of subsequent changes in equity. Total comprehensive income is attributed to non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Black Economic Empowerment (BEE) interests are accounted for as non-controlling interests on the basis that the Group does not control these entities.

Segment reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision- maker. The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the Board of Directors, which makes strategic decisions.

Foreign currencies

Functional and presentational currency

The individual financial statements of each Group company are prepared in the currency of the primary economic environment in which they operate (its functional currency). For the purpose of the consolidated financial statements, the results and financial position of each Group company are expressed in US Dollars, which is the presentation currency for the consolidated financial statements and functional currency of the parent company.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation where items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement.

Group companies

The results and financial position of all the Group entities (none of which has the currency of a hyper-inflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

a) assets and liabilities for each statement of financial position presented are translated at the closing rate;
b) income and expenses for each income statement are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rate on the dates of the transactions); and
c) all resulting exchange differences are recognised in other comprehensive income.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate. Exchange differences arising are recognised in other comprehensive income.

Revenue recognition

Sale of goods/products

IFRS 15 requires revenue from contracts with customers to be recognised when the separate performance obligations are satisfied, which is when control of promised goods or services are transferred to the customer.

The Group satisfies a performance obligation by transferring control of the promised goods/products to the customer. In the standard "control of an asset" refers to the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset. Control includes the ability to prevent other entities from directing the use of, and obtaining the benefits from, an asset.

The Group recognises revenue at the amount that reflects the consideration to which the entity expects to be entitled in exchange for transferring goods or services to a customer. Revenue with contract customers is generated from sale of goods and is recognised upon delivery of the goods to the customer, at a point in time and comprises the invoiced amount of goods to customers, net of value added tax.

Cost of sales

When inventories are sold, the carrying amount of those inventories is recognised as an expense in the period in which the related revenue is recognised. The amount of any write-down of inventories to net realisable value and all losses of inventories are recognised as an expense in the period in which the write-down or loss occurs.

Notes to the Consolidated Financial Statements *continued*

3. SIGNIFICANT ACCOUNTING POLICIES *CONTINUED*

Share based payments

The fair value of bonus shares granted to employees for nil consideration under the short-term incentive scheme is recognised as an expense over the relevant service period, being the year to which the bonus relates and the vesting period of the shares. The fair value is measured at the grant date of the shares and is recognised in equity in the share-based payment reserve. The number of shares expected to vest is estimated based on the non-market vesting conditions.

Where shares are forfeited due to a failure by the employee to satisfy the service conditions, any expenses previously recognised in relation to such shares are reversed effective from the date of the forfeiture.

Finance income

Interest income is recognised when it is probable that economic benefits will flow to the Group and the amount of income can be measured reliably. Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

Taxation

The tax expense represents the sum of the tax currently payable and deferred tax.

The tax charge is based on taxable profit for the year. The Group's liability for current tax is calculated by using tax rates that have been enacted or substantively enacted by the reporting date.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amount of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit or loss, and is accounted for using the "balance sheet liability" method.

Deferred tax liabilities are recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. Deferred tax is calculated at the tax rates that are expected to apply to the year when the asset is realised or the liability is settled based upon rates enacted and substantively enacted at the reporting date. Deferred tax is charged or credited to profit or loss, except when it relates to items credited or charged to other comprehensive income, in which case the deferred tax is also dealt with in other comprehensive income.

Intangible exploration and evaluation assets

All costs associated with mineral exploration and evaluation including the costs of acquiring prospecting licences; mineral production licences and annual licences fees; rights to explore; topographical, geological, geochemical and geophysical studies; exploratory drilling; trenching, sampling and activities to evaluate the technical feasibility and commercial viability of extracting a mineral resource; are capitalised as intangible exploration and evaluation assets and subsequently measured at cost.

If an exploration project is successful, the related expenditures will be transferred at cost to property, plant and equipment and amortised over the estimated life of the commercial ore reserves on a unit of production basis (with this charge being taken through profit or loss). Where a project does not lead to the discovery of commercially viable quantities of mineral resources and is relinquished, abandoned, or is considered to be of no further commercial value to the Group, the related costs are recognised impairment loss in profit or loss.

The recoverability of capitalised exploration costs is dependent upon the discovery of economically viable ore reserves, the ability of the Group to obtain necessary financing to complete the development of ore reserves and future profitable production or proceeds from the extraction or disposal thereof.

Impairment of exploration and evaluation assets

Whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable, the asset is reviewed for impairment. Assets are also reviewed for impairment at each reporting date in accordance with IFRS 6. An asset's carrying value is written down to its estimated recoverable amount (being the higher of the fair value less costs to sell and value in use) if that is less than the asset's carrying value. Impairment losses are recognised in profit or loss.

An impairment review is undertaken when indicators of impairment arise but typically when one of the following circumstances applies:
– unexpected geological occurrences that render the resources uneconomic; or
– title to the asset is compromised; or
– variations in mineral prices that render the project uneconomic; or
– variations in the foreign currency rates; or
– the Group determines that it no longer wishes to continue to evaluate or develop the field.

Property, plant and equipment (excluding right-of-use assets)

Property, plant and equipment are stated at historical cost less accumulated depreciation, except for investment properties which are carried at fair value.

Depreciation on assets commences when they are available for use by the group. Depreciation for property, plant and equipment is charged on a systematic basis over the estimated useful lives of the assets after deducting the estimated residual value of the assets, using the straight-line method. Depreciation for right-of-use assets is charged on the same basis except that the period is the shorter of the useful life of the asset (in line with the category of property, plant and equipment to which the asset is classified) and the lease term, unless the title to the asset transfers at the end of the lease term, in which case depreciation is over the useful life. The depreciation method applied is reviewed at least at each financial year end, with any changes accounted for as a change in accounting estimate to be applied prospectively. The depreciation charge for each period is recognised in the statement of profit or loss.

The useful life of an asset is the period of time over which the asset is expected to be used. The estimated useful lives of assets and their residual values are reassessed annually at the end of each reporting period, with any changes in such accounting estimates being adjusted in the year of reassessment and applied prospectively. The estimated useful lives of items of property, plant and equipment are as follows:

Buildings and other improvements	20-25 years
Plant and machinery	5-20 years
Motor vehicles, furniture and equipment	3-10 years
Decommissioning asset	Life of mine
Waste stripping asset	21 months

Assets under construction are not depreciated.

Repairs and maintenance is generally charged in profit and loss during the financial period in which it is incurred. However renovations are capitalised and included in the carrying amount of the asset when it is probable that future economic benefits will flow to the Group. Major renovations are depreciated over the remaining useful life of the related asset.

An item of property, plant and equipment is derecognised upon disposal or when no future benefits are expected from its use or disposal. Any gain or loss arising from de-recognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the income statement in the year the asset is derecognised.

Impairment losses

At each reporting date, the Group reviews the carrying amounts of its tangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where the asset does not generate cash flows that are independent from other assets, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

In assessing whether an impairment is required, the carrying value of the asset or CGU is compared with its recoverable amount. The recoverable amount is the higher of the CGU's fair value less costs of disposal (FVLCD) and value in use (VIU). Given the nature of the Group's activities, information on the fair value of an asset is usually difficult to obtain unless negotiations with potential purchasers or similar transactions are taking place. Consequently, the FVLCD for each CGU is estimated based on discounted future estimated cash flows (expressed in real terms) expected to be generated from the continued use of the CGUs using market-based commodity price and exchange assumptions, estimated quantities of recoverable minerals, production levels, operating costs and capital requirements, including any expansion projects, and its eventual disposal, based on the CGU 30 year plans and latest life of mine (LOM) plans. These cash flows were discounted using a real post- tax discount rate that reflected current market assessments of the time value of money and the risks specific to the CGU.

Estimates of quantities of recoverable minerals, production levels, operating costs and capital requirements and sourced from out planning process, including the LOM plans, twp-year budgets and CGU-specific studies.

Notes to the Consolidated Financial Statements *continued*

3. SIGNIFICANT ACCOUNTING POLICIES *CONTINUED*

The determination of FVLCD for each CGU are considered to be Level 3 fair value measurements in both years, as they are derived from valuation techniques that include inputs that are not based on observable market data. The Group considers the inputs and the valuation approach to be consistent with the approach taken by market participants.

Key assumptions

The determination of FVLCD is most sensitive to the following key assumptions

- Production volumes
- Commodity prices
- Discount rates
- Exchange rates

Production volumes: In calculating the FVLCD, the production volumes incorporated into the cash flow models were 2,694 mtVpa for Vametco and 1,610 mtVpa for Vanchem in 2022 for a base case scenario. For a full growth case in a steady state, production volumes for Vametco is 3,400 mtVpa and for Vanchem is 4,600 mtVpa taking the total Group production to 8,000 mtVpa. Estimated production volumes are based on detailed life-of-mine plans and take into account development plans for the mines agreed by management as part of the long-term planning process. Production volumes are dependent on a number of variables, such as: the recoverable quantities; the production profile; the cost of the development of the infrastructure necessary to extract the reserves; the production costs; the contractual duration of mining rights; and the selling price of the commodities extracted. As each producing mine has specific reserve characteristics and economic circumstances, the cash flows of the mines are computed using appropriate individual economic models and key assumptions established by management. The production profiles used were consistent with the reserves and resource volumes approved as part of the Group's process for the estimation of proved and probable reserves, resource estimates and in certain circumstances, include expansion projects. These are then assessed to ensure they are consistent with what a market participant would estimate.

Commodity prices: Forecast commodity prices are based on management's estimates and are derived from forward price curves and long-term views of global supply and demand, building on past experience of the industry and consistent with external sources. These prices were adjusted to arrive at appropriate consistent price assumptions for the different qualities and type of commodities, or, where appropriate, contracted prices were applied. These prices are reviewed at least annually. Estimated long–term FeV price for the current year and the comparative year that have been used to estimate future revenues, are as follows:

	2021			2020			
Assumptions	2022	2023	Long term (2027+)	2021	2022	2023	Long term (2024+)
FeV (US$ per KgV	US$ 41.35	US$ 35.15	US$ 40.00	US$ 28.80	US$ 36.00	US$ 35.50	US$ 35.00

Discount rates: In calculating the FVLCD, a real post-tax discount rate of 7.70 per cent (2020: 7.09 per cent) was applied to the post-tax cash flows expressed in real terms. This discount rate is derived from the Group's post-tax weighted average cost of capital (WACC), with appropriate adjustments made to reflect the risks specific to the CGU and to determine the pre-tax rate. The WACC takes into account both debt and equity. The cost of equity is derived from the expected return on investment by the Group's investors. The cost of debt is based on its interest-bearing borrowings the Group is obliged to service. Segment- specific risk is incorporated by applying individual beta factors. The beta factors are evaluated annually based on publicly available market data.

Exchange rates: Foreign exchange rates are estimated with reference to external market forecasts and updated at least annually. The rates applied for the first five years of the valuation are based on observable market data including spot and forward values, thereafter the estimate is interpolated to the long term assumption, which involves market analysis including equity analyst estimates. The assumed long-term US dollar/Rand is estimated to be 15.00 (2020:16.00).

Investment property

Investment property is initially measured at cost and subsequently at fair value with any change therein recognised in profit or loss. Any gain or loss on disposal of investment property (calculated as the difference between the net proceeds from disposal and the carrying amount of the item) is recognised in profit or loss.

Inventories
Inventories are valued at the lower of cost or estimated net realisable value. Cost is determined on the following basis:

Raw materials	weighted average cost
Consumable stores	weighted average cost
Work in progress	weighted average cost
Finished product	weighted average cost

The cost of finished product and work in progress comprises of raw materials, direct labour, other direct costs, and related production overheads (based on normal operating capacity) but excludes borrowing costs.

Net realisable value is the estimated selling price in the ordinary course of business, less costs of completion and selling expenses.

Financial assets and liabilities
Financial assets and financial liabilities are recognised in the Group's statement of financial position when the Group becomes a party to the contractual provisions of the instrument. Financial instruments are classified into specified categories dependent upon the nature and purpose of the instruments at the time of initial recognition.

Financial assets
Measurement
At initial recognition, the Group measures all financial assets at fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets are classified at initial recognition and subsequently measured at amortised cost, fair value though other comprehensive income (FVOCI) or fair value through profit or loss (FVPL).

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them.

Debt instruments
In order for a financial asset to be classified and measured at amortised cost or FVOCI, it needs to give rise to cash flows that are 'solely payments of principal and interest' (SPPI) on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows.

The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both.

Financial assets that do not meet the criteria for amortised cost or FVOCI are measured at FVPL. A gain or loss on a debt investment that is subsequently measured at FVPL is recognised in profit or loss and presented net within other gains/(losses) in the period in which it arises.

Equity instruments
The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments in OCI (however, the cumulative gain/loss on disposal is represented within equity), there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognised in profit or loss as other income when the Group's right to receive payments is established.

Changes in the fair value of financial assets at FVPL are recognised in other gains/(losses) in the statement of profit or loss as applicable. Impairment losses (and reversal of impairment losses) on equity investments measured at FVOCI are not reported separately from other changes in fair value.

Derecognition
Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

3. SIGNIFICANT ACCOUNTING POLICIES *CONTINUED*

Impairment

The Group assesses on a forward-looking basis, the expected credit losses associated with its debt instruments carried at amortised cost and FVOCI. The impairment methodology applied depends on whether there has been a significant increase in credit risk.

Trade and other receivables

Trade receivables are recognised initially at the amount of consideration that is unconditional unless they contain significant financing components, when they are recognised at fair value. The Group holds the trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost using the effective interest method, less any allowance for expected credit losses.

To determine the expected credit loss allowance for trade and other receivables, the Group applies the simplified approach permitted by IFRS 9, which requires expected lifetime losses to be recognised from initial recognition of the receivables, see note 32 for further details.

Other receivables consist of prepayments and deposits, which are initially recognised as non-financial assets and realised over time.

Restricted investment

Restricted investment comprises of short-term deposits with an original maturity of three months or less and an investment in an investment fund. These funds are dedicated towards future rehabilitation expenditure on the mine property.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, deposits held at call with financial institutions, other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Investments and other financial assets

Investments are equity instruments which the Group intends to hold for the foreseeable future and has irrevocably elected to classify them at FVOCI at inception.

Convertible loan

Interest-bearing loans are recorded initially at their fair value, net of direct transaction costs. Such instruments are subsequently carried at their amortised cost and finance charges, including premiums payable on settlement, redemption or conversion, are recognised in profit or loss over the term of the instrument using the effective rate of interest.

Instruments where the holder has the option to redeem for cash or convert into a pre-determined quantity of equity shares are classified as compound instruments and presented partly as a liability and partly as equity.

Instruments where the holder has the option to redeem for cash or convert into a variable quantity of equity shares are classified separately as a loan and a derivative liability.

Where conversion results in a fixed number of equity shares, the fair value of the liability component at the date of issue is estimated using the prevailing market interest rate for a similar non-convertible instrument. The difference between the proceeds of issue and the fair value assigned to the liability component, representing the embedded option to convert the liability into equity of the Group, is included in equity. Where conversion is likely to result in a variable quantity of equity shares the related derivative liability is valued and included in liabilities.

The interest expense on the liability component is calculated by applying the prevailing market interest rate for similar non-convertible debt to the instrument. The difference between this amount and the interest paid is added to the carrying value of the convertible loan note.

Derivative liabilities are revalued at fair value at the reporting date, and changes in the valuation amounts are credited or charged to the profit or loss.

Leases

The Group assesses whether a contract is or contains a lease, at inception of a contract. The Group recognises a right-of-use asset and a corresponding lease liability with respect to all lease agreements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low value assets. For these leases, the Group recognises the lease payments as an operating expense on a straight-line basis over the term of the lease unless another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate. The discount rate used ranges between 10 per cent-11 per cent depending on the nature of the underlying asset.

Lease payments included in the measurement of the lease liability comprise:
- fixed lease payments (including in-substance fixed payments), less any lease incentives;
- variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- the amount expected to be payable by the lessee under residual value guarantees;
- the exercise price of purchase options, if the lessee is reasonably certain to exercise the options; and
- payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

The lease liability is presented as a separate line in the Statement of Financial Position. The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Group remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever:
- the lease term has changed or there is a change in the assessment of exercise of a purchase option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate.
- the lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which cases the lease liability is remeasured by discounting the revised lease payments using the initial discount rate (unless the lease payments change is due to a change in a floating interest rate, in which case a revised discount rate is used).
- a lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate.

The Group did not make any such adjustments during the periods presented.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day and any initial direct costs.

They are subsequently measured at cost less accumulated depreciation and impairment losses.

Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognised and measured under IAS 37. The costs are included in the related right-of-use asset, unless those costs are incurred to produce inventories.

Right-of-use assets are depreciated over the shorter period of lease term and useful life of the underlying asset. If a lease transfers ownership of the underlying asset or the cost of the right-of-use asset reflects that the Group expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset. The depreciation starts at the commencement date of the lease. The Group applies IAS 36 Impairment of Assets to determine whether a right-of- use asset is impaired and accounts for any identified impairment loss.

Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. Where the Group expects some or all of a provision to be reimbursed, for example under an insurance contract, the reimbursement is recognised as a separate asset but only when the reimbursement is virtually certain. The expense relating to any provision is presented in the statement or comprehensive income, provisions are discounted using a current pre-tax rate that reflects, where appropriate, the risks specific to the liability. Where discounting is used the increase in the provision due to the passage of time is recognised as a finance cost.

Notes to the Consolidated Financial Statements *continued*

3. SIGNIFICANT ACCOUNTING POLICIES *CONTINUED*

i. Environmental rehabilitation liability

The Group is exposed to environmental liabilities relating to its operations. Full provision for the cost of environmental and other remedial work such as reclamation costs, close down and restoration costs and pollution control is made based on the estimated cost as per the Environmental Management Program Report. Annual increases in the provisions relating to change in the net present value of the provision are shown in the statement of comprehensive income as a finance cost. Changes in estimates of the provision are accounted for in the year the change in estimate occurs, and is charged to either the statement of comprehensive income or the decommissioning asset in property, plant and equipment, depending on the nature of the liability.

ii. Post-retirement medical liability

The liability in respect of the defined benefit medical plan is the present value of the defined benefit obligation at the reporting date together with adjustments for actuarial gains/losses. Any actuarial gains or losses are accounted for in other comprehensive income. The defined benefit obligation is calculated annually by independent actuaries using the projected unit of credit method.

iii. Provident fund contributions

The Group's contributions to the defined contribution plan are charged to profit and loss in the year to which they relate.

Use of estimates and judgements

In the application of the Group's accounting policies, the directors are required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.
In particular, information about significant areas of estimation uncertainty considered by management in preparing the financial statements is described below:

i. Decommissioning and rehabilitation obligations

Estimating the future costs of environmental and rehabilitation obligations is complex and requires management to make estimates and judgements as most of the obligations will be fulfilled in the future and contracts and laws are often not clear regarding what is required.
The resulting provisions are further influenced by changing technologies, political, environmental, safety, business and statutory considerations.

ii. Asset lives and residual values

Property, plant and equipment are depreciated over its useful life taking into account residual values, where appropriate. The actual lives of the assets and residual values are assessed annually and may vary depending on a number of factors. In reassessing asset lives, factors such as technological innovation, product life cycles and maintenance programmes are taken into account. Residual value assessments consider issues such as future market conditions, the remaining life of the asset and projected disposal values.

iii. Post-retirement employee benefits

Post-retirement medical aid liabilities are provided for certain existing employees. Actuarial valuations are based on assumptions which include employee turnover, mortality rates, the discount rate, health care inflation costs and rates of increase in costs. Sensitivities have been disclosed in note 24.

iv. Revaluation of investment properties

The Group carries its residential investment properties at fair value. The Group engaged an independent valuation specialist to assess the fair value as at 31 December 2021 for residential properties. For residential properties, it measures land and buildings at revalued amounts with changes in fair value being recognised in other comprehensive income. Land and buildings were valued by reference to market-based evidence, using comparable prices adjusted for specific market factors such as nature, location and condition of the property.

v. Impairment of financial assets

The loss allowances for financial assets are based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation, based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period. Details of the key assumptions and inputs used are disclosed in note 32.

vi. Impairment of non-current assets

Determining whether an exploration and evaluation asset is impaired requires an assessment of whether there are any indicators of impairment, including by reference to specific impairment indicators prescribed in IFRS 6. If there is any indication of potential impairment, an impairment test is required based on value in use of the asset. The valuation of intangible exploration assets is dependent upon the discovery of economically recoverable deposits which, in turn, is dependent on future vanadium and iron ore prices, future capital expenditures and environmental and regulatory restriction.

The Group also reviews and tests the carrying value of tangible assets when events or changes in circumstances indicate that the carrying amount may not be recoverable. Assets are grouped at the lowest level for which identifiable cash flows are largely independent of cash flows of other assets, which is generally at the individual operating asset level. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets. Expected future cash flows used to determine the recoverable amount of tangible assets are inherently uncertain and could materially change over time and impact the recoverable amounts. The cash flows and recoverable amount are significantly affected by a number of factors including published reserves, resources, exploration potential and production estimates, together with economic factors such as spot and future metal prices, discount rates, foreign currency exchange rates, estimates of costs to produce products and future capital expenditure. At the reporting date the Group assesses whether any of the indicators which gave rise to previously recognised impairments have changed such that the impairment loss no longer exists or may have decreased. The impairment loss is then assessed on the original factors for reversal and if indicated, such reversal is recognised.

An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. The recoverable amount is estimated based on the positive indicators. If an impairment loss has decreased, the carrying amount is recorded at the recoverable amount as limited in terms of IAS 36 Impairment of Assets.

The directors performed an impairment review on tangible assets at 31 December 2021. No reasonable changes in the key assumptions or inputs would lead to an impairment charge over the next 12 month period.

vii. Impairment of exploration and evaluation assets

As disclosed in note 12, the Mokopane license held by the Group requires that mining operations commence prior to the end of January 2021. As at 31 December 2021 no mining has taken place at the site. An application for an extension to requirement to commence mining activities has been submitted to the Department of Mineral Resources and Energy (DMRE), however a response has not yet received. The directors are confident that the extension will be forthcoming and the license therefore remains valid. Consequently, the directors have made a judgment that no impairment of the related intangible asset is required.

viii. Borrowing costs

IAS 23 requires that borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset form part of the cost of that asset. It is the judgement of the directors that due to the insubstantial period of time over which assets have been constructed, that no assets meet the definition of a qualifying asset and therefore no borrowing costs have been capitalised.

ix. Assessment of control

The group's investment in VRFB Holdings Limited has been accounted for as a joint venture on the basis that the directors have concluded that under IFRS 10 the group does not have the ability to use its power over the investee entity to influence its returns. This conclusion has been reached on the basis of specific terms of the joint venture agreement with the other investors to VRFB Holdings Limited and represents a significant management judgement.

x. Mustang Convertible Loan Note option

As described in Note 36, as at 31 December 2021 Mustang Energy plc (Mustang) had an option to require that Bushveld Mineral Limited (the Company) issue to the Mustang Convertible Loan Note (CLN) holders such new number of Bushveld Mineral Limited shares as is equivalent to the par value of the noteholder's CLN, together with accrued and unpaid interest in return for Mustang transferring to Bushveld Energy Limited Mustang's shareholding in VRFB Holdings Limited. As at 31 December 2021 the Mustang CLNs had a nominal value of $8 million and a 10 per cent coupon. As at the year end this option had not been exercised by the Mustang CLN holders. Details of the exercise of certain options post year-end is described in Note 36. In the Director's view, the fair value of this right is considered immaterial for recognition as at 31 December 2021.

4. SEGMENTAL REPORTING

Bushveld Minerals Limited's operating segments are identified by the Chief Executive Officer and the Executive Committee, collectively named as the Chief Operating Decision Makers (CODM). The operating segments are identified by the way the Group's operations are organised. As at 31 December 2021 the Group operated within three operating segments, vanadium mining and production, energy and mineral exploration activities for vanadium and coal exploration. Activities take place in South Africa (iron ore, vanadium and energy), Madagascar (coal), other African countries (energy project development) and global (battery investment, vanadium sales).

Segment revenue and results

The following is an analysis of the Group's revenue and results by reportable segment.

Notes to the Consolidated Financial Statements *continued*

4. SEGMENTAL REPORTING *CONTINUED*

Year ended 31 December 2021	**Vanadium mining and production US$**	**Energy US$**	**Total US$**
Results			
Segment revenue	**106,857,285**	**–**	**106,857,285**
Segment costs	**(123,442,467)**	**(882,453)**	**(124,324,920)**
Segmental loss	**(16,585,182)**	**(882,453)**	**(17,467,635)**

Year ended 31 December 2020 Results	Vanadium mining and production US$	Energy US$	Total US$
Segment revenue	89,920,958	67,120	89,988,078
Segment costs	(110,750,141)	(1,050,735)	(111,800,876)
Segmental loss	(20,829,183)	(983,615)	(21,812,798)

During the year there were no costs incurred for the exploration of vanadium and coal exploration. Costs attributable to both segments were of a capital nature.

The reconciliation of segmental loss to the Group's loss before tax is as follows:

	2021	2020
Segmental loss	**(17,467,635)**	(21,812,798)
Unallocated costs	**(11,814,793)**	(10,994,295)
Remeasurement of financial liabilities	**(1,902,172)**	–
Share of loss in joint venture	**(4,351,356)**	–
Movement in earnout estimate	**–**	(206,066)
Finance income	**935,347**	1,077,991
Finance costs	**(12,184,059)**	(5,732,249)
	(46,784,668)	(37,667,417)

Unallocated costs relate primarily to corporate costs and parent company overheads not attributable to a specific segment.

Other segmental information

31 December 2021	**Vanadium and iron ore exploration US$**	**Vanadium mining and production US$**	**Coal exploration US$**	**Bushveld Energy US$**	**Total US$**
Intangible assets – exploration and evaluation	**47,374,076**	**6,481,542**	**5,398,754**	**–**	**59,254,372**
Total reportable segmental net assets	**47,374,076**	**94,923,233**	**5,398,754**	**17,034,295**	**164,730,358**
Unallocated net assets	**–**	**–**	**–**	**–**	**(13,900,418)**
Total consolidated net assets	**–**	**–**	**–**	**–**	**150,829,940**

31 December 2020	Vanadium and iron ore exploration US$	Vanadium mining and production US$	Coal exploration US$	Bushveld Energy US$	Total US$
Intangible assets – exploration and evaluation	54,950,331	–	4,053,494	–	59,003,825
Total reportable segmental net assets	54,950,331	168,285,858	4,053,494	21,388,618	248,678,301
Unallocated net liabilities	–	–	–	–	(34,678,551)
Total consolidated net assets	–	–	–	–	213,999,750

Unallocated assets and liabilities relate to corporate and parent company assets and liabilities not attributable to a specific segment.

5. REVENUE

	2021 US$	2020 US$
Revenue from contracts with customers		
Sale of goods	**106,857,285**	89,920,958
Bushveld Energy services rendered	–	67,120
	106,857,285	89,988,078

Disaggregation of revenue from contracts with customers		
The Group disaggregates revenue from customers as follows:		
Sale of goods		
Local sales of vanadium – NV12	**5,089,815**	2,161,420
Local sales of vanadium – NV16	**1,606,027**	1,055,785
Local sales of vanadium – MVO	***(140,385)**	370,686
Export sales of vanadium – NV12	**21,720,633**	16,452,321
Export sales of vanadium – NV16	**71,713,328**	61,537,773
Export sales of vanadium – VCM	–	230,248
Export sales of vanadium – AMV	**6,867,867**	8,112,725
	106,857,285	89,920,958

Rendering of services		
Bushveld Energy services rendered	–	67,120
Total revenue from contracts with customers	**106,857,285**	89,988,078

Revenue with contract customers is generated from sale of goods and is recognised upon delivery of the goods to the customer, at a point in time and comprises the invoiced amount of goods to customers, net of value added tax.

* The negative sales amount is due to the return of MVO sold during the 2020 financial year.

6. STAFF COSTS

Details of directors' remuneration are included in note 34 (related party transactions) and the Remuneration Report.

7. ADMINISTRATIVE EXPENSES BY NATURE

	2021 US$	2020 US$
Staff costs	**10,746,322**	8,146,473
Depreciation of property, plant and equipment	**392,669**	256,929
Professional fees	**5,860,976**	6,017,782
Other	**3,894,325**	5,361,992
Total administrative expenses	**20,894,292**	19,783,176

8. FINANCE INCOME

	2021 US$	2020 US$
Bank interest	**935,347**	1,077,991

Notes to the Consolidated Financial Statements *continued*

9. FINANCE COSTS

	2021 US$	2020 US$
Interest on unsecured convertible loan notes	**4,706,184**	1,614,577
Interest on rehabilitation liability	**1,781,584**	1,663,602
Interest on borrowings	**4,984,532**	1,749,386
Interest on lease liabilities	**459,430**	466,032
Other finance costs	**252,329**	238,652
	12,184,059	5,732,249

10. TAXATION

	2021 US$	2020 Restated US$
Current		
Current income tax charge	370,437	3,265,229
Local income tax – recognised in current tax for prior periods	(13,246)	–
	357,191	**3,265,229**
Deferred		
Prior year adjustment	82,573	–
Deferred tax movement	(5,111,019)	(9,835,255)
	(5,028,446)	**(9,835,255)**
	(4,671,255)	**(6,570,026)**

The tax expense represents the sum of the tax currently payable and the deferred tax adjustment for the year.

	2021 US$	2020 Restated US$
Loss before tax	(46,784,668)	(37,667,417)
Tax at the effective tax rate of 11.6% (2020: 18.6%)	(5,422,632)	(7,023,575)
Tax effect on non-deductible items	602,895	353,652
Origination and reversal of temporary differences	1,400,229	737,127
Deferred tax asset not recognised	3,704,257	9,270,466
Recognised deferred tax assets – initial recognition	(4,956,004)	(9,907,696)
Taxation expense for the year	**(4,671,255)**	**(6,570,026)**

11. LOSS PER SHARE FROM CONTINUING OPERATIONS

Basic loss per share

The calculation of a basic loss per share of 3.39 cents (December 2020: 2.63 cents restated), is calculated using the total loss for the year attributable to the owners of the company of US$40,779,853 (December 2020: Restated loss of US$30,595,243) and 1,201,683,206 shares (2020: 1,164,710,352) being the weighted average number of share in issue during the year.

Diluted loss per share

Due to the Group being loss making for the year, instruments are not considered dilutive and therefore the diluted loss per share is the same as basic loss per share for both financial years.

12. INTANGIBLE ASSETS

	2021		2020	
	Cost/Valuation US$	**Carrying value US$**	Cost/Valuation US$	Carrying value US$
Vanadium and Iron ore	**53,855,618**	**53,855,618**	54,950,331	54,950,331
Coal	**5,398,754**	**5,398,754**	4,053,494	4,053,494
Total	**59,254,372**	**59,254,372**	59,003,825	59,003,825

Reconciliation of intangible assets – 2021

	Opening balance US$	Additions US$	Foreign exchange movements US$	Impairment loss* US$	Total US$
Vanadium and Iron ore	**54,950,331**	**162,621**	**(715,974)**	**(541,360)**	**53,855,618**
Coal	**4,053,494**	**766,339**	**578,921**	**–**	**5,398,754**
	59,003,825	**928,960**	**(137,053)**	**(541,360)**	**59,254,372**

* The directors performed an impairment review on intangible assets at 31 December 2021, and impaired assets that will not produce economically recoverable deposits based on planned future development of the projects, current and forecast commodity prices.

Reconciliation of intangible assets – 2020

	Opening balance US$	Additions US$	Foreign exchange movements US$	Impairment loss US$	Total US$
Vanadium and Iron ore	56,827,085	89,764	(1,966,518)	–	54,950,331
Coal	2,581,736	1,381,378	90,380	–	4,053,494
	59,408,821	1,471,142	(1,876,138)	–	59,003,825

Vanadium and Iron Ore

The Company's subsidiary, Bushveld Resources Limited has a 64 per cent interest in Pamish Investment No 39 (Proprietary) Limited (Pamish) which holds an interest in Prospecting right 95 (Pamish 39).

The Department of Mineral Resources and Energy (DMRE) granted a mining right to Pamish Investments No. 39 (Pty) Ltd (Pamish) on the 28th of August 2019, in respect of the five farms Vliegekraal 783 LR, Vogelstruisfontein 765 LR, Vriesland 781 LR, Schoonoord 786 LR and Bellevue 808 LR situated in the District of Mogalakwena, Limpopo, which make up the Mokopane Project.

Mokopane is a vanadium resource. On 29 January 2020, the DMRE executed a 30-year mining right in favour of the Company, over five farms: Vogelstruisfontein 765 LR; Vriesland 781 LR; Vliegekraal 783 LR; Schoonoord 786 LR; and Bellevue 808 LR. The Mining Right required Pamish to commence mining activities, including in-situ activities associated with the Definitive Feasibility Study (DFS) by end of January 2021. The COVID-19 pandemic resulted in a significant delay in the commencement of the DFS and the necessary engagement with local communities required to finalise Land Use arrangements and, consequently, this deadline was not met. Application to the DMRE for an extension of 18 months to commence mining activities has been submitted. Engagement has begun with communities to reach agreement for access to the project areas and secure a Land Use Arrangement.

The mining right allows for the extraction of several other minerals over the entire Mokopane project resource area, including, titanium, phosphate, platinum Group metals, gold, cobalt, copper, nickel and chrome.

Brits Vanadium Project

Bushveld Minerals Limited has been granted Section 11 of the Mineral and Petroleum Resources Development Act (MPRDA) for acquiring control of Sable Platinum Mining (Pty) Ltd for NW 30/5/1/1/2/11124 PR, held through Great Line 1 Invest (Pty) Ltd and was executed in May 2021. The company has also applied for Section 102 of the Mineral and Petroleum Resources Development Act (MPRDA) and waiting for approval to incorporate NW 30/5/1/1/2/11069 PR into NW 30/5/1/1/2/11124 PR.

Bushveld Minerals Limited has applied for a prospecting right which has been accepted and environmental authorisation has been granted under GP 30/5/1/1/2/10576 PR held by Gemsbok Magnetite (Pty) Ltd.

A renewal application for Prospecting Right NW 30/5/1/1/2/11124 PR was granted for Great 1 Line on Farm Uitvalgrond 431 JQ Portion 3.

Coal

Coal Exploration licences have been issued to Coal Mining Madagascar SARL a 99 per cent subsidiary of Lemur Investments Limited.

The exploration is in South West Madagascar covering 11 concession blocks in the Imaloto Coal basin known as the Imaloto Coal Project and Extension.

Notes to the Consolidated Financial Statements *continued*

13. PROPERTY, PLANT AND EQUIPMENT

	Buildings and other improvements US$	Plant and machinery US$	Motor vehicles furniture and equipment US$	Decommissining assets US$	Right of use asset US$	Waste stripping asset US$	Assets under construction US$	Total US$
Cost								
At 1 January 2020	8,196,521	166,369,583	1,474,110	2,597,288	5,735,890	3,920,684	10,668,778	198,962,854
Additions	–	2,256,794	62,665	–	–	–	6,950,465	9,269,924
Disposals	(336,491)	(2,490,766)	(192,023)	–	–	–	–	(3,019,280)
Transfers	190,930	11,645,072	121,070	–	–	–	(11,957,072)	–
Revaluations	–	–	–	(695,244)	–	–	–	(695,244)
Foreign exchange differences	(344,926)	(6,179,154)	(559,874)	33,180	(231,619)	(156,242)	(718,321)	(8,156,956)
At 31 December 2020	**7,706,034**	**171,601,529**	**905,948**	**1,935,224**	**5,504,271**	**3,764,442**	**4,943,850**	**196,361,298**
Additions	–	5,156,605	24,024	(207,189)	396,239	–	14,079,978	19,449,657
Disposals	–	(1,916,158)	(78,119)	–	–	(3,723,494)	–	(5,717,771)
Impairments of obsolete assets	–	(2,263,063)	–	–	–	–	–	(2,263,063)
Assets under construction capitalised	–	5,373,628	57,148	–	–	–	(5,430,776)	–
Foreign exchange differences	(426,162)	(3,323,601)	(108,315)	(73,658)	(834,539)	(40,948)	(996,705)	(5,803,928)
At 31 December 2021	**7,279,872**	**174,628,940**	**800,686**	**1,654,377**	**5,065,971**	–	**12,596,347**	**202,026,193**
Depreciation								
At 1 January 2020	(1,022,284)	(9,384,009)	(535,710)	(954,588)	(628,963)	(1,168,237)	–	(13,693,791)
Disposals	336,491	2,407,463	248,586	–	–	–	–	2,992,540
Depreciation charge for the year	(385,785)	(14,468,628)	(175,976)	(53,233)	(434,768)	(2,347,763)	–	(17,866,153)
Foreign exchange differences	3,367	301,705	(151,754)	31,352	(150,129)	(248,442)	–	(213,901)
At 31 December 2020	**(1,068,211)**	**(21,143,469)**	**(614,854)**	**(976,469)**	**(1,213,860)**	**(3,764,442)**	–	**(28,781,305)**
Depreciation charge for the year	(354,785)	(18,087,039)	(266,419)	(46,321)	(640,932)	–	–	(19,395,496)
Disposals	–	1,777,899	89,424	–	–	3,723,494	–	5,590,817
Impairment of obsolete assets	–	365,533	–	–	–	–	–	365,533
Foreign exchange differences	79,596	(7,221,073)	34,257	76,847	294,385	40,948	–	(6,695,040)
At 31 December 2021	**(1,343,400)**	**(44,308,149)**	**(757,592)**	**(945,943)**	**(1,560,407)**	–	–	**(48,915,491)**
Net Book Value								
At 31 December 2020	**6,637,823**	**150,458,060**	**291,094**	**958,755**	**4,290,411**	–	**4,943,850**	**167,579,993**
At 31 December 2021	**5,936,472**	**130,320,791**	**43,094**	**708,434**	**3,505,564**	–	**12,596,347**	**153,110,702**

The right of use asset of $3.5million relates to land and buildings of $3.4million and plant and machinery of $0.09million.

Refer to note 3(vi) on management's assumptions for the impairment of non-current assets. The net impairment charge of $1.8million recognised during the year relates to items of property, plant and equipment that were identified as being either obsolete, or no longer in use.

14. INVESTMENT PROPERTY

	2021			2020		
	Opening balance US$	**Fair value movements US$**	**Closing balance US$**	Opening balance US$	Fair value movements US$	Closing balance US$
Investment properties	**2,811,017**	**(215,658)**	**2,595,359**	2,905,449	(94,432)	2,811,017

Investment properties comprise residential housing in Brits and Elandsrand, North West Province.

Investment properties are stated at fair value, which has been determined based on valuations performed by Domus Estate Management, an accredited independent valuer, as at 31 December 2021. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The following valuation techniques and key inputs were used in the valuation of the investment properties:
i. Physical inspection of each property;
ii. Consultation with estate agencies to discuss current sales market trends; and
iii. Comparative sales reports for locations where properties are situated were obtained from South Africa.

15. DEFERRED TAX

Deferred tax liability

	2021 US$	2020 Restated* US$	2019 Restated* US$
Residential properties	**(577,502)**	(624,978)	(644,691)
Property plant and equipment	**(25,721,549)**	(29,267,614)	(32,182,666)
Prepayments	**(24,092)**	(144,472)	(187,898)
Doubtful debt allowance	**(11)**	(332)	–
Total deferred tax liability	**(26,323,154)**	**(30,037,396)**	**(33,015,255)**
Deferred tax asset			
Provisions	**3,813,396**	3,926,545	3,674,640
Inventory	–	356,194	1,082,620
Environmental rehabilitation liability	**1,976,545**	2,009,660	2,004,422
Leases – Lease liability	**165,925**	178,783	86,793
Assessed loss	**13,819,438**	11,435,066	1,235,365
Post-retirement medical liability	**533,607**	581,286	652,771
Deferred tax balance from temporary differences other than unused tax losses	**20,308,911**	18,487,534	8,736,611
Total deferred tax asset	**20,308,911**	**18,487,534**	**8,736,611**
Deferred tax liability	**(26,323,154)**	(30,037,396)	(33,015,255)
Deferred tax assets	**20,308,911**	18,487,534	8,736,611
Total net deferred tax liability	**(6,014,243)**	**(11,549,862)**	**(24,278,644)**

The evidence supporting recognition of a deferred tax liability is forecasts for the component to which the losses relate which indicate with reasonable certainty the availability of sufficient future taxable profits in the next 3 years against which the losses can be utilised.

Refer to note 35 on a detailed explanation on the restatement.

15. DEFERRED TAX *CONTINUED*

Reconciliation of deferred tax asset/(liability)

	2021 US$	2020 US$	2019 US$
At beginning of year	**(11,549,862)**	(24,278,644)	265,025
Transfer from statement of profit or loss	**5,028,446**	9,835,255	(23,077,361)
Revaluation through other comprehensive income	**(2,916)**	(34,919)	(35,941)
Other movements	**(72,442)**	72,442	–
Foreign exchange difference	**582,530**	2,856,004	(1,430,367)
	(6,014,244)	(11,549,862)	(24,278,644)

16. FINANCIAL ASSETS AT FAIR VALUE

	2021 US$	2020 US$
At 1 January	**22,452,877**	1,952,227
Additions	**9,987,735**	7,304,099
Disposals	**(16,147,154)**	(286,643)
Fair value movement	**(3,771,367)**	13,483,194
Transfer to interest in joint venture	**(12,291,834)**	–
Foreign exchange	**(230,257)**	–
As at 31 December	–	22,452,877

During the year the Group made further investment in VRFB Holdings Limited and in April 2021 the investment became a joint venture. Further details are included in note 17.

AfriTin Mining Limited

The Group measures the fair value of the investment in AfriTin Mining Limited using the quoted price in an active market for that instrument. A market is regarded as active if transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis. The investment in AfriTin was disposed in 2021.

Invinity Energy Systems

The investment in Invinity was realised, resulting in capital appreciation. The proceeds of the sale were used towards Bushveld Energy's 2021 projects.

17. INTERESTS IN JOINT VENTURES

	2021 US$	2020 US$
Transfer from financial assets held at fair value	**12,291,834**	–
Loss on joint venture undertaking	**(4,351,356)**	–
Foreign exchange	**(85,241)**	–
	7,855,237	–

VRFB Holdings Limited

The investment in VRFB Holding Limited is in line with Bushveld Minerals' strategy of partnering with Vanadium Redox Flow Battery (VRFB) companies.

VRFB is a company incorporated as a special purpose vehicle consisting of various shareholders including Bushveld Energy Limited (BE), a majority owned subsidiary of Bushveld Minerals. In 2021, Bushveld acquired a 50.5 per cent interest in VRFB Holdings Limited (VRFB). VRFB is the holding company for the Group's investment in CellCube (Enerox).

Bushveld accounts for its 50.5 per cent shareholding in VRFB as an investment in joint venture as it does not meet the requirements of control under IFRS10.

The VRFB investment is part of Bushveld Minerals' strategy of partnering with VRFB Original Equipment Manufacturers (OEMs) that includes supply of vanadium and electrolyte, deployments and investment into the rapidly growing energy storage market.

The amount of write-down of inventories due to net realisable value provision requirement is nil (2020: nil).

18. INVENTORIES

	2021 US$	2020 US$
Finished goods	**18,058,022**	12,070,061
Work in progress	**9,323,360**	7,454,987
Raw materials	**3,159,418**	1,761,551
Consumable stores	**11,105,356**	12,795,026
Total inventories	**41,646,156**	34,081,625

19. TRADE AND OTHER RECEIVABLES

	2021 US$	2020 US$
Trade receivables	**6,129,311**	3,854,461
Other receivables	**5,861,661**	1,610,261
Loss allowance	**(76,704)**	(32,826)
Non-financial instruments:		
VAT	**5,727,948**	4,993,467
Total trade and other receivables	**17,642,216**	10,425,363

Categorisation of trade and other receivables

Trade and other receivables are categorised as follows in accordance with IFRS 9: Financial Instruments:

	2021 US$	2020 US$
At amortised cost	**11,914,268**	5,431,896
Non-financial instruments	**5,727,948**	4,993,467
	17,642,216	10,425,363

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. They are generally due for settlement within 15-90 days and therefore are all classified as current.

Other receivables consist of prepayments and deposits, which are realised overtime.

Due to the short-term nature of the current receivables, their carrying amount is considered to be the same as their fair value.

Impairment and risk exposure

Information about the impairment of trade receivables and the Group's exposure to credit risk, foreign currency risk and interest rate risk can be found in note 32.

20. RESTRICTED INVESTMENT

	2021 US$	2020 US$
Rehabilitation trust fund and insurance fund	**2,868,886**	3,111,465

The Group is required by statutory law in South Africa to hold these restricted investments in order to meet decommissioning liabilities on the statement of financial position (refer to note 25 and 33 for further details).

Notes to the Consolidated Financial Statements *continued*

21. CASH AND CASH EQUIVALENTS

	2021 US$	2020 US$
Cash at hand and in bank	**15,432,852**	50,540,672

Cash and cash equivalents (which are presented as a single class of assets on the face of the Statement of Financial Position) comprise cash at bank and other short-term highly liquid investments with an original maturity of three months or less. Short-term deposits include funds received from Orion Mine Finance (Orion) under the Production Financing Agreement (PFA) and Convertible Loan Notes Instrument (CLN).

The total cash and cash equivalents denominated in South African Rand amount to US$14,883,820 (2020: US$34,165,671).

The directors consider that the carrying amount of cash and cash equivalents approximates to their fair value.

Refer to Note 28 for further information in relation to the Production Financing Agreement and Convertible Loan Notes Instrument.

22. SHARE CAPITAL AND SHARE PREMIUM

	Shares Number	Share capital US$	Share premium US$	Total share capital and premium US$
At 1 January 2020	1,153,642,682	15,357,271	111,067,064	126,424,335
Shares issued – Duferco	37,115,210	501,157	5,998,843	6,500,000
At 1 January 2021	**1,190,757,892**	**15,858,428**	**117,065,907**	**132,924,335**
Shares issued – PMDR	1,473,651	18,910	203,281	222,191
Shares issued – PMDR	1,335,277	17,134	184,194	201,328
Shares issued – Duferco	66,892,037	902,708	8,097,292	9,000,000
At 31 December 2021	**1,260,458,857**	**16,797,180**	**125,550,674**	**142,347,854**

The Board may, subject to Guernsey Law, issue shares or grant rights to subscribe for or convert securities into shares. It may issue different classes of shares ranking equally with existing shares. It may convert all or any classes of shares into redeemable shares. The Company may also hold treasury shares in accordance with the law. Dividends may be paid in proportion to the amount paid up on each class of shares.

As at the 31 December 2021 the Company owns 670,000 (2020: 670,000) treasury shares with a nominal value of 1 pence.

Shares issued

Duferco Participations Holding S.A. (Duferco)

In settlement of US$6.5million of the convertible loan notes issued to Duferco on the acquisition of Vanchem, Bushveld Minerals Limited issued 37,115,210 new shares on 18 December 2020. The shares issued had a conversion price of 12.97p, which was a 5 per cent discount to the prevailing 10-day volume weighted average Bushveld Minerals share price leading up to conversion.

Refer to note 28 for details on the Convertible Loan Note details.

Persons Discharging Managerial Responsibilities (PMDRs)

The Company issued 1,473,651 and 1,335,277 new ordinary shares of 1 pence each in the Company (Ordinary Shares) in respect of the Bonus Awards announced on 21 July 2020.

Nature and purpose of other reserves

Share premium

The share premium reserve represents the amount subscribed for share capital in excess of nominal value.

Share-based payment reserve

The share-based payment reserve represents the cumulative fair value of share options granted to employees.

Convertible loan note reserve

This reserve represents the equity portion of a convertible loan.

Foreign exchange translation reserve

The translation reserve comprises all foreign currency differences arising from the translation of financial statements of foreign operations.

Fair value reserve

The fair value reserve comprises the cumulative net change in the fair value of financial assets at fair value through other comprehensive income until the assets are derecognised or impaired.

Retained income reserve

The retained income reserve represents other net gains and losses and transactions with owners (e.g. dividends) not recognised elsewhere.

23. SHARE BASED PAYMENTS

Short Term Incentive (STI)

Bushveld Minerals Limited issued bonus shares to the employees under the STI scheme. The shares had a grant date of 5 August 2021 and vesting dates aligned to the STI scheme rules being, 12 months and 18 months from the financial year end to which they relate, for the first and second half of the settlement, respectively. The vesting of shares is dependent on the employees still be employed on the respective vesting dates.

All bonus shares are settled directly by Bushveld Mineral Limited, in its own shares.

The fair value of the rights at grant date US$955 451 was estimated by taking the market price of the company's shares and the reporting exchange rate on that date.

The following table shows the bonus shares granted and outstanding at the beginning and end of the reporting period:

	2021 Number of shares	2020 Number of shares
As at 1 January	–	–
Granted during the year	5,204,396	–
Vested during the year	–	–
Forfeited during the year	–	–
As at 31 December	**5,204,396**	–

Long Term Incentive (LTI)

On 31 December 2021, 4,002,812 shares vested. These shares remained part of Bushveld's equity as at 31 December 2021 because they where issued under the STI scheme rules in February 2022.

Bushveld Minerals awarded a number of performance shares to employees on 28 November 2019 under its Long Term Incentive Plan. The grant vests over a period of three years. The vesting of the awards is subject to both employment and performance conditions.

The performance condition is measured over a period of three years i.e. 1 January 2019 to 31 December 2021.

The market condition states that 60 per cent of the number of shares awarded would vest based on the performance of Bushveld Ltd's Total Shareholder Return (TSR), per annum, over the performance period.

The non-market condition states that 40 per cent of the number of shares awarded will vest based on the performance of Bushveld Ltd's Free Cash Flow Margin (FCF), per annum, over the performance period.

As at 31 December 2021, it is assumed that 0 per cent of the conditional share awards made to participants during 2019 will vest. This is based on Bushveld's performance on both TSR and FCF being below the threshold.

Notes to the Consolidated Financial Statements *continued*

23. SHARE BASED PAYMENTS *CONTINUED*

	2021 Number of shares	2020 Number of shares
As at 1 January	**2,458,443**	2,458,443
Granted during the year	–	–
Vested during the year	–	–
As at 31 December	**2,458,443**	2,458,443

24. POST-RETIREMENT MEDICAL LIABILITY

Benefit liability

	2021 US$	2020 US$
Present value of the defined benefit obligation-wholly unfunded	**2,076,023**	2,331,325
Present value of the defined benefit obligation-partially or wholly funded	**(170,284)**	(255,302)
Balance at 31 December	**1,905,739**	2,076,023

The benefit comprises medical aid subsidies provided to qualifying retired employees. Actuarial valuations are made annually, and the most recent valuation was made on 31 December 2021.

Key assumptions used

	2021 US$	2020 US$
Actual age	**77.3 years**	77.3 years
Discount rates	**10.90%**	10.60%
Health care cost inflation	**7.90%**	7.30%
Duration of liability	**9.3 years**	9.1 years

A one percentage point change in the assumed rate of healthcare costs would have the following effect on the present value of the unfunded obligation: Plus 1 per cent – US$2.07 million; Less 1 per cent – US$1.76 million.

A one percentage point change in the assumed interest rate would have the following effect on the present value of the unfunded obligation; Plus 1 per cent – US$0.21 million; Less 1 per cent – US$0.18 million.

25. ENVIRONMENTAL REHABILITATION LIABILITY

	2021 US$	2020 US$
Opening balance	**17,998,366**	17,844,066
Unwinding of discount rate	**1,781,584**	1,872,634
Fair value adjustment	**(315,434)**	(1,007,237)
Foreign exchange	**(1,433,195)**	(711,097)
At 31 December 2021	**18,031,321**	17,998,366

The Group makes full provision for the future cost of rehabilitating mine sites and related production facilities on a discounted basis at the time of developing the mine and installing and using those facilities.

The rehabilitation provision represents the present value of rehabilitation costs relating to mine sites, which are expected to be incurred up to 2037, which is when the producing mine properties are expected to cease operations. These provisions have been created based on the Group's internal estimates. Assumptions based on the current economic environment have been made, which management believes are a reasonable basis upon changes to the assumptions. However, actual rehabilitation costs will ultimately depend upon future market prices for the necessary rehabilitation works required that will reflect market conditions at the relevant time. Furthermore, the timing of rehabilitation is likely to depend on when the mines cease to produce at economically viable rates. This, in turn, will depend upon future vanadium prices, which are inherently uncertain.

The discount rate used in the calculation of the provision as at 31 December 2021 was 10.76 per cent (2020: 10.93 per cent).

26. DEFERRED CONSIDERATION

	2021 US$	2020 US$
Opening balance	**5,622,532**	7,108,819
Cash payment	**(3,723,980)**	(1,680,459)
Interest	**90,617**	–
Movement in earnout estimate	–	206,066
Foreign exchange	**(305,148)**	(11,894)
	1,684,021	5,622,532

Split between non-current and current portions

	2021 US$	2020 US$
Non-current	**1,684,021**	1,802,884
Current	–	3,819,648
	1,684,021	5,622,532

At the year-end management have updated their estimate of the earnout payable to EVRAZ on the acquisition of the Vametco Group, which is based on the expected EBITDA for the year ended 31 December 2021, to a maximum of US$1.68 million. The consideration attributable to the acquisition of Vanchem was settled in November 2021.

27. LOANS

	2021 US$	2020 US$
Industrial Development Corporation	**3,280,948**	1,597,972

The loan represents The Industrial Development Corporation's contribution and is governed by the tripartite agreement between Bushveld Energy Company (Pty) Ltd, Bushveld Electrolyte Company (Pty) Ltd and The Industrial Development Corporation of South Africa Limited. The loan represents the initial capitalised costs of US$260,366 plus the subscription amount of US$3,020,582 of the total US$3,821,028 to be advanced to Bushveld Electrolyte Company Pty Ltd. Bushveld Electrolyte Company is a South African producer of vanadium electrolyte. The company is jointly owned by Bushveld Energy and the IDC, with shareholding of 55 per cent and 45 per cent respectively. Its first manufacturing facility is under construction and located in East London, South Africa.

The loan is interest free, unsecured, subordinated in favour of Bushveld Electrolyte Company's creditors and has no fixed term of repayment in the next 12 months.

Split between non-current and current portions

	2021 US$	2020 US$
Non-current liabilities	**3,280,948**	1,597,972

Notes to the Consolidated Financial Statements *continued*

28. BORROWINGS

	2021 US$	2020 US$
Development Bank of Southern Africa	**999,950**	845,588
Nedbank Term Loan and Revolving Credit Facility	**5,821,082**	8,636,535
Convertible Loan Notes – Duferco	–	11,585,068
Production Financing Agreement – Orion Mine Finance	**33,511,742**	30,105,886
Convertible Loan Notes Instrument – Orion Mine Finance	**37,313,976**	33,073,699
	77,646,750	84,246,776
Split between non-current and current portions		
Non-current	**67,435,647**	70,909,370
Current	**10,211,102**	13,337,406
	77,646,749	84,246,776

Development Bank of Southern Africa – Facility Agreement
Lemur Holdings Limited, a subsidiary undertaking, entered into a US$1,000,000 facility agreement with the Development Bank of Southern Africa Limited in March 2019. The purpose of the facility is to assist with the costs associated with delivering the key milestones to the power project. The repayment is subject to the successful bankable feasibility study of the project at which point the repayment would be the facility value plus an amount equal to an IRR of 40 per cent capped at 2.5 times which ever is lower. As at 31 December 2021, US$999,950 (2020: US$845,588) was drawn down.

Nedbank Term Loan and Revolving Credit Facility
In November 2019, Bushveld Minerals Limited secured R375 million (approximately US$25 million) in debt facilities through its subsidiary Bushveld Vametco Alloys Proprietary Limited (the Borrower) with Nedbank Limited (acting through its Nedbank Corporate and Investment Banking division), a South African based financial institution, in the form of a R250 million loan and a R125 million revolving credit facility.

The Nedbank term loan was repaid in December 2020.

Key highlights of the R125 million revolving credit facility, which was drawn in March 2020:
- Three-year term – Repayment due in November 2022;
- Interest rate calculated using the three year or six months JIBAR1 as selected by the Company plus a 3.85% margin;
- Interest payments are due semi-annually with first payment due in six months from financial close.

The security provided is customary for a secured financing of this nature, including cession of shares in the Borrower, security over the assets of the Borrower, and a parent guarantee.

Financial Covenants undertaken
The Borrower shall ensure that for so long as any amount is outstanding under a Finance Document or any Commitment is in force, in respect of each Measurement Period:
- the Net Interest Cover Ratio; and
- the Net Debt to EBITDA Ratio at a Borrower level shall not exceed 4.0 times.

As reported in the going concern policy, the net debt to EBITDA ratio was breached at 31 December 2021 following the remeasurement of the Orion Mine Finance PFA liability. This covenant has been retrospectively waived by Nedbank.

Convertible Loan Note – Duferco
On 27 October 2021, Bushveld met the final repayment terms of the remaining US$11.5 million unsecured convertible notes held by Duferco the previous owner of Vanchem, effective on 8 November 2021. US$2.5 million of the amount due, as well as the accrued interest of US$0.512 million, was satisfied in cash and the balance of US$9 million with the issue of 66,892,037 new ordinary shares of Bushveld, using a conversion price of 9.97p, which was a 5 per cent discount to the prevailing 10-day volume weighted average Bushveld Minerals share price leading up to conversion. There is no lock in or orderly marketing period for the shares issued.

Production Financing Agreement – Orion Mine Finance

In December 2020, Bushveld Minerals Limited signed a long-term Production Financing Agreement of US$30 million (or the "PFA") with mining-focused investment business Orion Mine Finance (Orion), primarily to finance its expansion plans at Bushveld Vametco Alloys (Pty) Ltd and debt repayment. Exchange control authorization from the South Africa Reserve Bank Financial Surveillance Department was granted in October 2020. A first amendment was issued to the agreement on 6 August 2021.

PFA Transaction Details

The Company will repay the principal amount and pay interest via quarterly payments determined initially as the sum of:

– a gross revenue rate (set at 1.175 per cent for 2020 and 2021 and 1.45 per cent from 2022 onwards, subject to adjustment based on applicable quarterly vanadium prices) multiplied by the gross revenue for the quarter; and
– a unit rate of US$0.443/kgV multiplied by the aggregate amount of vanadium sold for the quarter.

Once the Company reaches vanadium sales of approximately 132,020 mtV during the term of the facility, the gross revenue rate and unit rate will reduce by 75 per cent (i.e. to 25 per cent of the applicable rates).

On each of the first three loan anniversaries, the Company has the option to repay up to 50 per cent of both constituent loan parts (each may only be repaid once). If the Company utilises the loan repayment option, the gross revenue rate and/or the unit rate will reduce accordingly.

The PFA capital will provide funding to continue to grow production at Vametco to more than 4,200 mtV per annual production level and debt repayment. Part of the proceeds of the Instrument were used by the Company to prepay in full the Nedbank ZAR250 million term loan. In addition, the following amendments will be applied to the financial covenants:

– Removing the cumulative DSCR covenant;
– Increasing the default level on the group net debt to Group EBITDA ratio to 4.0 times
– Changing the gross interest cover ratio to net interest cover ratio

First Amendment Agreement dated 6 August 2021

In terms of the Amended Agreement with Orion, $17.8million of the funds ringfenced for the Vametco Phase 3 Expansion was re-allocated to Vanchem mainly for capital expenditure on kiln 3. Kiln 3 is expected to achieve a steady state production run rate of 2,600 mtVp.a by the end of 2022.

Impact of Amended Agreement on future cash flows of the debt instrument

The original PFA had a cap of 1,075mtV per quarter. This amounted to 4,300mtV per annum expected from 2024 onwards following the completion of the Vametco Phase 3 expansion project

The amended agreement, with the addition of the Vanchem production volumes from 1 July 2021 resulted in the initial cap of 4,300mtV being reached earlier, from 1 July 2022 instead of from 2024.

Accounting for non-substantial modifications

IFRS 9 requires the amortised cost of the liability to be recalculated by discounting the modified contractual cash flows (excluding costs and fees) using the original effective interest rate. Any change to the amortised cost of the financial liability is required to be recognised within profit or loss at the date of the modification.

The carrying amount of the liability is then further revised for any costs or fees incurred. The effective interest rate is also revised accordingly, so the costs are amortised over the remaining term of the modified liability.

As a result of the increased production volumes from Vanchem and the cap of 4,300mtV being reached earlier, this resulted in a non-substantial modification to the contractual terms. The amortised cost was recalculated and the adjustment was recognised within profit or loss:
IFRS 9 fair value adjustment US$ 1,902,172

28. BORROWINGS *CONTINUED*

Contractual and legal balances vs IFRS 9 accounting balances

The contractual and legal accounting differ from IFRS 9 accounting.

Below table illustrates the differences in the carrying values, interest and capital of the contractual PFA and IFRS 9 accounting for the 2021 financial year.

	2021 US$	2020 US$
Reconciliation of Production Finance Agreement – Orion Mine Finance		
Opening balance	**30,105,886**	–
Loan received	–	30,000,000
Interest accrued	**4,058,488**	105,886
– Contractual interest	**1,198,919**	105,886
– Notional interest (IFRS 9)	**2,859,569**	–
Repayments made	**(2,554,804)**	–
Remeasurement (IFRS 9)	**1,902,172**	–
Closing balance	**33,511,742**	30,105,886

Convertible Loan Notes Instrument – Orion Mine Finance

Bushveld Minerals Limited, through an affiliate of Orion Mine Finance, agreed to subscribe for US$35 million convertible loan notes instrument (the "Instrument"). The conversion price of the convertible loan notes was set at 17 pence. The Instrument's proceeds will go towards the first phase of Vanchem's critical refurbishment programme and debt repayment.

Financing terms of the Instrument and convertible loan notes

- A fixed 10 per cent per annum coupon with a three year maturity date from the drawdown date.
- All interest will accrue and be capitalised on a quarterly basis in arrears but compounded annually.
- Accumulated capitalised and accrued interest is convertible into Bushveld ordinary shares. All interest and principal, to the extent not converted into ordinary shares, is due and payable at maturity date.
- Funds raised are to be used for capital investment purposes for the first phase of Vanchem's critical refurbishment programme, and the balance for debt repayment purposes.

Conversion feature

Between drawdown and the Instrument's maturity date Orion may, at their option, convert an amount of the outstanding debt, including capitalised and accrued interest, into Bushveld's ordinary shares as follows:

- First six months: Up to one third of the outstanding amount;
- Second six months: Up to two thirds of the outstanding amount (less any amount previously converted);
- From the anniversary of drawdown until the maturity date: the outstanding amount under the Instrument may be converted;
- Bushveld also has the option to convert all, but not some, of the amount outstanding under the Instrument, if its volume weighted average share price is more than 200 per cent of the conversion price over a continuous 15 trading day period, a trading day being a day on which the AIM market is open for the trading of securities.

At any time until the convertible maturity date, Orion may convert the debt as above mentioned into an amount of ordinary shares equal to the total amount available for conversion under the Instrument divided by the conversion price of 17 pence.

The Orion and Nedbank borrowings are secured against certain group companies and associated assets.

29. LEASE LIABILITIES

A reconciliation of total operating lease commitments to the IFRS 16 lease liability at 31 December 2021 is as follows:

	2021 US$	2020 US$
As at 1 January	**5,002,144**	5,464,909
Additions	**127,964**	–
Accretion of interest	**459,430**	497,042
Payments	**(705,373)**	(753,302)
Foreign exchange	**(398,853)**	(206,505)
	4,485,312	5,002,144
Non-current lease liabilities	**3,920,698**	4,376,483
Current lease liabilities	**564,614**	625,661
	4,485,312	5,002,144

30. TRADE AND OTHER PAYABLES

	2021 US$	2020 US$
Financial instruments:		
Trade payables	**28,329,519**	17,074,422
Trade payables – related parties	**107,026**	–
Accruals and other payables	**4,644,125**	4,991,179
	33,080,670	22,065,601

Trade and other payables principally comprise amounts outstanding for trade purchases and on-going costs. The average credit period taken for trade purchases is 30 days.

The Group has financial risk management policies in place to ensure that all payables are paid within the pre-arranged credit terms. No interest has been charged by any suppliers as a result of late payment of invoices during the year.

The directors consider that the carrying amount of trade and other payables approximates to their fair value.

The total trade and other payables denominated in South African Rand amount to US$20,622,241 (2020: US$15,895,209).

31. PROVISIONS

Reconciliation of provisions – 2021

	Opening balance US$	Additions US$	Utilised during the year US$	Foreign exchange US$	Total US$
Leave pay	**1,655,457**	**50,519**	–	**(77,252)**	**1,628,724**
Performance bonus	**1,375,147**	–	**(333,724)**	–	**1,923,343**
Other	**266,290**	**157,152**	**(253,656)**	–	**169,786**
	3,296,894	**207,671**	**(587,380)**	**(77,252)**	**3,721,853**

Reconciliation of provisions – 2020

	Opening balance US$	Additions US$	Utilised during the year US$	Foreign exchange US$	Total US$
Leave pay	1,193,630	504,394	–	(42,567)	1,655,457
Performance bonus	2,098,565	881,920	(2,290,117)	(36,292)	881,920
Other	140,424	221,983	(92,680)	(3,437)	266,290
	3,432,619	1,089,591	(2,382,797)	(82,296)	2,680,430

Notes to the Consolidated Financial Statements *continued*

31. PROVISIONS *CONTINUED*

Leave pay and bonus
Leave pay represents employee leave days due multiplied by their cost to the company employment package. The bonus represents the estimated amount due to employees based on their approved bonus scheme.

Performance bonus
The performance bonus represents an incentive bonus due to senior employees, calculated in terms of an approved scheme based on the company's operating results.

Other
The other provisions represents estimates for Group tax, legal and consulting fees to be charged.

32. FINANCIAL INSTRUMENTS
The Group is exposed to the risks that arise from its use of financial instruments. This note describes the objectives, policies and processes of the Group for managing those risks and the methods used to measure them. Further quantitative information in respect of these risks is presented throughout these financial statements.

Capital risk management
The Group manages its capital to ensure that entities in the Group will be able to continue as going concerns while maximising returns to shareholders. In order to maintain or adjust the capital structure, the Group may issue new shares or arrange debt financing. At the reporting date, the Group had borrowings of US$77,646,750 (2020: US$84,246,776).

The capital structure of the Group consists of cash and cash equivalents, equity and borrowings. Equity comprises of issued capital and retained profits.

The Group is not subject to any externally imposed capital requirements.

Principal financial instruments
The principal financial instruments used by the Group, from which financial instrument risk arises, are as follows:
- Trade and other receivables
- Cash at bank
- Trade and other payables
- Borrowings
- Investments
- Lease liabilities

Categories of financial instruments
The Group holds the following financial assets:

	2021 US$	2020 US$
Financial assets at amortised cost		
Trade and other receivables	**11,914,268**	10,451,736
Restricted investment	**2,868,886**	3,111,465
Cash and cash equivalents	**15,432,852**	50,540,672
Financial assets – Investment	–	2,785,507
Total financial assets at amortised cost	**30,216,006**	66,889,380
Financial assets at fair value	–	20,439,565
Total financial assets	**30,216,006**	87,328,945

The Group holds the following financial liabilities:

	2021 US$	2020 US$
Financial liabilities at amortised cost		
Trade and other payables	**33,080,670**	23,853,676
Lease liabilities	**4,485,312**	5,002,144
Deferred consideration	**1,684,021**	5,416,466
Loans	**3,280,948**	1,597,972
Borrowings	**77,646,750**	84,246,776
Total financial liabilities	**120,177,701**	120,117,034

General objectives, policies and processes

The Board has overall responsibility for the determination of the Group's risk management objectives and policies. The Board receives reports through which it reviews the effectiveness of the processes put in place and the appropriateness of the objectives and policies it sets.

The overall objective of the Board is to set policies that seek to reduce risk as far as possible without unduly affecting the Group's competitiveness and flexibility. Further details regarding these policies are set out below:

Price risk

The Group's exposure to commodity price risk is dependent on the fluctuating price of the various commodities that it mines, processes and sells.

The average market price of each of the following commodities was:

Vametco	2021 US$/kgV	2020 US$/kgV
NV	**34.10**	23.56
MVO	**17.18**	17.18
AMV	–	17.53
FEV	–	22.33

Vanchem	2021 US$/kgV	2020 US$/kgV
Vanadium Pentoxide Flake (FVP)	**25.04**	19.86
Vanadium Pentoxide Chemical (VCM)	**32.73**	22.79
Sodium Ammonium Vanadate (SAV)	**51.22**	32.97
Ammonium Metavanadate (AMV)	**35.19**	26.79
Ferro Vanadium (FEV)	**31.53**	22.56
Vanadyl Oxalate Solution (VOX)	**195.41**	–
Potassium Metavanadate	**35.31**	–
Nitrovan	**30.60**	–

32. FINANCIAL INSTRUMENTS *CONTINUED*

If the average price of each of these commodities increased/decreased by 10 per cent the total sales related to each of these commodities would have increased/decreased as follows:

Vametco	Effect on 2021 revenue US$	Effect on 2021 net income US$
NV	8,431,404	6,069,757
AMV	(14,352)	(10,334)
	8,417,052	6,059,423

Vametco	Effect on 2020 revenue US$	Effect on 2020 net income US$
NV	7,733,450	5,568,084
MVO	25,272	18,196
AMV	14,352	10,334
FEV	32,194	23,180
	7,805,268	5,619,794

Vanchem	Effect on 2021 revenue US$	Effect on 2021 net income US$
Vanadium Pentoxide Flake (FVP)	610,815	439,787
Vanadium Pentoxide Chemical (VCM)	298,089	214,624
Sodium Ammonium Vanadate (SAV)	71,954	51,807
Ammonium Metavanadate (AMV)	27,320	19,670
Ferro Vanadium (FEV)	1,637,211	1,178,792
Vanadyl Oxalate Solution (VOX)	137,723	99,160
Potassium Metavanadate	46,810	33,703
Nitrovan	483,666	348,239
	3,313,588	2,385,782

Vanchem	Effect on 2020 revenue US$	Effect on 2020 net income US$
Vanadium Pentoxide Flake (FVP)	831,607	598,757
Vanadium Pentoxide Chemical (VCM)	114,420	82,382
Sodium Ammonium Vanadate (SAV)	5,246	3,777
Ammonium Metavanadate (AMV)	12,704	9,147
Ferro Vanadium (FEV)	994,299	715,896
	1,958,276	1,409,959

Credit risk

Credit risk is the risk that the counterparty fails to repay its obligation to the Group in respect of the amounts owed.

Credit risk arises from cash and cash equivalents, contractual cash flows of debt investments carried at amortised cost, at fair value through other comprehensive income (FVOCI) and at fair value through profit or loss (FVPL), as well as credit exposures to customers, including outstanding receivables.

Risk management

Credit risk is managed on a Group basis. Credit verification procedures are undertaken for all customers with whom we trade on credit. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the board. The compliance with credit limits by customers is regularly monitored by line management.

Trade account receivables comprise a limited customer base. Ongoing credit evaluation of the financial position of customers is performed and granting of credit is approved by directors.

The Group's investments in debt instruments are considered to be low risk investments. The credit ratings of the investments are monitored for credit deterioration.

Security

At 31 December 2021, the company held no collateral as security against any financial asset. The carrying amount of financial assets recorded in the financial statements, net of any allowances for losses, represents the company's maximum exposure to credit risk without taking account of the value of any collateral obtained. At 31 December 2021 and at 31 December 2020, no financial assets were past their due date. An allowance for impairment is made where there is an identified loss event which, based on previous experience, is evidence of a reduction in the recoverability of the cash flows. Management considers the above measures to be sufficient to control the credit risk exposure.

Impairment of financial assets

The Group's only financial assets that are subject to the expected credit loss model are third party trade receivables.

Trade receivables

The Group applies the IFRS 9 simplified approach to measure expected credit losses which uses a lifetime expected loss allowance for all trade receivables and contract assets.

To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due.

The expected loss rates are based on the payment profiles of sales over a period of 36 month before 31 December 2021 and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables. The Group has identified the GDP and the unemployment rate of the countries in which it sells its goods and services to be the most relevant factors, and accordingly adjusts the historical loss rates based on expected changes in these factors.

On that basis, the loss allowance as at 31 December 2021 and 31 December 2020 was determined as follows for trade receivables:

2021

Subsidiary	Expected credit loss rate	Gross carrying amount US$	Loss allowance US$
Bushveld Vametco Alloys (Pty) Ltd	0.11%	87,076	96
Bushveld Vametco Limited	0.13%	4,197,730	5,457
Bushveld Vanchem (Pty) Ltd	0.13%	1,274,756	1,657
Ivanti Resources (Pty) Ltd	0.43%	609,197	2,620
Bushveld Minerals SA (Pty) Ltd	0.19%	7,743	15
Bushveld Energy Company (Pty) Ltd	100.00%	66,866	66,866
		6,243,368	76,711

32. FINANCIAL INSTRUMENTS *CONTINUED*

2020

Subsidiary	Expected credit loss rate	Gross carrying amount US$	Loss allowance US$
Bushveld Vametco Alloys (Pty) Ltd	0.95%	312,230	2,966
Bushveld Vanchem (Pty) Ltd	1.94%	38,169	740
Bushveld Minerals SA (Pty) Ltd	1.94%	69,189	1,342
Bushveld Energy Company (Pty) Ltd	1.94%	72,651	1,409
Bushveld Vametco Limited	0.93%	2,835,340	26,369
		3,327,579	32,826

Trade receivables are written off when there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include, amongst others, the failure of a debtor to engage in a repayment plan with the Group, and a failure to make contractual payments for a period of greater than 120 days past due.

Impairment losses on trade receivables are presented as net impairment losses within operating profit. Subsequent recoveries of amounts previously written off are credited against the same line item. There were no impairment losses on trade receivables for the 2021 and 2020 financial year.

It is the Group's policy that all customers who wish to trade on credit terms are subject to credit verification procedures. Credit risk arises from credit exposure to customers, including outstanding receivables and committed transactions.

The Group's credit risk is considered by counterparty, geography and by currency. The Group has a significant concentration of cash held on deposit with large banks in South Africa, Mauritius and the United Kingdom and America with A ratings and above (Standard and Poors).

The concentration of credit risk by currency was as follows:

	2021 US$	2020 US$
Currency		
Pound Sterling	**10,272**	663,914
Euro	**47**	–
South African Rand	**14,942,559**	34,165,671
United States Dollar	**479,974**	15,711,087
	15,432,852	50,540,672

Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting its financial obligations as they fall due. Ultimate responsibility for liquidity risk management rests with the Board of directors. The Board manages liquidity risk by regularly reviewing the Group's gearing levels, cash-flow projections and associated headroom and ensuring that excess banking facilities are available for future use.

The Group maintains good relationships with its banks, which have high credit ratings and its cash requirements are anticipated via the budgetary process. At 31 December 2021, the Group had US$15,432,852 (2020: US$50,540,672) of cash reserves and borrowings of US$77,646,750 (2020: US$84,246,776). The Group will maintain its ability to service its borrowings over the next 12 months.

Market risk

The Group's activities expose it primarily to the financial risk of changes in foreign currency exchange rates and interest rates.

Interest rate risk

The Group has interest bearing assets and liabilities, the Group's income and operating cash flows are dependent of changes in market interest rates.

As part of the process of managing the Group's interest rate risk, interest rate characteristics of new borrowings and the refinancing of existing borrowings are positioned according to expected movements in interest rates.

2021

Interest bearing instruments	Value of loan	Interest increase by 100 basis points	Effect
Borrowings	(77,646,750)	1%	(776,468)
Cash and cash equivalents	852,547	1%	8,525
			(767,943)

2020

Interest bearing instruments	Value of loan	Interest increase by 100 basis points	Effect
Borrowings	(84,246,776)	1%	(842,468)
Cash and cash equivalents	40,260,188	1%	402,602
			(439,866)

Foreign exchange risk

As highlighted earlier in these financial statements, the functional currency of the Group is US Dollars. The Group also has foreign currency denominated assets and liabilities. Exposure to exchange rate fluctuations therefore arise. The carrying amount of the Group's foreign currency denominated monetary assets and liabilities, all in US Dollars, are shown below:

	2021 US$	2020 US$
Cash and cash equivalents	15,134,842	34,829,585
Other receivables	12,696,364	4,818,931
Trade and other payables	(20,752,795)	(17,715,850)
	7,078,411	21,932,666

The Group has transactional foreign exchange exposures, which arise from sales or purchases by an operating unit in currencies other than the unit's functional currency. The Vanadium market is predominately priced in US dollars which exposes the Group to the risk of fluctuations in the SA rand/US dollar. The Group monitors and manages risk via the newly established internal audit function.

The Group does not enter into any derivative financial instruments to manage its exposure to foreign currency risk.

Fair value

The directors are of the opinion that the book value of those financial instruments carried at amortised cost approximates fair value.
The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair values.

The Group used the following hierarchy for determining and disclosing the fair value of financial instruments which are measured at fair value by valuation technique:

- Level 1: Quoted (unadjusted) market prices in active markets for identical assets or liabilities.
- Level 2: Other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly.
- Level 3: Techniques which use inputs that have a significant effect on the recorded fair value that are not based on observable market data.

Notes to the Consolidated Financial Statements *continued*

32. FINANCIAL INSTRUMENTS *CONTINUED*

Of the Group's financial assets at fair value as described in note 16, US$Nil (2020: US$20,148,778) is measured using level 1 techniques and US$Nil (2020: US$2,304,099) is measured using level 3 valuation techniques. There have been no transfers between level 2 and level 3 of the fair value hierarchy during the year ended 31 December 2021 and 31 December 2020.

	2021		2020	
Financial assets	**Book value**	**Fair value**	Book value	Fair value
Trade and other receivables	**11,914,268**	**11,914,268**	6,692,165	6,692,165
Restricted investments	**2,868,886**	**2,868,886**	3,111,465	3,111,465
Financial assets – investments	–	–	2,785,507	2,785,507
Financial assets at fair value	–	–	20,439,565	20,439,565
Cash and cash equivalents	**15,432,852**	**15,432,852**	50,540,672	50,540,672

	2021		2020	
Financial liabilities	**Book value**	**Fair value**	Book value	Fair value
Trade and other payables	**33,080,670**	**33,080,670**	22,065,601	22,065,601
Borrowings	**77,646,749**	**77,646,749**	84,246,776	84,246,776
Deferred consideration	**1,684,021**	**1,684,021**	5,416,466	5,416,466
Loans	**3,280,948**	**3,280,948**	1,597,972	1,597,972
Lease liabilities	**4,485,312**	**4,485,312**	–	–

* Management assessed that the fair values of cash and cash equivalents, restricted investment, trade and other receivables and trade and other payables, borrowings, loans and lease liabilities approximate their carrying amounts largely due to the short-term maturities of these instruments.

33. CONTINGENT LIABILITIES

Bank guarantee

As required by the Minerals and Petroleum Resources Act (South Africa), a guarantee amounting to US$12,762,752 (2020: US$6,204,018) before tax and US$11,098,045 (2020: US$4,446,893) after tax was issued in favour of the Department of Mineral Resources for the unscheduled closure of the Bushveld Vametco Alloys mine. This guarantee was issued on condition that a portion be deposited in cash with Guard Risk Insurance Company Ltd with restricted use by the Group, as per the below.

34. RELATED PARTIES

Relationships

Balances and transactions between the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note.

VM Investment Company (Pty) Ltd is a related party due to the Directors Fortune Mojapelo and Anthony Viljoen being majority shareholders of VM Investments. VM Investments owns the offices rented by Bushveld Minerals Limited. The rent paid in 2021 financial period is US$162,897 (2020: US$159,651).

Services rendered by Ondra LLP for the amount of US$200,000 (2020: US$566,056) is classified as a related party transaction due to a non executive director (Michael Kirkwood) being a partner at the firm.

The company paid on behalf of Mr Fortune Mojapelo, tax on historic shares to the value of $439 094. The tax arises from historic shares issued to Mr Mojapelo. The company had an obligation to settle the tax on behalf of Mr Fortune Mojapelo. The amount is reflected as a debtor.

The remuneration of key management personnel, being the directors and other executive committee members, is set out below. Further information about the remuneration of individual directors is provided in the Directors' remuneration report.

	2021 US$	2020 US$
Salaries and fees	**2,181,500**	2,181,022
Short-term incentives	**166,190**	144,055
Long-term incentives	–	564,420
	2,145,438	2,889,497

35. RESTATEMENTS

Bushveld Vanchem acquired the business of Vanchem Vanadium Products (Pty) Ltd and South African Japan Vanadium (Pty) Ltd on 7 November 2019.

The transaction was accounted for as a business combination as prescribed by IFRS 3.

In the preparation of the 2019 annual financial statements, the gain on bargain purchase of R1.2billion (c.$60 million) that arose from the business combination was treated as a permanent tax difference and no deferred tax was provided in relation to the uplift in the fair value of the property, plant and equipment acquired. It was subsequently identified that the accounting treatment in the 2019 annual financial audited statements was incorrect and a deferred tax liability should have been recognised as part of the net assets acquired. The adjustment impacts on the deferred tax balances at 31 December 2019 and 31 December 2020 and the income tax charge in those periods.

The information in the following tables show the effect of the restatement on each affected financial statement line item:

Consolidated Statement of Financial Position	Previously reported at 31 December 2020	Adjustment	Restated at 31 December 2020
Deferred tax asset/(liability)	5,085,154	(16,635,016)	(11,549,862)
Retained earnings	(46,734,823)	18,367,164	(28,367,659)
Foreign exchange translation reserve	11,202,236	(1,732,148)	9,470,088

No impact on cash flows as reported for the year ended 31 December 2020 were noted.

Consolidated Statement of Financial Position	Previously reported at 31 December 2019	Adjustment	Restated at 31 December 2019
Deferred tax asset/(liability)	173,892	(24,452,536)	(24,278,644)
Retained earnings	(83,415,438)	24,452,536	(58,962,902)
Foreign exchange translation reserve	1,655,861	633,277	2,289,138

Consolidated Statement of Profit or Loss	Previously reported at 31 December 2020	Adjustment	Restated at 31 December 2020
Taxation	484,654	6,085,372	6,570,026
Basic loss per share	**(3.00)**	**0.37**	**(2.63)**

36. EVENTS AFTER THE REPORTING PERIOD

Mustang Convertible Loan Note option

On 27 April 2021, Bushveld Minerals Limited (the Company) announced an investment by Mustang Energy Plc (Mustang) into VRFB Holdings Limited (VRFB-H) to acquire an indirect interest of 11.05 per cent in Enerox GmbH (Enerox). Mustang invested approximately US$7.5 million to subscribe for a 22.10 per cent interest in VRFB-H (Mustang Subscription Shares) which was deployed into Enerox through its holding company, Enerox Holdings Limited (EHL). Mustang funded its investment by way of an issue of US$8 million unsecured convertible loan notes (CLNs) bearing a 10 per cent coupon to certain investors (Mustang Capital Raise). This was captured in an investment agreement (the Investment Agreement).

A condition of the Investment Agreement was that Mustang's shares be readmitted to trading on the Standard List of the Main Market of the London Stock Exchange (Readmission) by 31 December 2021 (the Maturity Date), failing which Mustang would have had the right, by serving written notice on Bushveld within 5 Business Days following the Maturity Date (the Notice Date), to require that Bushveld, in return for Mustang transferring to Bushveld Energy Limited all of the Mustang Subscription Shares and payment of a backstop fee (Backstop Fee), must:

- issue to each CLN holder by 28 January 2022 such number of new Bushveld Minerals shares (at a price equal to the 20-day volume weighted average prior to the date of issue, and rounded down to the nearest share) as is equivalent to the par value of the noteholders' CLNs together with accrued and unpaid interest; and
- procure that such Bushveld shares are admitted to trading on the AIM market of the London Stock Exchange plc within five Business Days thereafter (Backstop).

36. EVENTS AFTER THE REPORTING PERIOD *CONTINUED*

As at 31 December 2021, the directors have concluded that the fair value of the option right is immaterial for recognition.

Post completion of the investment, on 14 July 2021, the Company announced that Garnet Commerce Limited (Garnet), a shareholder in Enerox through its holding in EHL, issued a claim form in the High Court of Justice: Business and Property Courts of England and Wales (Chancery Division) against VRFB-H and EHL (the Litigation). Garnet's claim form sought declarations against VRFB-H concerning alleged breaches of the joint venture agreement in relation to EHL, in respect of the indirect investment into EHL through VRFB-H by Mustang Energy Plc. The Mustang Capital Raise and the concurrent acquisition by Mustang of shares in the capital of VRFB-H constitutes a reverse takeover under the Financial Conduct Authority's Listing Rules and requires the publication of a prospectus. Due to the uncertainty of the Litigation at the time it precluded Mustang from issuing a prospectus which is a precursor for Readmission.

On 19 January 2022:

- One of the CLN holders, Primorus Investment Plc (Primorus) elected to sell US$1.0 million of its CLNs to other CLN noteholders. In addition, the Company granted an option to Primorus to sell its residual CLNs (nominal value of US$1.5 million plus accrued interest thereon) to the Company. The Company could elect, at its discretion, as consideration for the exercise of the option, to pay cash or to issue new Bushveld Minerals convertible loan notes (BMN CLNs);
- The parties to the Investment Agreement updated the terms of that agreement as follows (Updated Terms):
  - The requirement for the publication of a prospectus by Mustang and Readmission was to occur by no later than 28 February 2022;
  - In circumstances where Readmission did not take place by 28 February 2022, assuming Mustang cannot redeem the CLNs:
    - Mustang will give notice to Bushveld to exercise the Backstop and to the CLNs holders that it has done so, with a request that the CLN holders advise of their election to convert their CLNs into Bushveld or VRFB-H shares by the end of March 2022;
    - Bushveld will issue the new Bushveld shares under the Backstop in return for the transfer of the Mustang Subscription Shares; and
    - Mustang will transfer the Mustang Subscription Shares to Bushveld. In terms of the Investment Agreement, certain of the CLNs holders, on exercise of the Backstop, have the discretion to elect not to receive new Bushveld Minerals shares and instead receive shares directly in the capital of VRFB-H.
  - The Backstop Fee payable by Mustang to Bushveld will be reduced from 5.0% to 2.0% of the amount of any
  - CLNs converted to Bushveld shares, to be satisfied by the issue of Mustang shares at a price of 20 pence each.
  - In the event that the Litigation is resolved such that Mustang can continue to hold the VRFB-H shares and the
  - Backstop has been exercised, then Mustang has the option to buy back the Mustang Subscription Shares that would have been transferred to Bushveld in terms of the Backstop and Bushveld would have the option to put the Mustang Subscription Shares to Mustang at the original subscription price.
  - Bushveld provided Mustang with a working capital loan of US$220 000 at no interest (Loan), repayable in the event the Litigation is settled or determined such that Mustang can hold shares directly or indirectly in VRFB-
  - H. Mustang repay the Loan in cash, or in shares (together with a warrant for every two shares), in full on the earlier of 31 December 2023 or Mustang completing a capital raise. The Loan shall be waived in full in the event that the Litigation is settled or determined such that Bushveld Energy cannot hold shares directly or indirectly in VRFB-H and the Backstop arrangements have been implemented.
  - Sixty per cent of the Backstop Fee has been waived in the event the Litigation does not result in Mustang being able to hold shares in VRFB-H.

Primorus elected to exercise the option and on 28 March 2022:

- The Company issued the BMN CLNs to Primorus;
- Mustang cancelled the Mustang CLNs issued to Primorus on 26 April 2021 and issued US$1,500,000 10 per cent convertible loan notes to Bushveld, subject to and with the benefit of the provisions contained in the Loan Note Instrument entered into by Mustang on 26 April 2021 as amended and restated on 18 January 2022 and as further amended and restated between Mustang and the CLNs noteholders on 28 March 2022. The conversion price of the Mustang CLNs is £0.18;
- Mustang paid Bushveld a Backstop Fee of US$32,737; and
- The Updated Terms were further updated and supplemented as follows:
  - The nominal amount of the BMN CLNs is £1,208,988, being the nominal value of the Mustang CLNs issued to Primorus of US$1.5 million plus interest accrued thereon as at 28 March 2022 of US$136,849.32 (being an aggregate amount of US$1,636.849.32), converted at an exchange rate of US$1.3539/GBP;
  - Unless previously redeemed by the Company, and subject to a conversion notice being received by the Company at least three business days prior to the relevant conversion date, a tranche consisting of one sixth of the aggregate amount of the BMN CLNs may be converted by Primorus into Bushveld Minerals shares at any time within a conversion period (the six conversion periods being: 28 February 2022 to 14 April 2022; 15 April 2022 to 14 July 2022; 15 July 2022 to 14 October 2022; 15 October 2022 to 16 January 2023; 17 January 2023 to 14 April 2023;15 April 2023 to 14 July 2023) at a conversion price of £0.098987, being the volume weighted average price of a share as shown on Bloomberg over the 20 trading days prior to (and excluding) 28 February 2022.

Primorus issued conversion notices in the first two conversion periods and has accordingly converted one third of the BMN CLNs.

Enerox Legal Matter

Garnet Commerce Limited (Garnet) issued a claim form in the English High court against VRFB Holdings Limited (VRFB-H) and Enerox Holdings Limited (EHL). EHL owns a 100 per cent interest in Enerox GmbH (Enerox), a Vanadium Redox Flow Battery manufacturer, providing grid scale and micro-grid energy storage solutions.

Garnet's claim form sought declarations against VRFB-H concerning an alleged breach of the joint venture agreement in relation to EHL. The alleged breach was in respect of the indirect investment, announced on 27 April 2021, into EHL by Mustang Energy Plc through VRFB-H, in terms of which Mustang acquired a 22.1 percent shareholding in VRFB-H in return for an investment of US$7,5 million.

The judgement was made on 7 March 20222 in the High Court of Justice: Business and Property Courts of England and Wales (Chancery Division) in the matter between Garnet Commerce Limited (Claimant), VRFB Holdings Limited and Enerox Holdings Limited (Defendants) and 2289609 Alberta Limited (Third Party) (Claim No. BL-2021-001153).

The judgement outcome vindicated the position that the investment by VRFB Holdings Limited (VRFB-H) into Enerox Holdings Limited (EHL), funded as it were partly from an investment by Mustang plc (Mustang), was entirely appropriate and not in violation of any agreements. Accordingly, the investment by Mustang into VRFB-H, and the investment by VRFB- H into EHL, continue to be in place.
As previously announced, Mustang's investment into VRFB-H constitutes a reverse takeover according to the AIM Rules. As such, Mustang shares remained suspended while it prepares a prospectus on its investment into VRFB-H.

Kiln 3

In June 2022 the refurbishment of Kiln 3 was successfully commissioned at Vanchem. The commissioning was completed on time and within budget, with focus now on plant optimization and ramp-up. The kiln is currently ramping up. Refer to note Going concern note 3.

Bushveld Minigrid

In June 2022 Bushveld Minerals Limited secured funding for the engineering, procurement and construction (EPC) of the Vametco hybrid mini-grid, which is owned by its 84 per cent-owned energy subsidiary, Bushveld Energy Limited (Bushveld Energy).

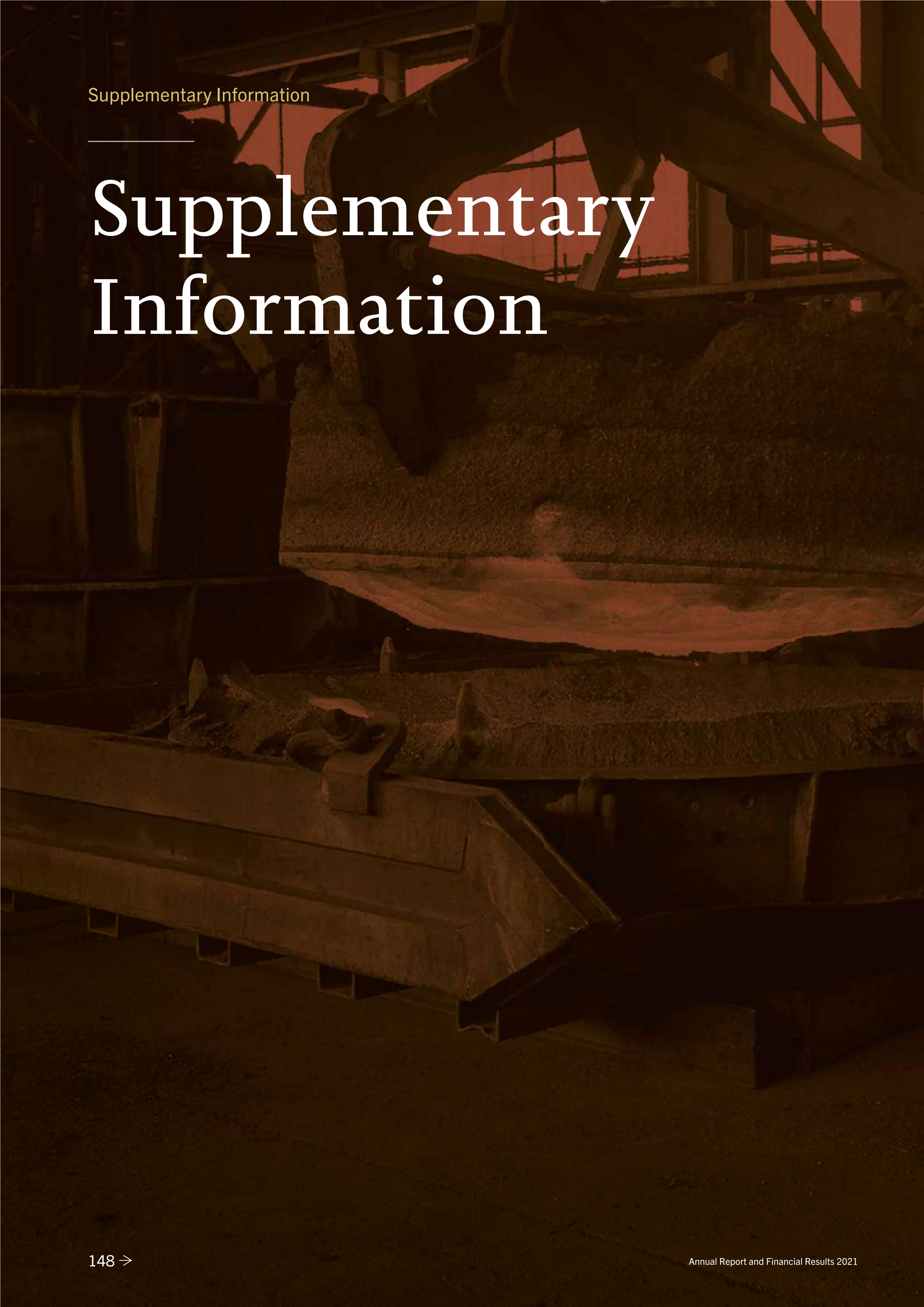
Bushveld Energy has completed the development and achieved financial closing for a 3.5 MW solar PV plus a 1 MW/4 MWh Vanadium Redox Flow Battery (VRFB) hybrid mini-grid project for Vametco, which will operate as a funded independent power producer (IPP).

Bushveld Energy and NESA Investment Holdings, a South African investment firm, have signed a shareholders agreement as strategic equity partners in the project's development and financing, with the project being housed in a separate special purpose vehicle (SPV). NESA has provided 60 per cent of the equity, while Bushveld Energy has provided 40 per cent. Bushveld Energy will recognise a development fee of ZAR5.6 million as revenue from the project upon financial close.

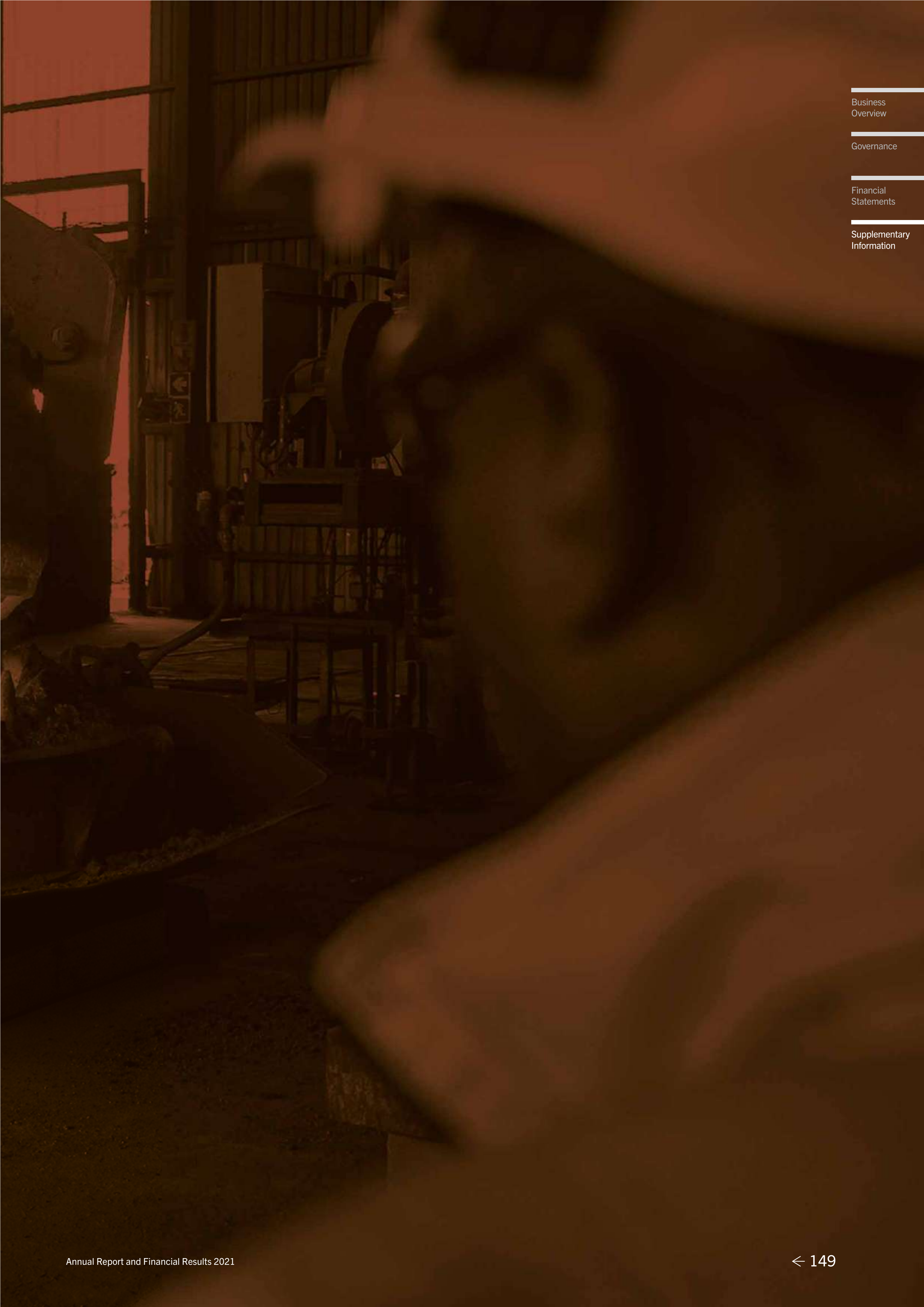
ABSA Relationship Banking has approved a ZAR64 million (approximately US$4.1 million) loan to part fund the construction of the mini-grid project.

The project's total cost is estimated to be ZAR113 million (approximately US$7.1 million).It will be built on a turnkey basis by NESA Power, who have already executed an Engineering, Procurement and Supply (EPC) Agreement alongside the SPV., The project's 1 MW/4 MWh VRFB will be supplied by CellCube, a VRFB original equipment manufacturer in which Bushveld owns an indirect 25.25 per cent interest.

Site preparation for construction began in Q1 2022. The project is now fully funded and is expected to be completed in H1 2023.



Supplementary Information



Mineral Resources and Reserves

DEFINITION

Mineral Resources are the estimated quantities of material with potential for eventual economic extraction from the Group's properties.

Ore Reserves are a subset of Measured and/or Indicated Mineral Resources that can be demonstrably extracted, economically and legally.

Measured/Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing of information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Ore Reserves are declared for open pits inside the Life-of-Mine pit design (the optimised pit shell in this instance), which include the dilution of materials and allowances for losses which may occur when the material is mined or extracted. They are defined by studies at pre-feasibility or feasibility level, as appropriate, and include the application of modifying factors. Those studies demonstrate that, at the time of reporting, extraction could reasonably be justified (JORC, 2012). Ore Reserves are declared for in-whole rock tonnes in the pits and exclude any stockpiles. Economic assumptions used to estimate reserves change from one period to another as additional technical and operational data is generated.

BUSHVELD MINERALS: VANADIUM RESOURCE AND RESERVES

VAMETCO MINE

The Vametco Mine is situated about 6.5 km northeast of the town of Madibeng (formerly known as Brits). It is an operational opencast vanadium mine, located in the Bojanala Platinum District within the North-West Province of the Republic of South Africa.

The operation comprises an open pit mine which supplies ore directly to the vanadium processing plant located on the same property. The open pit is approximately 3.5 km long, in an east-west direction. The vanadium is extracted from magnetite occurring near the basal contact of the Upper Zone of the Bushveld Igneous Complex. The mine has been in operation since 1967.

Mineral Resources & Reserves

The Mineral Resources and Reserves estimates for Vametco Mine reported herein are based on the Competent Person's depletion statement prepared by an independent consultancy company, MSA Group, as at 31 December 2021.

Key highlights

- Ore Reserves have been depleted after 12 months of mining by approximately two per cent from previous Ore Reserve estimate as at 31 December 2020. As at 31 December 2021, Ore Reserves are reported at 262,000 tonnes V_2O_5 in magnetite at a grade of 2.02 per cent V_2O_5 in magnetite (previously 267,200 tonnes V_2O_5 in magnetite);
- The combined Inferred and Indicated Mineral Resource across three seams (The Lower, Intermediate and Upper Seams), as reported at 31 December 2021, is 182.7 Mt at an average grade of 1.98 per cent V_2O_5 in magnetite, with an average magnetite content of 35.0 per cent in whole rock for 703.9 thousand tonnes of contained vanadium (previously 184.2 Mt at an average grade of 1.98 per cent V_2O_5 in magnetite, with an average magnetite content of 35.0 per cent in whole rock for 709.8 thousand tonnes of contained vanadium);
- Within this, the Ore Reserve in the Probable Category comprise three seams (The Lower, Intermediate and Upper Seams) and is reported as 45.3 Mt at an average grade of 2.02 per cent V_2O_5 in magnetite, with an average magnetite content of 28.6 per cent in whole rock for 146,900 tonnes of vanadium (previously 46.4 Mt V_2O_5 in magnetite across the same three seams at an average grade of 2.02 per cent V_2O_5 in magnetite, with an average magnetite content of 28.6 per cent in whole rock for 146,900 tonnes of vanadium);
- The Lower Seam is the main ore seam and the thickest, ranging from 13.8 to 52.0 metres in thickness, comprising a Probable Reserve of 38.4 Mt at an average grade of 2.05 per cent V_2O_5 in magnetite, with an average magnetite content of 29.2 per cent in whole rock for 128,900 tonnes of vanadium;
- The decrease in the 2021 Mineral Resource, by 0.81 per cent less tonnes than the 31 December 2020 estimate, is attributed to mining of the seams over the last twelve months;
- The decrease in the Ore Reserve tonnages from 46.4 Mt to 45.3 Mt as at 31 December 2021 is due to the depletion of all of the seams over the twelve month period based on the pit to plant reconciled production data from Vametco. An adjustment was made to the modifying factors to reflect more accurate Ore Reserve grades for the individual seams. The Ore Reserve modifying factors (mining loss and dilution) were adjusted based on pit to plant reconciliation production data supplied by Bushveld Vametco Alloys (Pty). Ltd. This resulted in a significant increase in the Upper Seam magnetite grade in line with actual performance from 26.8 per cent in 2020 to 49.4 per cent in 2021; and
- No Mineral Resource Exploration was carried out over this period.

Table 1: Vametco Mineral Resource at a cut-off grade of 20% magnetite, as at 31 December 2021 – Gross Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
Indicated	Upper	5.6	1.44	65.8	1.78	65.9	36.9
	Intermediate	27.6	0.67	32.9	1.91	173.3	97.1
	Lower	106.8	0.72	32.3	2.03	702.3	393.3
	Total	**140.1**	**0.74**	**33.8**	**2.00**	**941.5**	**527.2**
Inferred	Upper	10.2	1.46	63.6	1.75	113.7	63.7
	Intermediate	7.0	0.67	32.1	1.92	43.4	24.3
	Lower	25.3	0.74	31.3	2.00	158.4	88.7
	Total	**42.6**	**0.90**	**39.1**	**1.93**	**315.6**	**176.7**
Indicated and Inferred	Upper	15.8	1.45	64.4	1.76	179.6	100.6
	Intermediate	34.7	0.67	32.7	1.91	216.7	121.4
	Lower	132.2	0.72	32.1	2.03	860.6	482.0
	Total	**182.7**	**0.78**	**35.0**	**1.98**	**1,257.0**	**703.9**

Notes:
1. All tabulated data have been rounded and as a result minor computational errors may occur.
2. Mineral Resources which are not Ore Reserves have no demonstrated economic viability.
3. Mineral Resources are inclusive of Ore Reserves (not indicated in the table).
4. Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.
5. Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.
6. Depleted using 31 December 2021 pit survey.
7. Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74 per cent.

Table 2: Vametco Mineral Resource at a cut-off grade of 20% magnetite, as at 31 December 2021 – Attributable Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
Indicated	Upper	4.2	1.44	65.8	1.78	48.8	27.3
	Intermediate	20.5	0.67	32.9	1.91	128.3	71.8
	Lower	79.0	0.72	32.3	2.03	519.7	291.0
	Total	**103.7**	**0.74**	**33.8**	**2.00**	**696.7**	**390.2**
Inferred	Upper	7.6	1.46	63.6	1.75	84.2	47.1
	Intermediate	5.2	0.67	32.1	1.92	32.1	18.0
	Lower	18.8	0.74	31.3	2.00	117.2	65.7
	Total	**31.5**	**0.90**	**39.2**	**1.93**	**233.5**	**130.8**
Indicated and Inferred	Upper	11.7	1.45	64.4	1.76	132.9	74.4
	Intermediate	25.7	0.67	32.7	1.91	160.4	89.8
	Lower	97.8	0.72	32.1	2.03	636.9	356.6
	Total	**135.2**	**0.78**	**35.0**	**1.98**	**930.2**	**520.9**

Notes:
1. All tabulated data have been rounded and as a result minor computational errors may occur.
2. Mineral Resources which are not Ore Reserves have no demonstrated economic viability.
3. Mineral Resources are inclusive of Ore Reserves (not indicated in the table).
4. Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.
5. Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.
6. Depleted using 31 December 2021 pit survey.
7. Reported on an Attributable Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74 per cent.

Mineral Resources and Reserves *continued*

Table 3: Vametco Ore Reserves, 31 December 2021 – Gross Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
Probable	Upper	0.5	1.05	49.4	1.77	4.7	2.7
	Intermediate	6.3	0.51	23.4	1.88	27.5	15.4
	Lower	38.4	0.63	29.2	2.05	230.1	128.9
	Total	**45.3**	**0.62**	**28.6**	**2.02**	**262.4**	**146.9**

Notes:
1. All tabulated data have been rounded and as a result minor computational errors may occur.
2. Ore Reserve tonnes and grades reported on dry run of mine (ROM) (plant feed) basis after mining modifying factors have been applied but before beneficiation down-stream recoveries/losses have been applied.
3. Reporting was prepared on a Mineral Resource model developed by MSA.
4. Ore Reserves depleted as at 31 December 2021 using 31 December 2021 pit survey.
5. The Ore Reserve estimate was based on the original pit design completed in March 2019.
6. Modifying factors adjusted by seam from previous 31 December 2020 Ore Reserve estimate based on analysis of pit to plant production information.
7. Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2021.
8. Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74 per cent.

Table 4: Vametco Ore Reserves, 31 December 2021 – Attributable Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
Probable	Upper	0.4	1.05	49.4	1.8	3.5	2.0
	Intermediate	4.6	0.51	23.4	1.9	20.4	11.4
	Lower	28.5	0.63	29.2	2.1	170.3	95.4
	Total	**33.5**	**0.62**	**28.6**	**2.02**	**194.2**	**108.7**

Notes:
1. All tabulated data have been rounded and as a result minor computational errors may occur.
2. Ore Reserve tonnes and grades reported on dry ROM (plant feed) basis after mining modifying factors have been applied but before beneficiation down-stream recoveries/losses have been applied.
3. Reporting was prepared on a Mineral Resource model developed by MSA.
4. Ore Reserves depleted as at 31 December 2021 using 31 December 2021 pit survey.
5. The Ore Reserve estimate was based on the original pit design completed in March 2019.
6. Modifying factors adjusted by seam from previous 31 December 2020 Ore Reserve estimate based on analysis of pit to plant production information.
7. Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2021.
8. Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74 per cent.

BRITS

This project is located directly east of Bushveld's Vametco Mine in the Bojanala Platinum District within the North-West Province and hosts high-grade vanadium mineralisation in several magnetite layers. The mineralisation, which is outcropping in places, is a continuation of the Vametco strike. The project offers a potential extension of Vametco's Life-of-Mine and a cheap source of near-surface ore for the Vametco plant.

A Drilling programme completed in 2018 and a subsequent maiden Mineral Resource statement and Competent Person's Report published in January 2020 has shown a lower seam weighted average grade of 0.6 per cent V_2O_5 in-whole rock and 1.6 per cent V_2O_5 in-magnetite, which are among the highest grades in the world.

Brits has the potential to provide additional feed tonnage for Vametco and, if required, concentrate feed for the Vanchem plant.
Brits Vanadium Project comprises of three different companies in which Bushveld Resources Ltd holds interest in their assets ranging between 51 per cent and 74 per cent, and the three companies are Caber Trade and Invest 1 (Pty) Ltd, Great 1 Line Invest (Pty) Ltd and Gemsbok Platinum (Pty) Ltd.

Caber Trade and Invest 1 (Pty) Ltd (Caber Trade), in which the Company holds an interest of 51 per cent, which, as previously reported, had a mining right application refused by the Department of Mineral Resources and Energy (DMRE) in 2020. Caber Trade lodged an appeal against the decision and has recently been advised that the process has been concluded with the DMRE refusing the appeal. The Company is considering its options. The Caber Trade properties were not included in the CPR, and the refusal of the mining right has no impact on the mineral resource statement.

Great 1 Line Invest (Pty) Ltd (Great 1 Line), is the prospecting right holder of Portion 3 of farm Uitvalgrond 431 JQ, and an interest of 62.5 per cent is held through Bushveld Resources Ltd. This is the property on which the Mineral Resource estimate contained in the 2019 CPR is based on.

The prospecting right renewal application for this asset was granted for a one-year extension, however an appeal procedure is in process with the DMRE to request for a three-year extension that was initially applied for.

Gemsbok Magnetite (Pty) Ltd (Gemsbok), is the prospecting right holder of the Remainder of farm Doornpoort 295 JR. Bushveld Resources Ltd holds 74 per cent interest in this company.

Environmental Authorisation for Gemsbok was granted and currently waiting for the granting of the prospecting right renewal submitted to the DMRE.

Minerals Resource

A JORC compliant maiden Mineral Resource was declared in June 2019 on Portion 3 of the farm Uitvalgrond 431 JQ on which the project is situated, and no further exploration work has been conducted on the project after this mineral resource estimate. This resource was classified into the Indicated and Inferred categories.

The aggregate Inferred and Indicated Mineral Resource distributed across the three seams (the Lower, Intermediate, and Upper Seams) is reported as 66.8 Mt at an average grade of 1.58 per cent V_2O_5 in magnetite, at a cut-off grade of 20 per cent magnetite in whole rock for 175,400 tonnes of contained vanadium.

The Mineral Resource is reported up to a depth of 150 m below the surface and based on the drilling on the western and central blocks of the farm Uitvalgrond Portion 3 which extends over a strike length of approximately 1.65 km to the most eastern fault where the last line of drilling was completed. As such there is potential to increase the resource on the remaining eastern unexplored portion of the farm on a strike length of 1 km.

Key highlights

- The aggregate Inferred and Indicated Mineral Resource distributed across the three seams (the Lower, Intermediate, and Upper Seams) is reported as 66.8 Mt at an average grade of 1.58 per cent V_2O_5 in-magnetite, at a cut-off grade of 20 per cent magnetite in-whole rock for 175,400 tonnes of contained vanadium;
- The Indicated Mineral Resource tonnages account for 67 per cent of the total combined Mineral Resource and stand at 44.9 Mt with an average grade of 1.59 per cent V_2O_5 in-magnetite for 115,600 tonnes of contained vanadium across the three seams;
- The Lower Seam represents a major portion of the total combined Mineral Resource tonnages at the cut-off grade of 20 per cent, with 55.5 Mt at an average grade of 1.58 per cent V_2O_5 in-magnetite for 137,000 tonnes of contained vanadium. This represents approximately 83 per cent of the total combined tonnage of the maiden Mineral Resource;
- Within the combined Mineral Resource, the Intermediate Seam has the highest grade of the three seams at 1.76 per cent V_2O_5 in-magnetite, although the tonnages are low at the current cut-off grade of 20 per cent magnetite in-whole rock;
- A geological trend of decreasing grade in vanadium for magnetite-rich layers from west to east in the Bushveld Complex accounts for the lower grades on the Brits Project in comparison to the grades at the operating Vametco Mine; and
- The Mineral Resource is reported up to a depth of 150 m below surface and is based on the drilling on the western and central blocks of the farm Uitvalgrond Portion 3 which extends over a strike length of approximately 1.65 km to the most eastern fault where the last line of drilling was completed. There is potential to increase the resource on the remaining eastern unexplored portion of the farm on a strike length of 1 km.

Mineral Resources and Reserves *continued*

Table 5: Brits Mineral Resource (Uitvalgrond 431 JQ Portion 3) at a cut-off grade of 20 % magnetite, 18 June 2019 – Gross Basis

Class	Seam Name	Tonnes (millions)	V_2O_5 grade of whole rock (%)	Magnetite grade of whole rock (%)	V_2O_5 grade of magnetite concentrate (%)	Tonnes V_2O_5 in magnetite concentrate (thousands)	Tonnes V in magnetite concentrate (thousands)
	Upper	2.0	0.66	43.64	1.51	13.4	7.5
Indicated	Intermediate	1.9	0.47	21.52	1.75	7.0	3.9
	Lower	41.0	0.56	28.54	1.59	185.9	104.2
	Total	**44.9**	**0.56**	**28.94**	**1.59**	**206.3**	**115.6**
	Upper	7.1	0.65	43.89	1.50	46.7	26.2
Inferred	Intermediate	0.4	0.44	21.13	1.85	1.4	0.8
	Lower	14.5	0.50	26.09	1.55	58.8	32.9
	Total	**22.0**	**0.55**	**31.78**	**1.54**	**106.9**	**59.9**
	Upper	9.2	0.65	43.84	1.50	60.1	33.7
Indicated and Inferred	Intermediate	2.2	0.46	21.46	1.76	8.4	4.7
	Lower	55.5	0.54	27.90	1.58	244.6	137.0
	Total	**66.8**	**0.56**	**29.87**	**1.58**	**313.2**	**175.4**

Notes:
1. All tabulated data have been rounded and as a result minor computational errors may occur.
2. Mineral Resources, which are not Mineral Reserves, have no demonstrated economic viability.
3. Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.
4. Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.
5. The Mineral Resource is reported as 100 per cent of the Mineral Resource for the property (Bushveld has a 62.5 per cent ownership of the property (Uitvalgrond 431 JQ Portion 3).
6. Bushveld Minerals, through its subsidiary Bushveld is the operator of Brits Vanadium Project.

Table 6: Brits Mineral Resource (Uitvalgrond 431 JQ Portion 3) at a cut-off grade of 20 % magnetite, 18 June 2019 – Attributable Basis

Class	Seam name	Tonnes (millions)	V_2O_5 grade of whole rock (%)	Magnetite grade of whole rock (%)	V_2O_5 grade of magnetite concentrate (%)	Tonnes V_2O_5 in magnetite concentrate (thousands)	Tonnes V in magnetite concentrate (thousands)
	Upper	1.3	0.66	43.64	1.51	8.4	4.7
Indicated	Intermediate	1.2	0.47	21.52	1.75	4.4	2.4
	Lower	25.6	0.56	28.54	1.59	116.2	65.1
	Total	**28.0**	**0.56**	**28.94**	**1.59**	**129.0**	**72.2**
	Upper	4.4	0.65	43.89	1.50	29.2	16.3
Inferred	Intermediate	0.2	0.44	21.13	1.85	0.9	0.5
	Lower	9.1	0.50	26.09	1.55	36.7	20.6
	Total	**13.7**	**0.55**	**31.78**	**1.54**	**66.8**	**37.4**
	Upper	5.7	0.65	43.84	1.50	37.6	21.0
Indicated and Inferred	Intermediate	1.4	0.46	21.46	1.76	5.2	2.9
	Lower	34.7	0.54	27.90	1.58	152.9	85.6
	Total	**41.8**	**0.56**	**29.87**	**1.58**	**195.8**	**109.7**

Notes:
1. All tabulated data have been rounded and as a result minor computational errors may occur.
2. Mineral Resources which are not Mineral Reserves have no demonstrated economic viability.
3. Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.
4. Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.
5. The Mineral Resource is reported on a net attributable basis (Bushveld has a 62.5 per cent ownership of the property (Uitvalgrond 431 JQ Portion 3).
6. Bushveld Minerals, through its subsidiary Bushveld is the operator of Brits Vanadium Project.

Table 7: MML and MML HW Mineral Resources at a 0.30% V_2O_5 cut-off, ≤120 m depth, as at 15 October 2017

Layer Name	Mineral resource category	Width (m)	Tonnes (Mt[1])	Density (t/m^3)	V_2O_5 (%)	Fe (%)	Fe_2O_3 (%)	TiO_2 (%)	SiO_2* (%)	Al_2O_3* (%)	P_2O_5* (%)	S* (%)	V_2O_5 (Kt[2])	Fe (Mt[1])
UG-C	Inferred	4.04	31.8	3.48	0.64	25.7	36.7	5.9	30.2	15.4	0.01	0.12	202.8	8.2
UG-A	Inferred	1.64	12.7	3.31	0.59	23.2	33.1	5.3	32.5	17.5	0.01	0.01	75.6	3.0
UMG1	Inferred	3.24	25.5	3.30	0.59	22.9	32.7	5.4	32.6	17.6	0.01	0.01	150.4	5.8
UMG2	Inferred	2.03	15.7	3.40	0.69	25.9	37.0	6.2	29.4	16.7	0.01	0.01	107.7	4.1
MAG1 HW GAB**	Inferred	17.53	72.3	3.02	0.31	13.1	18.8	2.9	42.0	21.9	0.01	0.12	223.3	9.5
MAG1	Inferred	1.31	12.0	3.96	1.07	40.0	57.1	9.7	15.6	10.8	0.01	0.06	128.7	4.8
MAG2	Inferred	1.10	9.2	3.57	0.83	30.2	43.1	7.2	25.1	15.1	0.01	0.06	76.3	2.8
MML HW	Inferred	5.89	42.3	3.01	0.32	13.4	19.2	2.5	42.2	21.6	0.02	0.11	136.0	5.7
Total	**Inferred**	36.77	221.5	3.21	0.50	19.8	28.3	4.4	35.7	18.9	0.01	0.08	1,100.8	43.8
MAG3	Indicated	4.09	27.5	4.08	1.50	45.5	65.1	10.0	10.6	7.8	0.01	0.12	412.5	12.5
PART	Indicated	2.16	11.4	3.16	0.58	20.9	29.9	3.5	34.5	19.0	0.01	0.17	66.3	2.4
MAG4	Indicated	3.59	24.3	4.00	1.46	43.9	62.7	9.3	11.8	8.9	0.01	0.24	354.9	10.7
Total	**Indicated**	9.84	63.2	3.85	1.32	40.4	57.8	8.6	15.4	10.2	0.01	0.18	833.7	25.6
Total Mineral Resources[3]		**46.61**	**284.8**	**3.33**	**0.68**	**24.4**	**34.8**	**5.4**	**31.2**	**17.0**	**0.01**	**0.10**	**1,934.5**	**69.4**

Notes:
1. Mt = million tonnes.
2. Kt = thousand tonnes.
3. Rounding may cause computational errors; No geological losses applied.

* Included for information purposes only, no value will be derived from these materials.

** A 0.30 per cent V_2O_5 cut-off has been applied laterally across this layer, so only material greater than 0.30 per cent V_2O_5 is included in the tonnage listed in this table.

Table 8: Probable Ore Reserves for Mokopane Project

Orebody	True Thickness (m)	SG (t/m^3)	Tonnes (million)	V_2O_5 (%)
MML Upper (MAG3)	4.09	4.08	15,342	1.43
MML Lower (MAG4)	3.59	4.00	13,154	1.39
Total/Average*	**7.68**	**4.04***	**28,496**	**1.41***

Notes:
Mineral Resource is reported at a 40% Fe_2O_3 cut-off; No geological losses applied.

* Included for informative purposes only, no value will be derived from these materials.

Table 9: AB Zone Mineral Resource at 0.3% V_2O_5 cut-off, ≤120 m vertical depth, as at 15 October 2017

Layer Name	Mineral Resource Category	Tonnes (Mt[1])	Thickness (m)	Density t/m^3	V_2O_5 %	Fe_2O_3 %	TiO_2 %	P_2O_5* %	SiO_2* %	Al_2O_3* %	S* %	V_2O_5 %
AB Upper	Inferred	2.7	1.93	3.29	0.89	34.7	5.4	0.01	30.3	17.1	0.06	24.3
AB Parting	Inferred	3.7	2.86	3.07	0.48	20.9	3.0	0.01	40.0	19.7	0.01	17.9
AB Lower	Inferred	6.0	4.51	3.21	0.75	29.1	4.3	0.01	34.6	18.6	0.01	45.1
Total[3]	**Inferred**	**12.5**	**9.30**	**3.18**	**0.70**	**27.9**	**4.2**	**0.01**	**35.3**	**18.6**	**0.02**	**87.3**

Notes:
1. Mt = million tonnes.
2. Kt = thousand tonnes.
3. Total: Rounding may cause computational errors; No geological losses applied.

* Included for informative purposes only, no value will be derived from these materials.

The Mineral Resources and Reserves estimates are based on the Competent Person's Report prepared by MSA Group as at 15 October 2017.

Mineral Resources and Reserves *continued*

Table 10: N-Q zone (weathered + unweathered) indicated mineral resource less than 200 m depth, as at 8 March 2013

Layer Name	Tonnes million	SG g/cm³	Fe %	Fe_2O_3 %	Fe Metal Tonnes million	TiO_2 %	V_2O_5 %	SiO_2 %	Al_2O_3 %	P_2O_5 %	S %
Q3	138.63	3.61	31.7	45.4	43.99	10.2	0.13	25.2	9.9	0.06	0.40
Q2	81.17	4.01	41.9	59.9	34.00	15.2	0.28	12.6	6.5	0.02	0.27
Q1	26.36	3.59	32.5	46.6	8.58	10.5	0.28	22.3	9.9	0.02	0.27
PMAG	34.44	3.62	32.4	46.3	11.15	10.1	0.29	21.3	10.5	0.03	0.80
PFWDISS*	67.28	3.38	26.9	38.5	18.13	7.1	0.22	30.1	12.8	0.03	0.33
OMAG*	2.63	4.00	37.2	53.2	0.98	11.1	0.49	18.5	7.9	0.01	0.12
NMAG	4.58	4.41	48.7	69.6	2.23	16.0	0.56	6.9	5.3	0.03	0.11
TOTAL	**355.09**	**3.67**	**33.51**	**47.65**	**119.06**	**10.85**	**0.22**	**22.37**	**9.66**	**0.05**	**0.38**

* Layer reported at a 35 per cent Fe_2O_3 cut-off; no geological losses applied.

Table 11: N-Q Zone (Unweathered) Inferred Mineral Resource, 200 m to 400 m depth, as at 8 Mar 2013

Layer Name	Tonnes million	Density t/m³	Fe %	Fe_2O_3 %	Fe Metal Tonnes million	TiO_2 %	V_2O_5 %	SiO_2 %	Al_2O_3 %	P_2O_5 %	S %
Q3	139.03	3.59	30.2	43.3	42.05	8.8	0.09	28.3	10.3	0.13	0.61
Q2	92.64	3.99	40.2	57.5	37.27	14.1	0.23	15.3	7.6	0.02	0.55
Q1	23.42	3.64	32.7	46.8	7.66	10.8	0.27	22.2	10.6	0.02	0.36
PMAG	38.28	3.58	30.6	43.7	11.70	9.8	0.26	23.5	11.5	0.04	0.74
PFWDISS*	76.51	3.37	26.8	38.3	20.49	6.9	0.21	30.2	12.8	0.03	0.43
OMAG*	1.87	3.77	32.4	46.3	0.61	9.5	0.40	23.1	10.4	0.02	0.10
NMAG	7.22	4.32	46.3	66.2	3.34	15.6	0.49	8.3	5.8	0.02	0.14
TOTAL	**378.97**	**3.66**	**32.47**	**46.47**	**123.12**	**10.07**	**0.19**	**24.24**	**10.20**	**0.06**	**0.55**

* Layer reported at a 35 per cent Fe_2O_3 cut-off; no geological losses applied.

Table 12: P-Q Zone Inferred Mineral Resource, surface to 300 m vertical depth at a 35% Fe_2O_3 cut-off for the farms Schoonoord 786LR and Bellevue 808LR, as at 15 October 2017

Layer Name	Quantity million tonnes	Density t/m³	Fe %	Fe_2O_3 %	Fe Metal million tonnes	TiO_2 %	V_2O_5 %	SiO_2 %	Al_2O_3 %	P_2O_5 %	S %
Q3	75.3	3.77	34.3	49.1	25.82	10.5	0.10	23.0	9.4	0.28	0.55
Q2	85.5	4.14	42.6	60.9	36.40	14.9	0.26	13.1	6.9	0.03	0.50
Q1	13.1	3.82	36.4	52.1	4.76	12.2	0.30	19.1	9.8	0.03	0.46
PMAG	19.7	3.52	27.6	39.5	5.45	8.3	0.23	29.1	12.4	0.06	1.00
PFWDISS*	27.3	3.45	27.8	39.8	7.60	8.0	0.22	28.3	12.9	0.06	0.55
TOTAL[1]	**220.8**	**3.85**	**36.2**	**51.9**	**80.03**	**11.8**	**0.20**	**20.1**	**9.2**	**0.12**	**0.57**

* Layer reported at a 35 per cent Fe_2O_3 cut-off; no geological losses applied.

The PQ Phosphate Project Mineral Resources

The PQ Phosphate Project resource lies immediately above the iron ore and titanium resource of the PQ Project. The Company reported on 3 June 2014, a maiden phosphate resource statement for the PQ deposit of 442 Mt, with average phosphate grades of 3.6 per cent P_2O_5 as shown in Table 13. Although the grades are low, the PQ Phosphate deposit is in the immediate hanging wall of the PQ Project and would be mined concurrently with the stripping of the latter. Of particular interest is that laboratory-scale test work has shown that 37 per cent P_2O_5 concentrate grades are achievable from this deposit.

Figures are based on the Competent Person's report prepared by MSA Group as at 15 October 2017.

Table 13: Inferred Mineral Resource of Phosphate Zone at a 3% P_2O_5 cut-off, as at 15 October 2017

Farm	Tonnes millions	P_2O_5 %	Fe_2O_3 %	S* %	SiO_2* %	*CaO* %	Density t/m³
Vliegekraal	330.0	3.6	32.1	0.39	34.0	9.1	3.30
Malokong	1.8	3.2	35.5	0.37	35.4	8.6	3.27
Schoonoord	104.9	3.6	34.1	0.40	33.0	8.8	3.37
Bellevue	5.0	3.6	34.4	0.41	33.3	8.9	3.36
TOTAL[1]	**441.6**	**3.6**	**32.6**	**0.39**	**33.7**	**9.0**	**3.32**

1. Total = All tabulated data has been rounded and as a result minor computational errors may occur.

Lemur Holdings Limited

The Mineral Resource estimates are based on the competent person's report prepared by Sumsare Consulting Group CC at 29 April 2019.

Table 14: Resource for the Imaloto coal project

Category	Gross			Net attributable (99%)			Operator
		Raw Coal Quality (ADB)			Raw Coal quality (ADB)		
Coal Resource per asset	Tonnes (Millions)	Ash (%)	CV (MJ/Kg)	Tonnes (Millions)	Ash (%)	CV (MJ/Kg)	
Measured	91.613	32.5	19.62	90.697	32.5	19.62	Lemur Holdings Limited
Indicated	31.497	35.7	18.14	31.182	35.7	18.14	
Inferred	12.627	34.4	18.80	12.501	34.4	18.80	
Sub total	135.737	33.4	19.20	134.380	33.4	19.20	
Total	**135.737**	**33.4**	**19.20**	**134.380**	**33.4**	**19.20**	

Acronyms

AEL	Air Emission License
AET	Adult Education and Training
AMV	Ammonium Meta Vanadate
AGM	Annual General Meeting
BELCO	Bushveld Electrolyte Company
Brits	Brits Vanadium Project
BV	Bureau Veritas
CAGR	Compound Annual Growth Rate
CSP	Conditional Share Plan
DFS	Definitive feasibility study
DFFE	Department of Forestry, Fisheries and the Environment
DWS	Department of Water and Sanitation
Enerox	Enerox GmbH
EIA	Environmental Impact Assessment
EMS	Environmental Management System
EPC	Engineering, Procurement and Construction
ESG	Environment, Social and Governance
FeV	Ferrovanadium
GSSA	Geological Society of South Africa
GW	Gigawatt
GWh	Gigawatt hour
HRD	Human Resources Development
IDC	Industrial Development Corporation
IRP	Integrated Resource Plan
IWUL	Integrated Water Use Licence
IFC	International Finance Corporation
Invinity	Invinity Energy Systems plc
JSE	Johannesburg Stock Exchange
JORC	Joint Ore Reserves Committee
kt	Thousands of tonnes
LTI	Long-term incentive
LTIFR	Lost time injury frequency rate
MML	Main Magnetite Layer
MML-HW	Main Magnetite Layer Hanging Wall
mtV	Metric ton of Vanadium
MtVp.a.	Metric ton of Vanadium per annum
MW	Megawatt
MWh	Megawatt hour
Mt	Millions of tonnes
MVO	Modified vanadium oxide
NDC	Nationally Determined Contribution
NEMA	National Environmental Management Act
NEMWA	National Environmental Management Waste Act
OEM	Original Equipment Manufacturer
PCC	Presidential Climate Commission
PFA	Production Finance Agreement
P_2O_5	Phosphate
QMS	Quality Management System
QCA Code	Quoted Companies Alliance Corporate Governance Code
redT	redT energy plc
RCF	Revolving Credit Facility
RONA	Return on Net Assets
STI	Short-term incentive
SMMEs	Small, Medium and Micro Enterprises
TiO_2	Titanium Dioxide
TIFR	Total Injury Frequency Rate
TGP	Total guaranteed pay
TSR	Total Shareholder Return
Vametco	Vametco mine & processing plant
VCN	Vanadium Carbon Nitride
V_2O_5	Vanadium Pentoxide
V_2O_3	Vanadium Trioxide
VRFB	Vanadium Redox Flow Battery
VIP	VRFB Investment Platform
Vanchem	Vanchem Vanadium Plant
WACC	Weighted Average Cost of Capital
WML	Waste Management License
WUL	Water Use License

Glossary

Mining terms

Beneficiation
Any process that improves (benefits) the economic value of the ore by removing the gangue minerals prior to further metallurgical treatment.

Brownfield
The development or exploration of assets located inside the area of influence of existing mine operations which can share infrastructure/management.

Competent Person's Report
A report on the technical aspects of a project or mine prepared by a Competent Person (CP). The contents are determined by the nature/status of the project/mine being reported and may include a techno-economic model as appropriate for the level of study. A Competent Person must have a minimum of five years' relevant experience in the style of mineralisation or type of deposit under consideration and in the activity that the person is undertaking (JORC Code, 2012).

Crushing
First stage of mineral processing which involves reducing large rocks or boulders into smaller sizes using equipment such as gyratory crushers, jaw crushers and cone crushers.

Greenfield
The development or exploration of assets located outside the area of influence of existing mine operations/infrastructure.

Hanging Wall
The strata situated above the targeted mineralised ore zone.

Indicated Mineral Resource
An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing of information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Inferred Mineral Resource
An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing of information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Leaching
The process by which a soluble metal can be economically recovered from minerals in ore by dissolution.

Life of Mine
Life of Mine (LoM) is the time in which the ore reserves (or such reasonable extension of the reserves as conservative geological analysis may justify) will be mined economically to completion.

Magnetic Separation
The process of concentrating magnetic ore where the magnetic rock particles are separated from non-magnetic rock particles by using a magnet.

Magnetite
A naturally occurring mineral form of iron ore with the chemical formula Fe_3O_4.

Main Magnetite Layer
The vanadium-bearing magnetite layer in the lower portion of the upper zone of the Bushveld Complex, consisting of heavy to disseminated magnetite. It varies in thickness from 1 to 10 metres.

Measured Mineral Resource
A Measured Mineral Resource' is that part of a mineral resource for which quantity, grade (or quality), densities, shape and physical characteristics are so well established that they can be estimated with sufficient confidence to allow the appropriate application of technical and economic parameters to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing of information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Milling
The process of breaking down aggregate rock material into even smaller sizes (usually into powder-like form) using equipment such as a ball mill.

Mineralisation
A concentration (or occurrence) of material of possible economic interest, in or on the Earth's crust, for which quantity and quality cannot be estimated with sufficient confidence to be defined as a Mineral Resource. Mineralisation is not classified as a Mineral Resource or Mineral Reserve and can only be reported under Exploration Results. The data and information relating to it must be sufficient to allow a considered and balanced judgement of its significance.

Mineral Deposits
A mass of naturally occurring mineral material, usually of economic interest, without regard to mode of origin.

Glossary *continued*

Mining terms

Mineral Reserves

Mineral Reserves are sub-divided into two categories. The proven category is the highest level of reserves or the level with the most confidence. The probable category is the lower level of confidence of the reserves. Reserves are distinguished from Resources as all the technical and economic parameters have been applied and the estimated grade and tonnage of the resources should closely approximate the actual results of mining. The guidelines state: "Mineral Reserves are inclusive of the diluting material that will be mined in conjunction with the Mineral Reserve and delivered to the treatment plant or equivalent facility." The guidelines also state that, "The term 'Mineral Reserve' need not necessarily signify that extraction facilities are in place or operative or that all government approvals have been received. It does signify that there are reasonable expectations of such approvals."

Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Mineral Resource/Reserve Depletion

Reconciling the metal quantity within the latest resource/reserve estimate that has been mined from a previous resource/reserve estimate.

Modified Vanadium Oxide (MVO)

An oxide form of vanadium (a mixture of V_2O_5, V_2O_4 and V_2O_3) that is chemically produced by reducing Ammonium Metavanadate (NH_4VO_3) and is used as feedstock for final vanadium products such as Nitrovan (NV) and Ferrovanadium (FeV).

Open Pit Mining

A method of mining rock or minerals by removing them from an open pit commencing from the earth's surface.

Ore Reserves

A subset of Measured and/or Indicated Mineral Resources that can be demonstrably extracted, economically and legally.

Ore Reserves are declared for open pits inside the Life of Mine pit design (the optimised pit shell in this instance), including diluting materials and allowances for losses which may occur when the material is mined or extracted. They are defined by studies at pre-feasibility or feasibility level, as appropriate, that include the application of modifying factors. Those studies demonstrate that, at the time of reporting, extraction could reasonably be justified (JORC, 2012). Ore Reserves are declared for in-whole rock tonnes in the pits and exclude any stockpiles. Economic assumptions used to estimate reserves change from one period to another as additional technical and operational data is generated.

Qualified Person

A professionally qualified member in good standing of an appropriate recognised professional association who has at least five years' relevant experience within the sector. A professional association is a Recognised Professional Organisation (RPO) of engineers and/or geoscientists.

Reserve Life

Current stated Ore Reserves estimate divided by the current approved nominated production rate at the end of the financial year.

Run of Mine

Ore mined in the course of regular mining activities and extracted from the mining operation. Tonnes include allowances for diluting materials and for losses that occur when the material is mined.

Salt Roasting

Process where a magnetite concentrate is roasted with salts (sodium carbonate and sodium sulphate) in an extremely high temperature rotary kiln with temperatures of up to 1,150˚C to form water soluble solids containing vanadium.

Strike

Horizontal direction or trend of a geological structure, perpendicular to its down dip direction.

Other terms

Bankable Feasibility Study

A feasibility study is bankable if it has been prepared in detail and with objectivity so that the company could submit it to investors or lenders when seeking financing for the project.

Definitive Feasibility Study

A feasibility study based on the best alternative identified in the preliminary feasibility study, and suitable as a basis for detailed design and construction. The definitive feasibility study is based on indicated and measured mineral resources.

Pre-feasibility Study

A pre-feasibility study is an early stage analysis of a potential mining project. It is conducted and designed to give company stakeholders the basic information required to choose between potential investments.

EBITDA

Earnings before interest, tax, depreciation and amortization is a measure of a company's operating performance.

Free Cash Flow

Free cash flow represents the net cash generated from operating activities, after taking into consideration capital expenditure.

THIS DOCUMENT IS IMPORTANT AND REQUIRES YOUR IMMEDIATE ATTENTION

If you are in any doubt as to what action you should take, you are recommended to seek your own financial advice immediately from your stockbroker, bank manager, solicitor, accountant or other independent financial advisor who specialises in advising on shares or other securities and who is, in the case of UK shareholders, authorised under the Financial Services and Market Act 2000.

If you have sold or transferred your shares in Bushveld Minerals Limited, please forward this document at once to the purchaser or transferee or to the stockbroker, bank or other agent through whom the sale or transfer was effected, for delivery to the purchaser or transferee. If you have sold or transferred part of your registered holding of shares, please consult the stockbroker, bank or other agent through whom the sale or transfer was effected.

Notice of Annual General Meeting

BUSHVELD MINERALS LIMITED

(Incorporated in Guernsey under registered number 54506)

REGISTERED OFFICE:

Oak House, Hirzel Street, St Peter Port
Guernsey, GY1 3RH.

30 June 2022

Notice is hereby given of an Annual General Meeting of Bushveld Minerals Limited to be held at 11:00 am on 8 August 2022 at Oak House, Hirzel Street, St Peter Port, Guernsey, GY1 3RH.

PLEASE READ CAREFULLY – ARRANGEMENTS FOR THE ANNUAL GENERAL MEETING IN LIGHT OF COVID-19

At the date of this Notice, there are no COVID-19 related restrictions on travel to and from Guernsey, nor movement within Guernsey. Accordingly, it is expected that shareholders in Guernsey, or those who wish to travel to Guernsey for the Meeting, will be able to attend the Meeting as normal.

However, this situation may change prior to the date of the Meeting and it may be necessary for the Company to impose restrictions on entry to the Meeting in order to limit or restrict the number of attendees if this is necessary to maintain any required level of social distancing between attendees at the Meeting or any restriction on the maximum number of attendees.

In addition, the Board recognises that travel to Guernsey may not be feasible for the majority of shareholders and has put in place the following measures (the "COVID-19 Precautions"):

1. The Company urges shareholders to vote by proxy and to appoint the chairman of the Meeting as their proxy for that purpose. If a shareholder appoints someone other than the chairman of the Meeting as their proxy, that proxy, if not present in Guernsey, may not be able physically to attend the Meeting or cast the shareholder's vote. All votes on the resolutions contained in this Notice will be held by poll, so that all voting rights exercised by shareholders who are entitled to do so at the Meeting will be counted.
2. The Board encourages all shareholders to exercise their votes by proxy, and to submit any questions in respect of the Meeting in advance. This should ensure that your votes are registered in the event that attendance at the Meeting is not possible. Shareholders are encouraged to use the online voting facilities detailed below where possible rather than submitting a paper proxy card.
3. Shareholders who do choose to attend the Meeting in person are asked to comply with any applicable guidance issued by States of Guernsey on respecting personal space and practising good hand hygiene, and with any distancing requirements requested by the Chairman.
4. The arrangements for the Meeting proposed by the Board are subject to constant review, and should they be subject to change in line with any new guidance from the States of Guernsey, or in the event that the situation surrounding COVID-19 should affect the plans to hold the Meeting at the proposed date and time or at the proposed address, the Company will update shareholders through a market announcement and will provide further details on the Company's website. The Board reserves the right, should it become necessary, to restrict attendance at the Meeting as part of security arrangements pursuant to Article 73.2 of the Articles of Incorporation of the Company (the "**Articles**").

Notice of Annual General Meeting *continued*

ORDINARY RESOLUTIONS

1. To receive and adopt the Annual Financial Statements of the Company and the Directors report and the report of the Auditors for the financial year ended 31 December 2021.
2. To approve the Directors Fees as reflected in Remuneration Report and in Note 34 of the Annual Financial Statements.
3. That Messrs RSM UK Audit LLP be reappointed as Auditors to the Company.
4. That the Directors be authorised to approve the remuneration of the Company's Auditors to the Company.
5. That Fortune Mojapelo shall be re-elected as a Director, having retired by rotation and offered himself for re-election.
6. That Tanya Chikanza shall be re-elected as a Director, having retired by rotation and offered herself for re-election.
7. That Kevin Alcock shall be re-elected as a Director in accordance with Article 140 of the Articles, having been appointed by the Directors in March 2022.
8. That Mirco Bardella shall be re-elected as a Director in accordance with Article 140 of the Articles, having been appointed by the Directors in March 2022.
9. That Jacqueline Musiitwa shall be re-elected as a Director in accordance with Article 140 of the Articles, having been appointed by the Directors in March 2022.
10. That David Noko shall be re-elected as a Director in accordance with Article 140 of the Articles, having been appointed by the Directors in May 2022.
11. The Company be generally and unconditionally authorised for the purposes of Articles 50.3 of the Articles to make on market acquisitions (as defined in Article 50.5 of the Articles) of Ordinary Shares on such terms and in such manner as the Directors determine provided that:
    (i) the maximum aggregate number of Ordinary shares which may be purchased is 126,545,682 Ordinary Shares;
    (ii) the minimum price (excluding expenses) which may be paid for each Ordinary share is £0.01;
    (iii) the maximum price (excluding expenses) which may be paid for any Ordinary Share does not exceed 105 per cent of the average closing price of such shares for the 5 business days of AIM prior to the date of purchase; and
    (iv) this authority shall expire at the conclusion of the next Annual General Meeting of the Company unless such authority is renewed prior to that time (except in relation the purchase of Ordinary Shares the contract for which was concluded before the expiry of such authority, in which case such purchase may be concluded wholly or partly after such expiry).
12. The Directors of the Company be and are hereby authorised to exercise all powers of the Company to issue, grant rights to subscribe for, or to convert any securities into, up to 421,818,941 shares (together "**Equity Securities**") in the capital of the Company being approximately one third of the issued share capital of the Company (excluding treasury shares) in accordance with Article 8.3 of the Articles of Incorporation of the Company such authority to expire, unless previously renewed, revoked or varied by the Company by ordinary resolution, at the end of the next Annual General Meeting of the Company or, if earlier, at the close of business on the date falling 15 months from the date of the passing of this Resolution, but in each case, during this period the Company may make offers, and enter into agreements, which would, or might, require Equity Securities to be issued or granted after the authority given to the Directors of the Company pursuant to this Resolution ends and the Directors of the Company may issue or grant Equity Securities under any such offer or agreement as if the authority given to the Directors of the Company pursuant to this Resolution had not ended. This Resolution is in substitution for all unexercised authorities previously granted to the Directors of the Company to issue or grant Equity Securities; and

SPECIAL RESOLUTIONS

13. If Resolution 12 is passed, the Directors of the Company be and they are hereby authorised to exercise all powers of the Company to issue or grant Equity Securities in the capital of the Company pursuant to the issue or grant referred to in Resolution 12 as if the pre-emption rights contained in Article 9.9 of the Articles of Incorporation of the Company did not apply to such issue or grant provided that: (A) the maximum aggregate number of Equity Securities that may be issued or granted under this authority is 126,545,682 shares, being approximately 10.0 per cent of the issued share capital of the Company (excluding treasury shares); and (B) the authority hereby conferred, unless previously renewed, revoked or varied by the Company by special resolution, shall expire at the end of the next Annual General Meeting of the Company or, if earlier, at the close of business on the date falling 15 months from the date of the passing of this Resolution, save that the Company may before such expiry make an offer or agreement which would or might require Equity Securities to be issued or granted after such expiry and the Directors may issue or grant Equity Securities in pursuance of such an offer or agreement as if the authority conferred by the above resolution had not expired. This Resolution is in substitution for all unexercised authorities previously granted to the Directors of the Company to issue or grant Equity Securities in the capital of the Company as if the pre-emption rights contained in Article 9.9 of the Articles of Incorporation of the Company did not apply to such issue or grant.
14. That the Articles of Incorporation of the Company be and are hereby amended as follows:
    (i) Article 105 be amended by the deletion of the words "At no time after Admission shall a majority of Directors be resident in the United Kingdom."
    (ii) Article 112.7 be deleted
    (iii) Article 130 be amended by the deletion of the words "(other than, at any time after Admission, a Director resident in the United Kingdom)"

(iv) Article 142 be amended by the deletion of the words "All meetings of the Directors shall take place outside the United Kingdom and principally, in Guernsey. Any decision reached or resolution passed by the Directors at any meeting held in the United Kingdom shall be invalid and of no effect."
(v) Article 147 be amended by the deletion of the words "either in the United Kingdom or elsewhere"
(vi) Article 151 be amended by the deletion of the words "provided that no Directors physically present in the United Kingdom at the time of any such meeting may participate in the meeting by means of a conference telephone or any communication equipment unless 50 per cent or more of the Directors participating are physically present outside the United Kingdom."
(vii) Article 152 be amended by the deletion of the words "No such resolution shall be valid if a majority of the Directors sign the resolution in the United Kingdom."
(viii) Article 169 be deleted

ORDINARY RESOLUTION

15. That, for the purposes of section 160 of the Companies (Guernsey) Law, 2008 (as amended), the appointment of Tanya Chikanza as a director of the Company (in contravention of Article 130 as it applied at that time, as a result of her being resident in the United Kingdom) be and is hereby ratified.

By order of the Board

K BREDIN
Company Secretary
30 June 2022

EXPLANATORY NOTES TO CERTAIN OF THE RESOLUTIONS

Resolution 14:
As evidenced by the board changes that were announced to the market in March and May of this year, the Board, through the Nomination Committee, has been kept busy with the implementing of its succession planning endeavours. Through that process, it has become evident that certain of the articles within the Company's Articles of Incorporation (Articles), which have not been amended since listing in 2012, and which relate to the residency of directors, are unnecessarily restrictive. Consequently, to allow for more flexibility when identifying and appointing suitable candidates to the Board in the future, it is being requested that shareholders approve the amending of the Articles as detailed in resolution 14. Similarly, it is requested that the restrictions in respect of where meetings are held and decisions made be removed, which is also included within resolution 14.

Resolution 15:
This resolution relates to the appointment of Tanya Chikanza in her capacity as an executive director of the Company. It has come to light that by appointing Tanya Chikanza as an executive, the Company inadvertently breached its Articles, which state that "The Directors may appoint one or more of their number (other than, at any time after Admission, a director resident in the United Kingdom) to an executive office on such terms as they think fit…". Although Tanya's appointment was contrary to Article 130, her appointment as a director is not invalidated. The breach relates only to the appointment of executive office, and not to her appointment as a director, and accordingly, the breach does not mean that any actions taken by Tanya would have been beyond her powers as a director, void or voidable, or not binding on Bushveld as intended. While resolution 14 amends Article 130, resolution 15 ratifies Tanya's earlier appointment and the consequent breach of Article 130, so as to remedy the position.

Notice of Meeting Notes:

The following notes explain your general rights as a shareholder and your right to attend and vote at this Meeting or to appoint someone else to vote on your behalf.

1. To be entitled to attend and vote at the Meeting (and for the purpose of the determination by the Company of the number of votes they may cast), shareholders must be registered in the Register of Members of the Company at close of trading on 6 August 2022. Changes to the Register of Members after the relevant deadline shall be disregarded in determining the rights of any person to attend and vote at the Meeting.
2. Shareholders are entitled to appoint another person as a proxy as set out below to exercise all or part of their rights to attend and to speak and vote on their behalf at the Meeting. A shareholder may appoint more than one proxy in relation to the Meeting provided that each proxy is appointed to exercise the rights attached to a different ordinary share or ordinary shares held by that shareholder. A proxy need not be a shareholder of the Company, but please note that in accordance with the measures set out above, shareholders are encouraged to appoint the Chairman of the Meeting as their proxy for the purposes of ensuring that their proxy will be able to attend the Meeting.

Notice of Annual General Meeting *continued*

3. In the case of joint holders, where more than one of the joint holders purports to appoint a proxy, only the appointment submitted by the most senior holder will be accepted. Seniority is determined by the order in which the names of the joint holders appear in the Company's Register of Members in respect of the joint holding (the first named being the most senior).
4. A vote withheld is not a vote in law, which means that the vote will not be counted in the calculation of votes for or against the resolution. If no voting indication is given, your proxy will vote or abstain from voting at his or her discretion. In the absence of any specific instructions from you, your proxy will vote (or abstain from voting) as he or she thinks fit in relation to any other matter which is put before the Meeting.
5. You can vote either:
   - by logging on to www.signalshares.com and following the instructions. This system allows you to appoint a proxy and to instruct your proxy how to vote. If you have note used the service before you will need to register online, for which you will need your investor code (IVC). In order for a proxy appointment to be made in this way, you will need to submit your instructions via www.signalshares.com by 11:00 am on 6 August 2022;
   - by requesting a hard copy form of proxy directly from the Registrars, Link Group by phone – UK – 0371 664 0300. (Calls are charged at the standard geographic rate and will vary by provider. Calls outside the United Kingdom will be charged at the applicable international rate. Lines are open between 09:00-17:30, Monday to Friday excluding public holidays in England and Wales). In order for a proxy appointment by way of a hard copy form of proxy to be valid, the form of proxy must be received by Link Group at 10th Floor, Central Square, 29 Wellington Street, Leeds, LS1 4DL by 11:00 am on 6 August 2022.
   - in the case of shareholders holding their shares through CREST, by submitting a CREST Proxy Instruction utilising the CREST electronic proxy appointment service in accordance with the procedures set out below.
6. If you return more than one proxy appointment, either by paper or electronic communication (including via www.signalshares.com), the appointment received last by the Registrar before the latest time for the receipt of proxies will take precedence. You are advised to read the terms and conditions of use carefully. Electronic communication facilities are open to all shareholders and those who use them will not be disadvantaged.
7. The return of a completed form of proxy or any CREST Proxy Instruction (as described in note 10 below), or the submission of instructions via www.signalshares.com, will not prevent a shareholder from attending the Meeting and voting in person if he/she wishes to do so.
8. Shareholders holding their shares through CREST who wish to appoint a proxy or proxies through the CREST electronic proxy appointment service may do so for the Meeting (and any adjournment of the Meeting) by using the procedures described in the CREST Manual (available from www.euroclear.com/site/public/EUI). Shareholders holding their shares through a CREST sponsor or service provider(s) should refer to their CREST sponsor or voting service provider(s), who will be able to take the appropriate action on their behalf.
9. In order for a proxy appointment or instruction made by means of CREST to be valid, the appropriate CREST message (a 'CREST Proxy Instruction') must be properly authenticated in accordance with Euroclear UK & Ireland Limited's specifications and must contain the information required for such instructions, as described in the CREST Manual. The message must be transmitted so as to be received by the issuer's agent (ID RA10) by 11:00 am on 6 August 2022. For this purpose, the time of receipt will be taken to mean the time (as determined by the timestamp applied to the message by the CREST application host) from which the issuer's agent is able to retrieve the message by enquiry to CREST in the manner prescribed by CREST. After this time, any change of instructions to proxies appointed through CREST should be communicated to the appointee through other means.
10. Shareholders holding their shares through CREST and, where applicable, their CREST sponsors or voting service providers should note that Euroclear UK & Ireland Limited does not make available special procedures in CREST for any particular message. Normal system timings and limitations will, therefore, apply in relation to the input of CREST Proxy Instructions. It is the responsibility of the shareholder concerned to take (or, if the shareholder is a CREST personal member, or sponsored member, or has appointed a voting service provider(s), to procure that his CREST sponsor or voting service provider(s) take(s)) such action as shall be necessary to ensure that a message is transmitted by means of the CREST system by any particular time. In this connection, shareholders holding their shares through CREST and, where applicable, their CREST sponsors or voting system providers are referred, in particular, to those sections of the CREST Manual concerning practical limitations of the CREST system and timings. The Company may treat as invalid a CREST Proxy Instruction in the circumstances set out in Regulation 34(1) of the Uncertificated Securities (Guernsey) Regulations, 2009.
11. Any corporation which is a shareholder can appoint one or more corporate representatives who may exercise on its behalf all of its powers as a shareholder provided that no more than one corporate representative exercises powers in relation to the same shares.
12. As at 29 June 2022 (being the latest practicable business day prior to the publication of this Notice), the Company's ordinary issued share capital (excluding treasury shares) consists of 1,265,456,822 ordinary shares, carrying one vote each. Therefore, the total voting rights in the Company as at 30 June 2022 are 1,265,456,822.
13. You may not use any electronic address (within the meaning of Section 523(2) of the Companies (Guernsey) Law, 2008) provided in either this Notice or any related documents (including the form of proxy) to communicate with the Company for any purposes other than those expressly stated.
14. A copy of this Notice can be found on the Company's website at www.bushveldminerals.com/investors

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