



SA Mine 2022

Level up or reset



October 2022
14th edition

www.pwc.co.za/mining

Contents

Executive summary	3
Economic context	4
Infrastructure	8
Critical energy related challenges in the mining sector	12
From compliance to value creation	16
Industry and market analysis	20
Is the extractive industry ready for the OECD's Pillar Two?	24
Financial performance	26
Rendering onto stakeholders... Miners paying their dues	38
Ten-year summary	40
About this publication	42
Glossary	43
Contacts	45

Executive summary

South Africa's mining sector delivered a sterling performance in the past year, despite several local and global challenges. All stakeholders received much-welcomed value.

The industry's financial performance exceeded expectations on most fronts as global supply chains jostled to find their way back to pre-pandemic levels. This resulted in a growing demand for commodities in the sector, which saw record rand prices for the platinum group metals basket, iron ore, and coal. Most other South African commodity prices remained at relatively high rand levels.

A global low-carbon energy agenda remains a key focus, and this is anticipated to result in increased demand for a number of commodities in the medium to long term. Global constraints in supply of these commodities will mean increased prices and a need for investment in supply. When looking at a 'just transition' away from fossil fuels, the pace of this is likely to be limited by the availability of resources needed for the transition. Here, understanding the supply constraints will be key to mapping a realistic transition for

the future. Higher prices are unfortunately only the one side of the performance equation. We're starting to see real cost pressures coming through, which will impact profit margins in future. With the added challenges on production, unit cost is expected to increase well above inflation.

In South Africa, we stand to benefit from the demand growth, but whether South Africa and other resource-rich countries will benefit to the full extent will depend on their ability to address bottlenecks in supply and mine to market infrastructure.

There is an obvious need to invest in the right skills, infrastructure, energy and water and in general, creating an enabling environment for exploration, mine development, production and sales. Realising the full potential benefit of our resources and creating long-term sustainable outcomes will depend on our ability to mine cost competitively and to integrate various value chains profitably.

Andries Rossouw
Africa Energy, Utilities &
Resources Leader

Economic context

The South African economy was 1.4% y-o-y larger in the first half of 2022 as a combination of local and international factors held back the pace of economic growth. These factors include the international economic and geopolitical fallout of the Russian invasion of Ukraine, COVID-19 lockdowns in China, floods in KwaZulu-Natal, as well as electricity load-shedding. The good news is that the GDP growth seen of late has returned the economy to its pre-pandemic size. Due to the combined size of the finance, real estate and business services sectors, as well as the robustness of general government services against business cycle volatility, these services sectors have driven the recovery in total GDP.

There are, however, still many industries lagging behind the overall recovery. For example, the activity in the mining sector was nearly 10% smaller compared to the pre-pandemic period. At the same time, mining employment was 5% lower compared to before the pandemic. (Overall, South Africa's employment recovery has lagged the GDP recovery, with the expanded unemployment rate currently standing at nearly 45%.) After dropping by 11% in 2020 due to the adverse impacts of the global COVID-19 pandemic and associated lockdowns, local mining production increased by 12% in 2021 on the back of elevated commodity prices. By mid-2021, mine output volumes were back to pre-pandemic levels. However, mining activity experienced several challenges in the first half of 2022, resulting in mining output falling by 7% y-o-y in the first six months of the year. These challenges included labour strikes, higher-than-usual rainfall, as well as disruption to global supply chains. In June 2022, mining production was at around 11% below the comparative month average during 2016-2019.

Why exports are important

Historically, South Africa's trade deficit has resulted in net exports (exports minus imports) being a drag on GDP. However, in 2020, as the local economy was locked down and imports declined by 12% in value, export revenues increased by 7% as local miners and farmers benefited from high internal commodity prices. This resulted in net exports reducing the size of the 2020 recession (a 6.4% decline in real GDP) by 1.7 percentage points. Last year, net exports contributed 0.1 percentage points to economic growth.¹ Mining has been one of the drivers of economic recovery from COVID-19.

The production and export of different commodities have varying impacts on the economy. Our analysis shows that for every R1m spent in different industries to produce exported goods, the biggest multiplier impact on GDP comes from the export of services, in particular: personal, cultural and recreation services; business services; as well as finance and insurance. This is followed by merchandise exports from the fishing and mining sectors. What this tells us is that increasing the exports of these services and goods will have the biggest positive multiplier impact on the local economy.

1. Statistics South Africa, 2022. Gross domestic product, first quarter. <https://www.statssa.gov.za/publications/P0441/P04411stQuarter2022.pdf>



Minerals account for more than half of South Africa's export revenues. In 2021, the two largest export categories – precious metals and stones as well as ores, slag and ash – contributed 43.2% of total export revenues. Mineral fuels (including coal) accounted for a further 8.3% of export revenues.

Figure 1: South Africa top exports (2021)

Export category	2021 (Rand billion)	% of total	2022H1 (Rand billion)	% of total
Precious metals and stones (e.g. platinum, gold, diamonds, etc.)	515,1	28,20%	227	23,40%
Ores, slag and ash (e.g. iron, manganese, chromium, etc.)	273	15,00%	138,8	14,30%
Mineral fuels (e.g. coal)	152	8,30%	120,9	12,50%
Vehicles and parts & accessories thereof	157,7	8,60%	85,8	8,80%
Iron and steel	93,3	5,10%	55,9	5,80%
Machinery and mechanical appliances	97,8	5,40%	50,5	5,20%
Edible fruit and nuts	65,4	3,60%	33	3,40%
Aluminium and articles thereof	27,8	1,50%	16,5	1,70%
Inorganic chemicals	19,9	1,10%	14,3	1,50%
Electrical machinery and equipment	25,1	1,40%	13,3	1,40%
Cereals	14,8	0,80%	13,1	1,30%

Source: Trade Map table



South Africa's recent supply chain challenges

Research by the South African Reserve Bank (SARB) shows that local supply chain disruptions have been higher in 2022 so far, than during the worst of the COVID-19 lockdowns in 2020, and the global financial crisis of 2008-2009. This corresponds with international measures for the strain on the global supply chain system. The main factors disrupting international trade in 2022 so far are:

- **Russian invasion of Ukraine** — Recent movements in the New York Fed's Global Supply Chain Pressure Index (GSCPI) suggest that, while global supply chain pressures have been decreasing in recent months, they remain at historically high levels. The ongoing disruption to business activity in Central and Eastern Europe continues to affect global supply chains. Ukraine is a major global exporter of sunflower products, fertiliser and wheat, with Russia also the third-largest producer of oil worldwide.
- **COVID-19 lockdowns in China** — The Asian economy is the largest buyer of South Africa's exports. Shanghai, the country's leading industrial and manufacturing centre, experienced a 13.7% y-o-y drop in its real GDP during 2022Q2.
- **Floods in KwaZulu-Natal** — The heaviest rains in more than six decades during April and May caused significant disruptions to logistics feeding to and within the Port of Durban. The harbour handles 60% of the country's imports and exports and is a direct route for shipments to and from the country's commercial hub Gauteng.
- **Electricity load-shedding** — Power outages adversely impact a myriad of business operations surrounding exports. Eskom shed 2,276 GWh of electricity during the first half of 2022 compared to 2,521 GWh during the entire 2021. This included Stage 6 load-shedding in late-June for the first time in two-and-a-half years.

Port and rail inefficiencies

Apart from the transient supply chain challenges experienced, South African ports are beset with operational inefficiencies. The recently released World Bank Container Port Performance Index (CPPI) ranked Durban, Cape Town and Ngqura in the bottom 10 ports out of the 370 locations analysed globally. This is based on the average time spent by a ship in these locations which, in turn, is reflective of factors like the availability and quality of infrastructure, layout of the harbour, and the expertise of the employees, amongst others.²

South Africa's deteriorating rail-to-port network access has further exacerbated supply chain inefficiencies. Years of inadequate maintenance of the country's rail infrastructure has had a negative impact on mining firms. In 2021, a major iron ore producer flagged concerns pertaining to the country's rail-to-port challenges and the negative impact this had on the firm's production output.³

Russia and Ukraine account for 24% of the world's palladium supply, 17% of nickel, 14% of coal, 10% of raw aluminium, 8% of iron and steel, 8% of platinum, 7% of refined copper, and 4% of cobalt.

Source : FrontierView, PwC Analysis



2. World Bank, 2022. e Container Port Performance Index (CPPI). <https://thedocs.worldbank.org/en/doc/66e3aa5c3be4647addd01845ce353992-0190062022/original/Container-Port-Performance-Index-2021.pdf>

3. "Urgent privatisation of South African rail network needed." 13 Jul. 2022, <https://www.miningreview.com/base-metals/urgent-privatisation-of-south-african-rail-network-needed/>. Accessed 10 Aug. 2022.

Light at the end of the tunnel

On a positive note, Operation Vulindlela (a joint initiative by the presidency and National Treasury) has made some progress of late regarding its objective of creating a “competitive and efficient freight transport” in the country. The initiative counts among its successes to date 1) the establishment of the National Ports Authority as an independent subsidiary of Transnet, 2) finalisation of the White Paper on National Rail Policy, and 3) the corporatisation of the Transnet National Ports Authority (TNPA). In August, Transnet shortlisted ten entities for private sector participation in container terminals at the Ports of Durban and Ngqura from 2023. Transnet is seeking to establish 25-year special purpose vehicles (i.e. there will be no asset sales) that will enable private skills supporting the poorly performing container terminals. Accounting separation of Transnet Freight Rail has also been completed to enable third-party (i.e. private sector) access to the rail network. To this end, a request for proposals (responses were due in August) was released by Transnet for 16 available slots on the Durban-City Deep and Pretoria-East London lines.

Looking ahead, the National Assembly will soon vote on the Economic Regulation of Transport Bill. If passed, the bill will provide for open and non-discriminatory third-party access to the rail network as well as the establishment of a Transport Economic Regulator. In addition, Transnet plans to invest R14bn over the next five years to improve the quality of ports. Mossel Bay, Saldanha and Cape Town are already undergoing upgrades under TNPA’s R16bn capital investment programme. Additionally, the TNPA has sought private sector assistance to secure energy supply for the purpose of port operations. All of these already-achieved reforms in the rail and port space, as well as ongoing and planned developments, are aimed at improving rail and port performance to the benefit of South African companies and their export businesses.



Infrastructure

Mining companies are experiencing a commodity price windfall due to the current international geopolitical situation the energy transition and government sponsored infrastructure development to support the post – COVID-19 recovery. Unfortunately, infrastructure challenges are limiting the ability to get product to market as indicated at a number of recent results presentations. The coal link to Richards Bay as an example exported less than 60mt last year against a stated capacity of around 90mt. It is thus clear that South Africa's inability to solve the infrastructure investment gap sustainably is having a direct impact on the ability of companies to earn export revenues. The knock on effect is a negative impact on the ageing infrastructure, specifically road transport. The road infrastructure of the manganese corridor to Coega and the coal corridor to Richards bay are severely deteriorated due to the 1,000+ forty ton trucks utilising these corridors due to a lack of sufficient rail capacity. The key infrastructure issues thus remain energy, transport and with increasing importance, water.

Infrastructure is broadly regarded as the foundation of economic growth and productivity with well-functioning, modern infrastructure being central to economic growth, social development and quality of life for all citizens. South Africa's National Development Plan (NDP) sets out clear economic development targets, which is further supported by the gazetted National Infrastructure Plan 2050 (NIP2050). These documents give guidance on the scale and direction of national infrastructure investments in order to achieve a vibrant and inclusive economy, and quality of life for all citizens. The NDP target ratio for fixed capital investment-to-GDP is 30%, which includes the public sector infrastructure investment role. The current state and performance of the country's infrastructure however is far below the requirements of the broader economy and the expectations of citizens.

The acknowledgement that infrastructure investment will unlock the economic spiral of low growth and high unemployment has been widely published. President Cyril Ramaphosa has already unveiled an increase in government infrastructure investment in 2020 to boost the country's economic growth rate after the biggest contraction in a decade in the aftermath of the COVID-19 pandemic. South Africa has seen declining fixed capital investment and economic performance over this decade and the new positive momentum around this has not materialised yet. The key issue relates to the different spheres of government and the State Owned Entities (SOEs) inability to move this agenda forward to implementation collectively and business' reluctance to invest where gaps are evident due to a lack of confidence, security of tenure and policy certainty.

In an analysis done by PwC of this widening investment gap to NDP targeted growth levels, it was found that a R1.6tn increase in public sector infrastructure investment is required by 2030. Private sector contribution to gross fixed capital formation (GFCF) should be double this in the corresponding period to deliver on the targets. Delivering such an infrastructure-led economic recovery plan will require significant change. This, in addition to the self-evident strengthening of state capabilities, will require strong political leadership, strong executive management leadership, as well as strong partnerships within the public sector and between public and private sectors.



In a recent analysis by Standard Bank almost a quarter of South Africa's R340bn worth of strategic infrastructure projects (SIPS) have been delayed or put on hold. Government has officially announced 62 energy, water, sanitation and other SIPS projects. While eight have been completed and 40 are underway, 14 are behind schedule – the bank said in a May 25 report that monitors the projects' progress.

The current execution is thus clearly not yielding the results expected. A focused approach based on four pillars is promoted:

- Formalising the collaboration model between public and private sectors, and in this case mining companies specifically
- New and innovative development, funding and delivery models for associated infrastructure around mines and logistic chains
- Rethink and coordinate the Social and Labour Plans (SLPs) regionally
- Liberate the operations and access to assets of the SOEs and state institutions as it relates to energy, transport and water

These are based on the economic reality that the optimum utilisation of any mineral resource for the benefit of all stakeholders is the execution of the optimised long term mine plan and associated capital plan, including the services and auxiliary infrastructure. On top of these are Service Level Agreement (SLA) commitments to the immediate stakeholders to ensure their sustainability over the life of the mine and beyond. It is thus clear that the mining companies are best positioned to drive stakeholder value based on the four pillars mentioned.

Formalising the collaboration model between public and private sectors

The first pillar aims to address the current trust deficit between government on the one hand and private sector investment in areas that would traditionally be seen as a public sector responsibility only. South Africa however has a track record of successful collaboration among relevant stakeholders to transform and impact an industry. The renewable energy sector that was established over the last decade through collaboration of the government (which provided the regulatory framework and IPP office) and the private sector (which developed and funded the Renewable Energy (RE) infrastructure) proves this. It is a pity that momentum was lost again since the REIPPPP (Renewable Energy Independent Power Producer Procurement Programme) ended up in the courts again, impacting this trust relationship.

The strongest indicator of formalising this collaboration is the PICC (Presidential Infrastructure Coordinating Commission), the establishment of Infrastructure South Africa (ISA) and the associated Infrastructure Development Act (IDA). These aim to firstly create a single government body to drive infrastructure development and, secondly, to act as a single point of contact for collaboration between public and private sector infrastructure investment. Although ISA is still a fledgling organisation, the potential to deliver on this mandate will be huge. A further building block to restore trust is the use of a globally accepted methodology in the form of the 5 Cases business model and digital platform to provide transparency of all impactful government and private sector infrastructure collaboration.

An area that urgently needs such collaboration is the current manganese and coal transport corridors. While the increase in rail capacity will not materialise in the short or medium term and the intent by all stakeholders is to move bulk transport largely back to rail, the financial opportunity results in the majority of bulk being transported by road. The secondary road network of these corridors was not designed for this and leads to major deterioration of rural road networks which are also essential to the transport of soft commodities. SANRAL has limited resources and capacity that needs to be applied across the country. At present the private sector is over utilising a state asset while benefiting financially but at an inflated cost base. An important problem to solve is thus how the private sector can contribute financially, but also provide management and operational capacity to maintain and improve a key national asset while the government paves the policy and regulatory way to achieve this.

New and innovative development, funding and delivery models

With an investment gap of such magnitude, traditional funding models will not be sufficient. Innovative ways of development and funding are required between government, private sector and international donors (ID). Although collaboration acknowledgement of each party's contribution, and the role they will play best, have to be agreed upon.

Another consideration is the balance between economic and social infrastructure. Mines and communities mostly share access to the same water resources in a specific catchment area. The optimised Olifants River Water Resources Development Project programme announced by the minister of water and sanitation at the Mining Indaba in Cape Town early this year is a prime example of collaboration between government and the private sector that has succeeded in establishing an innovative development and funding model that delivers both economic sustainability and social equality through access to water. The mines, as commercial users, and government collectively contribute the project capital for both raw water for industrial use and potable water for the surrounding communities. This while a joint execution structure also utilises the private sector experience in executing the programme.

Mines are uniquely positioned due to their heavy asset nature, location in local and rural communities and resourcefulness to develop and manage complex infrastructure with government stakeholders in a collaborative structure. This is an area with potential application in various infrastructure challenges.

Rethink and consolidate the Social and Labour Plan's (SLPs) regionally

While the SLPs aim to provide social programmes and infrastructure to communities surrounding mining operations, the fragmented way in which this is done has led to sub optimal implementation. As the operations of different mining companies are often located in the same region, a more holistic and integrated approach in the geographical area will be more beneficial and effective. Again collaboration between various mining companies and various organs of state are required to achieve this. The complexity of this however has proved to be challenging with competing agendas playing out to benefit the same communities. Government has a huge role to play to enable this collaboration while the mining companies have to consolidate their effort around a shared vision for the utilisation of SLP resources and be accountable to execute again these agreed plans.

The optimised Olifants River Water Resources Development Project programme announced by the minister of water and sanitation at the Mining Indaba in Cape Town early this year is a prime example of collaboration between government and the private sector that has succeeded in establishing an innovative development and funding model that delivers both economic sustainability and social equality through access to water.



Liberate the operations and access to assets of the SOEs and state institutions

With the financial state that most State Owned Entities (SOEs), that impact on the mining sector, find themselves in, there is an opportunity to restructure the balance sheet of these institutions by opening up more collaboration with the private sector. One such area is the open access to rail and port infrastructure that is currently either under utilised or performing sub optimally.

The recently announced energy plan by the president also promotes this principle for the energy sector.

As the trust between public and private players increases, more opportunities will surface. There are however non-negotiable principles applicable to all stakeholders that are a prerequisite for collaboration.

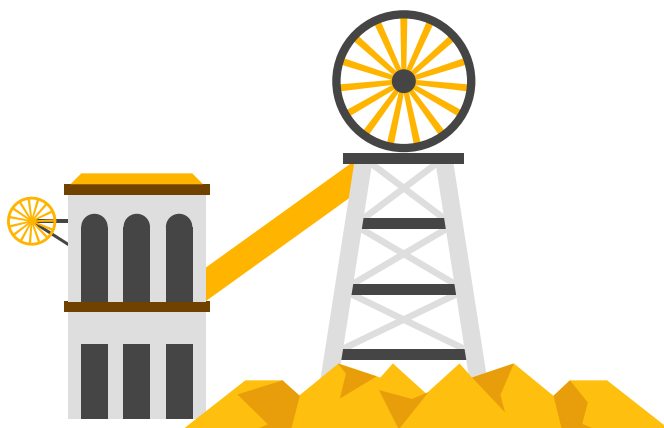
The Centre for Development and Enterprise (CDE), an independent policy analysis and advocacy organisation, recently published a report entitled ‘Accelerating SA’s Infrastructure Programme: What is holding us back?’⁴. The report is based on a high-level workshop between leaders in the financial sector and the senior government officials responsible for the state infrastructure drive. The executive director of the CDE, Ann Bernstein, raised concern that there has not been any significant government-led infrastructure project since 2018. She further stated that there is already a strong concern among investors – local and international – about the country’s credibility and capacity to set up fast-tracked projects for private investment and that, without speedy action, investors will lose interest and move on.

“The private sector is willing and able to participate in well-designed, state-led infrastructure projects, but there are no projects coming to market”, she said.

Nevertheless, the workshop showed improved levels of cooperation and understanding between government and business. However the report makes it clear that, “turning this spirit of goodwill into a programme of action requires important changes from both business and government”.

It is evident that time is running out. The mining industry and government have to ask themselves whether the current windfall is utilised to address and move the broader infrastructure investment agenda forward with sufficient haste.

4. <https://www.cde.org.za/accelerating-sas-infrastructure-programme-what-is-holding-us-back/>



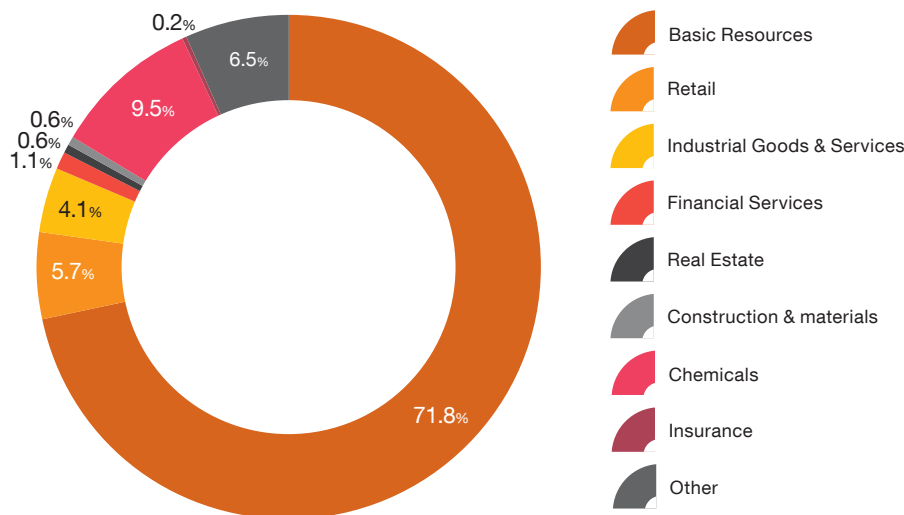
Critical energy related challenges in the mining sector

Complying with South Africa's emissions reduction targets

South Africa has committed to decarbonising its economy in line with the United Nations (UN) Framework Convention on Climate Change and the Paris Agreement. The Minerals Council of South Africa has further endorsed this commitment with the mining sector having set a target of achieving Net Zero (NZ) by 2050.

The mining sector is a major contributor to South Africa's emissions, as demonstrated by the reported scope 2 emissions in 2020, where Basic Resources (Mining) contributed 7 out of every 10 tonnes of CO₂ linked to electricity consumption (Eskom). This highlights the significant contribution the mining sector can make towards the country's NDC targets of between 398 and 510 Mt CO₂ equivalent (CO₂-eq) by 2025, and between 350 and 420 Mt CO₂-eq by 2030, through the reduction of both direct scope 1 and indirect scope 2 (electricity linked) emissions.

Figure 2: Scope 2 Emissions by Industry 2020



Source: Risk Insights, PwC analysis



The global transition to Net Zero (NZ) is increasingly being affirmed through targeted policy and legislative mandates. To remain globally competitive and relevant, any company trading into or exposed to such NZ markets must adopt carbon reduction goals and reporting, typically set through Science Based Target Initiatives (SBTi). With key export markets such as the European Union (EU), UK and Japan committing to aggressive targets with the aim of achieving net zero by 2050, there is a high likelihood that trade restrictions and carbon penalties will be imposed on the import of goods produced using carbon-intensive sources.

In 2021, up to 81.4% of South Africa's electricity was generated from coal, and considering that up to 60% of the energy used in the mining sector comes from electricity, the issues of decarbonising as well as sustainable and reliable power supply are directly connected. Addressing these dual challenges will require the mining sector to make major investments into alternative and renewable energy sources and energy planning.

Ensuring least cost of energy (Eskom tariff views)

Eskom tariffs have increased by circa 356%⁵ over the last decade against inflation over this period of only 74%. This trend of above inflationary escalations is projected to continue for the foreseeable future considering Eskom's recent National Energy Regulator of South Africa (NERSA) application which seeks to increase tariffs by 32.66% in 2023/24 and a further 9.63% in 2024/25. With electricity estimated as the second-largest cost component for deep-level and electricity-intensive mines, this poses a significant risk to the operating cost base of many mines.

It is well documented that embedded generation solutions using renewable energy provide a lower cost of electricity. Despite recent global supply chain challenges, which have resulted in short term price increases in component supply, the overall trend of decreasing costs for renewable energy technologies is projected to continue. Considering the higher and rising cost of electricity and added future carbon tax, deeper transitioning to renewable energy sources presents a financially viable and attractive solution. This value proposition is further emphasised by a recent report from the Minerals Council of South Africa⁶ concluding that carbon tax will be damaging to the industry and potentially undermine the viability of marginal mines, costing the sector billions of rands in additional expense. Sasol recently estimated that if carbon prices were set at \$30 a ton, an annual carbon tax bill of R20 bn would be incurred.

Reliability (Eskom load shedding views)

While many mines have specific agreements in place to manage load shedding, that are due in large part to safety aspects, the decreasing reliability of Eskom's supply and the recent consistent Stage 6 load shedding has significant impact on mining costs and operations. Investing in and transitioning to clean technologies and renewable electricity is therefore increasingly being adopted by mining companies as top strategic priorities in the boardroom.

How can mining organisations transition?

For mining organisations to transition from fossil-fuel based electricity to clean sustainable energy from wind and solar, a structured approach must be adopted. This process will start from baselining the organisation's energy mix and demand as well as emissions profile.

The first step in an organisation's transition to net zero should be to evaluate and optimise its processes to improve or introduce new efficiency measures thereby reducing its electricity and energy demand.

The next step is to diversify its energy supply with the introduction of renewable power generation. To achieve deeper levels of switching to clean electricity sources, mines need to include storage as well as going beyond co-located installations to include independent power projects (IPPs) with wheeling through the Eskom network.

Choosing the right combination of renewable energy (RE) technologies will also depend on the remaining life of the mine and its carbon reduction goals. Mines set to continue operations for longer periods can target larger scaling of RE generation, while those with a shorter remaining life of mine will be challenged to realise longer term finance and may have to consider future energy trading markets as part of their procurement strategy. It is also important to incorporate increasing levels of battery storage to provide a more stable supply that better matches demand and reduces the risk of RE curtailment.

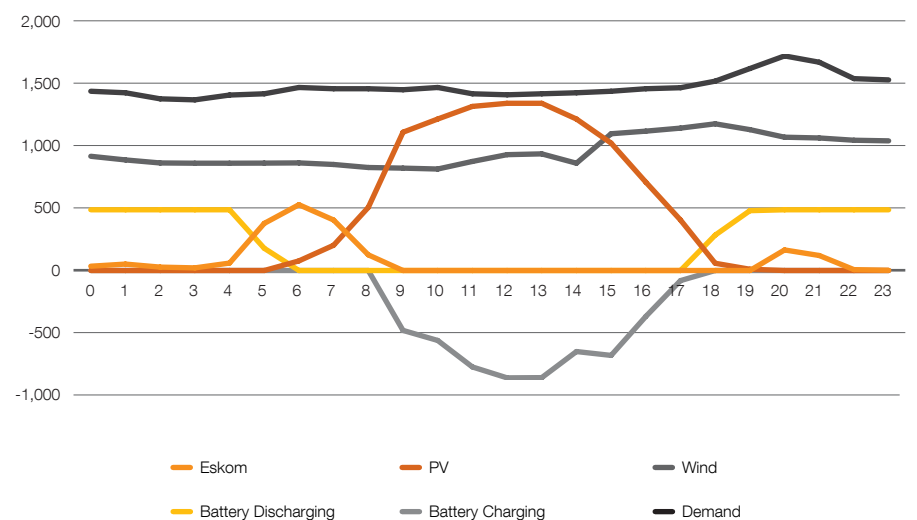
RE implementation should begin with the lowest cost applications being roof-top or behind-the-metre solar Photovoltaic (PV) solutions. The limitation however is its day-night variability and peak midday generation that is subject to curtailment. Traditional energy models utilise stockpiled fossil fuels in front of the generation technology, enabling supply to follow demand. But in a renewable energy model, the energy source or feedstock is free but variable, which results in variable generation. Storage is therefore a critical technical requirement for optimising supply and matching demand.

5. <https://poweroptimal.com/350-increase-decade-expensive-electricity-south-africa-compared-countries/>

6. *The Impact of the Carbon Tax on the Mining Sector, Fact Sheet, Minerals Council South Africa*

Only ~5% of the total energy consumed by the mining sector in 2020 was sourced from renewables, demonstrating that significant increase in investment in energy is still needed by the mining sector.

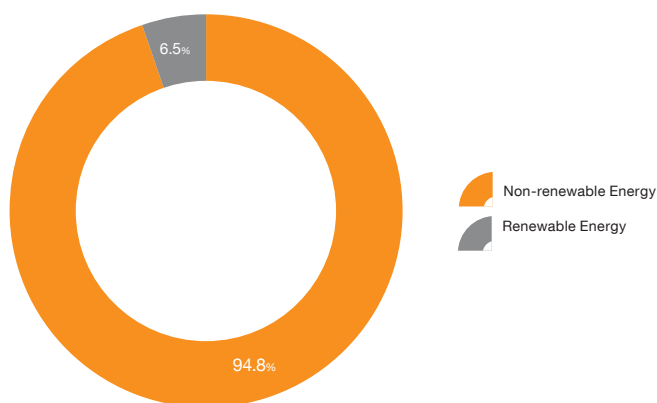
Figure 3: Generation profile of solar, wind and BESS combination with demand



Source: Risk Insights, PwC analysis

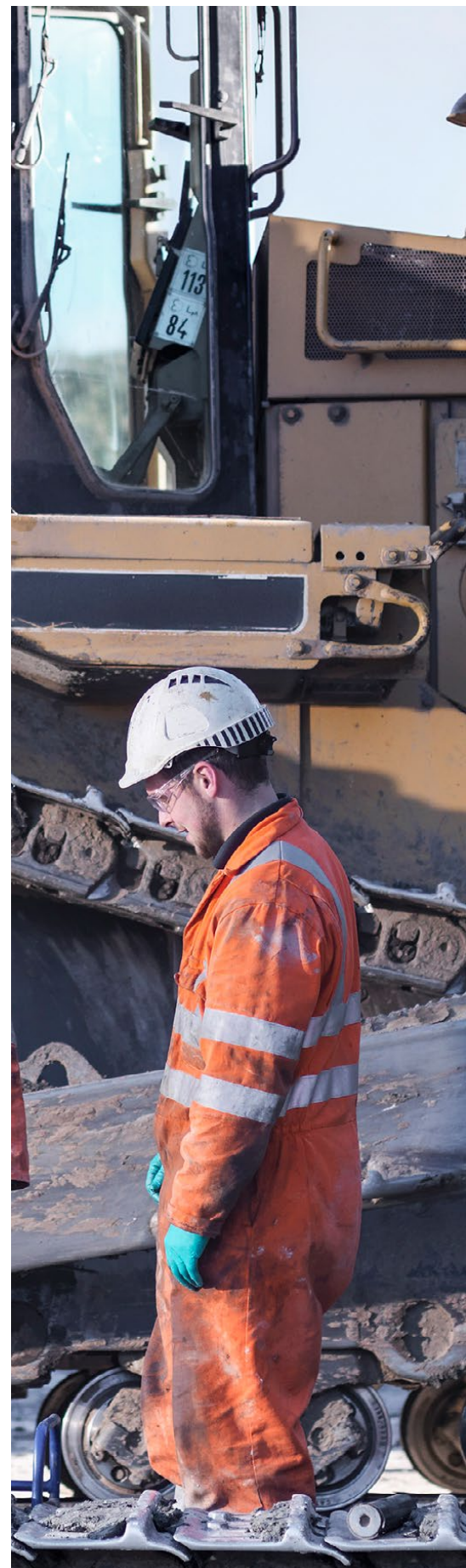
For mobility in mining, careful consideration of electric vehicles (EVs) must be given, ranging from battery EVs to fuel cell EVs using green hydrogen, as is already being piloted by Anglo American. Green hydrogen practices used in mobility are similar to the conventional usage of petroleum, with low refuelling times and no need for long charging hours which could otherwise negatively impact production efficiency.

Figure 4: Portion of renewable energy consumed by the mining industry in 2020



Source: Risk Insights, PwC analysis

Investing in and developing sustainable energy capabilities will also directly connect to an organisation’s Environmental, Social, and Governance (ESG) strategy around purpose and sustainability. Mines should use their energy transition strategy to enhance and optimise ESG opportunities, whether through investing in the sector in general, supporting communities or contributing to the upskilling of people, thereby contributing to the Just Energy Transition of the country’s power sector.



The role of policy

Government plays a critical role in defining policy and regulation that allows and encourages mines to accelerate the design and implementation of their energy transition journey. The 2021 amendments to Schedule 2 of the Electricity Regulation Act (ERA), 2006, increased the exemption threshold for a generation licence from 1 MW to 100 MW. With the announcement by the president in July 2022, the threshold has been removed completely and special legislation in parliament will be tabled to address the legal and regulatory obstacles to new generation capacity.

Further proposed ERA amendments, including the introduction of an electricity trading market, are encouraging reform signals for the broader market and economy. Government's recent commitments to "cut red tape" and approval processes are also adding to this growing momentum in the energy transition, which can increasingly add value for mining companies.

Opportunities for the mining sector to support the SA energy transition

The mining industry remains a major contributor to South Africa's economy, at 8.7% of GDP⁷. Moreover, research⁸ shows that during and post COVID-19 with higher global commodity prices, the mining sector has performed very well and generally in a healthy financial position. With the global energy transition estimated to cost USD 130tn by 2050, there will be strong long-term demand for minerals and future mining sector growth.

The Platinum group metal (PGM) sector is a good example, which is benefiting from such 'green' demand through increasing fuel cell and electrolyser production. This resulted in a 26% increase in production in 2021 due to increased demand for exports⁹.

The demand for increased mining is however not simply for larger quantities. But can mining be done sustainably and in line with Net Zero targets? To remain globally competitive, the mining sector will need to look beyond just renewable energy to consider sustainability and circularity across the entire mining value chain.

The mining sector can do more

The Minerals Council South Africa has indicated a target of 5.1 GW of renewable energy by 2025. Considering annual capacity factors of 35.2% for wind, 37% for CSP and 26.4% for solar PV¹⁰, a 5.1GW installation with a weighted average of these capacity factors translates to an effective supply of only 1.7GW¹¹ of dispatchable power. This is in contrast to PwC's modelling, which indicates on current trends a peak supply gap of dispatchable power of up to 7 GW by 2025. To fill this gap, an estimated 21 GW¹² RE installed capacity is required by 2025, significantly above the current available pipeline of new build projects nationally and indicating a large gap that the mining sector can help to close.

There is a significant opportunity for the mining sector to contribute to stable electricity supply at a national level while meeting the growing pressures of ESG and a low carbon economy. Such investments are not only best practice, but are also considered viable and commercially attractive.



7. Minerals Council Fact and Figures 2021

8. <https://www.mineralscouncil.org.za/downloads/send/16-featured/1875-facts-and-figures-2021>

9. Mining weekly article, creamer media; Miners gather amid surging demand for critical minerals and fiercely rising ESG demands.

10. Statistics of utility-scale power generation in South Africa in 2020, CSIR Energy Centre, v2.0, March 2021

11. Average of the three listed capacity factors is 32.87%. Multiplied by 5.1GW gives 1.67GW effective supply

12. $7\text{GW}/32.87\% = 21.3\text{GW}$

From compliance to value creation

The term 'ESG' may be one of the latest buzzwords related to business and sustainability, but the response to environmental, social and governance drivers is not new to the mining sector. However, the way in which mining companies in South Africa need to engage with these drivers is changing and requires a fundamental rethink in terms of the risks and opportunities presented by these drivers and underlying, systemic changes. Businesses need to actively avoid the temptation to view ESG issues in a siloed and compliance-based manner, and instead adopt an integrated, value-led approach; this is because ESG matters ultimately determine the levers of future value. ESG-related risks and opportunities are also interlinked and can pose an existential threat or suggest strategic differentiator/s.

Legislation has driven response to ESG matters – but it is only the start

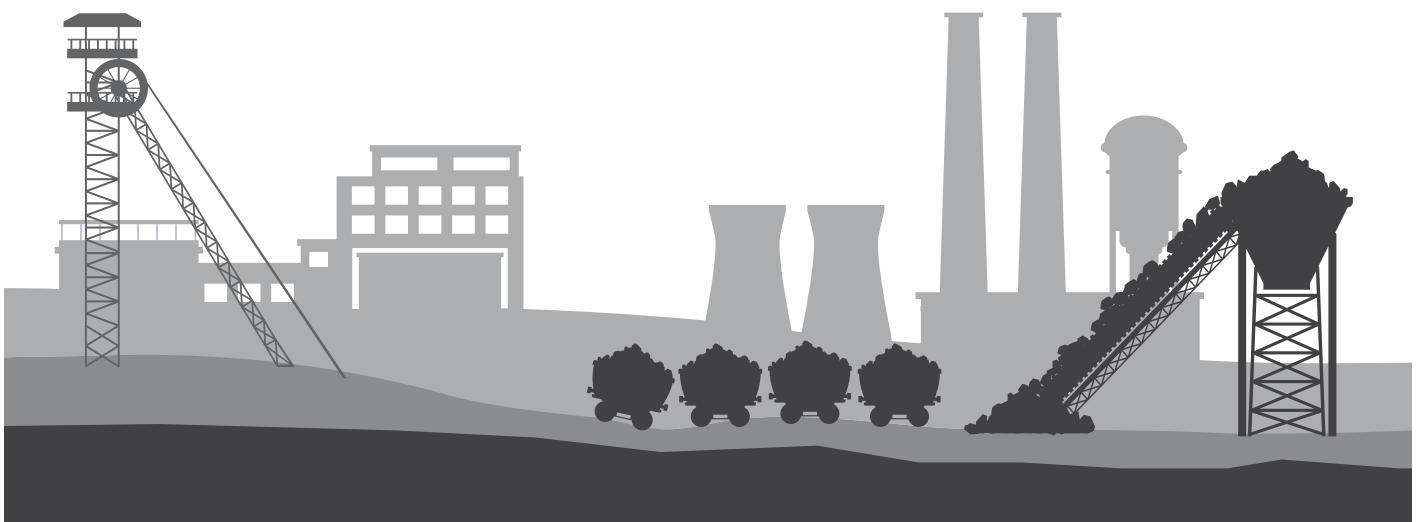
The legislative landscape in South Africa has evolved over time, with increasing legislation focusing on the way mining companies govern themselves and the impact they have on employees, communities and surrounding environments.

This legislative landscape governing mining in the country began with a focus on legislating who owned the rights of access to minerals (e.g. Mining Titles Registration Act 1967, Diamonds Act 1986) to include considerations around the health and safety of employees (Mine Health and Safety Act 1996 (MHSA) and impacts on the environment (NEMA, 1998 and NWA, 1998). These legislative requirements have over time focused on more specific components under each of the ESG 'pillars', including expanding to how companies think longer-term about their employees and communities through their social and labour plans, and to the need to measure and report on greenhouse gas emissions.

Examples of legislative ESG components mining companies have been required to consider in South Africa

- Environmental impact assessments required as part of the National Environmental Management Act (NEMA)
- Water use licences required for use and discharge of water under the National Water Act (NWA)
- King IV requirements for JSE listed companies
- Social labour plans required as part of the Mineral and Petroleum Resources Development Act (MPRDA)

While updates to legislation have driven the responsible business agenda for the mining industry, embedding ESG into an organisation is broader than compliance with legislation, it centres on the long term value that mining companies create. This is increasingly the focus of stakeholders.



Companies are moving toward effective response to ESG-related drivers

Stakeholders, including investors, customers, regulators and non-profit organization (NGOs), are increasingly demanding greater transparency concerning performance pertaining to material ESG issues. The balance between value creation and value erosion is shifting as the sustainability and social performance expectations evolve.

The image below illustrates the path that companies may typically follow in developing a mature response to ESG matters – namely to preserving and creating value for the enterprise itself as well as the shared value for broader stakeholders. Importantly, there is no defined end-point to embedding ESG issues, rather this should be viewed as a continuous journey, with a focus on maintaining a stable and thriving society and economy within which to continue innovating business into the long term.



Source: PwC

The table that follows provides practical examples of what such a transformative journey looks like. This is not an exhaustive list but rather aims to illustrate in principle what ‘leading’ means: in order to simplify this we have grouped examples of compliance (must do) and obligated (expected to do) responses together under ‘Business as usual’ (BAU), efficiency and transparency as building incrementally on BAU, and leadership as the transformational actions needed to drive long term viability and value creation.

Importantly, we note that practices are rapidly evolving, and therefore actions that are seen as transformative at first, quickly become considered incremental, and ultimately shift to be business as usual as they become the norm, much like we saw with the digital revolution. This illustrates the need for mining companies to act quickly to ensure their long term viability, while continuously reinvesting in their continued progress.

A review of the annual reports of mining companies in South Africa points to a conclusion that the majority can either be classified in the compliance or obligation phase in their ESG integration journey. For example, many mining companies now report on their carbon emissions and this evidence suggests that they are ‘leading’ on the climate change response agenda, meanwhile, reporting such emissions has in reality become a basic requirement of investors and regulators.

To demonstrate actual leadership companies need to demonstrate how their long term business strategies are evolving from trying to achieve efficiencies to considering the increasing risks and opportunities – broader than just climate change – outside of their traditional ways of operating. Stakeholders are essentially asking companies to demonstrate how their businesses will be viable and able to create shared value between people, planet and profit rather than to just maintain this value or erode it in the future.

Stages of ESG integration	Environmental related examples	Social related examples	Governance related examples
Business as usual	<p>Compliance with limits set in licences and permits such as air or water quality under the National Environment Management: Air Quality Act 39 of 2004 (NEMAQA) or NWA.</p> <p>Calculating and reporting scope 1 and 2 GHG footprint data.</p>	<p>Complying with regulations such as development of SLP and safety requirements to reduce LTIs and fatalities.</p> <p>Electrostatic discharge (ESD) and associated programmes that focus on upskilling communities in terms of mining related skills.</p> <p>Achieving diversity targets in terms of meeting B-BBEE</p>	<p>Existing departments or committees such as Social and Ethics Committee (SEC) are given responsibility for driving ESG with minimal additional resources.</p> <p>Continued digitisation of the business to improve governance, efficiencies and security.</p>
Incremental and focused on improving the 'business of today'	<p>Identifying efficiencies in processes to reduce use of resources (water, energy) and reduce waste generated (tailings, water discharged)</p> <p>Piloting of new technologies such as renewables. An example is Anglo American launching a prototype of the world's largest hydrogen-powered mine haul truck¹³</p> <p>Holistic climate change strategy that sets mitigation targets around scope 1, 2 and 3 GHG footprints as well as identifying climate related risks and opportunities such as Harmony Gold Mining company committing to Science Based Targets¹⁴ and releasing its TCFD report¹⁵.</p>	<p>Collaboration and partnering with communities to minimise business disruptions such as strikes.</p> <p>Focus on indicators that illustrate job satisfaction such as wellbeing, health and living wages for employees</p> <p>Broader diversity and inclusion initiatives inclusive of sexual orientation and people with disabilities.</p>	<p>Business strategy that examines how current operations can be improved to achieve operational efficiencies while essentially optimising business as usual.</p> <p>Establishing executive level ESG positions (e.g. CSO) and supporting teams to drive this agenda forward.</p> <p>Linking remuneration to ESG Key Performance Indicators (KPIs) such as Gold Fields incentivising management with ESG targets since 2017.</p> <p>Calculating and reporting on impact as an outcome and not as a spend value – as rands spent rarely equates to genuine/felt impact.</p>
Transformative and focused on positioning for 'business of tomorrow'	<p>Elimination of waste such as mining operations that have no need for a tailings facility or that have closed systems that ensure no discharge of wastewater.</p> <p>Mining of commodities that support a transition, such as Sibanye Stillwater announcing its green metal strategy¹⁶.</p> <p>Restorative mining techniques that transform post mining environments into supporting economically viable livelihoods rather than simply grazing land</p>	<p>ESD and associated skills programmes that provide employees and communities with skills for the future not directly related to mining</p> <p>Transformation of quality of life for employees outside of work due to changes in business processes. This could include improved employee health and wellbeing due to innovations such as using electric vehicles underground to reduce emissions as well as fatigue from vibrations associated with combustion engined vehicles.</p>	<p>Business strategy that radically challenges the current business model of mining (what, where and how) using future world scenarios.</p> <p>Regional collaboration and information sharing to manage environments and societies as a whole rather than in a localised manner around direct mining operations such as the MOU signed between Exxaro Resources, Seriti Resources and Eskom laying out their intention to pursue, cooperatively and individually, the development of renewable energy projects to lower their carbon footprint at their operations and in doing so, aiming to create employment and re-skilling opportunities for communities living and working at and around their operations¹⁷.</p>



13. Anglo American Limited. 2021. Climate Change Report 2021. [accessed: 03/08/2022] <https://www.angloamerican.com/~media/Files/A/Anglo-American-Group/PLC/sustainability/approach-and-policies/environment/climate-change-report-2021.pdf>

14. Science based targets. 2022. Companies taking action. [accessed: 03/08/2022] <https://sciencebasedtargets.org/companies-taking-action>

15. Harmony Gold Mining Company Limited. TCFD report 2020.

16. Sibanye-Stillwater, 2021. Integrated Report 2021

17. Exxaro Press Releases. Exxaro and Seriti Resources Join Forces With Eskom in Realising A Just Energy Transition to a Low Carbon Future in South Africa. 26 October 2021. <https://www.exxaro.com/media-and-insights/press-releases/exxaro-and-seriti-resources-join-forces-with-eskom-in-realising-a-just-energy-transition-to-a-low-carbon-future-in-south-africa/>



Embedding an ESG response is a journey, and not a destination

Mining companies have historically responded to the parameters within E, S and G in a siloed manner, focusing on specific requirements associated with each of these pillars. This response has been primarily driven by changes in the legislative landscape. However, increasingly, they are being driven by a broader group of stakeholders to respond in a way that considers the interlinkages between the different components through an overall ESG lens that focuses on long term value creation, broader than just financial value creation. In addition, they should be driven by the imperative to strengthen the fragile and distressed socio-economic and environmental systems upon which they depend (i.e. their future operating context).

Using the above categories, there are mining companies that demonstrate a move beyond BAU in response to one or more ESG matters; but few can be viewed in the overall transformational category yet. For that reason, we argue that there is still more to do. Companies in the mining sector fundamentally need to redesign ways of doing business, from what they mine, how they mine and how this ensures that not only their businesses – but also their employees, communities and environment – are resilient and future fit for a world that will look vastly different to what it does today. This view is not intended to detract from the immense effort already focused on responding to stakeholders calling for ESG issues to be embedded throughout a business, but rather to encourage further resources to be allocated to double down on the sector's response to ESG drivers and to demonstrate brave leadership in realising long-term viability and shared value.

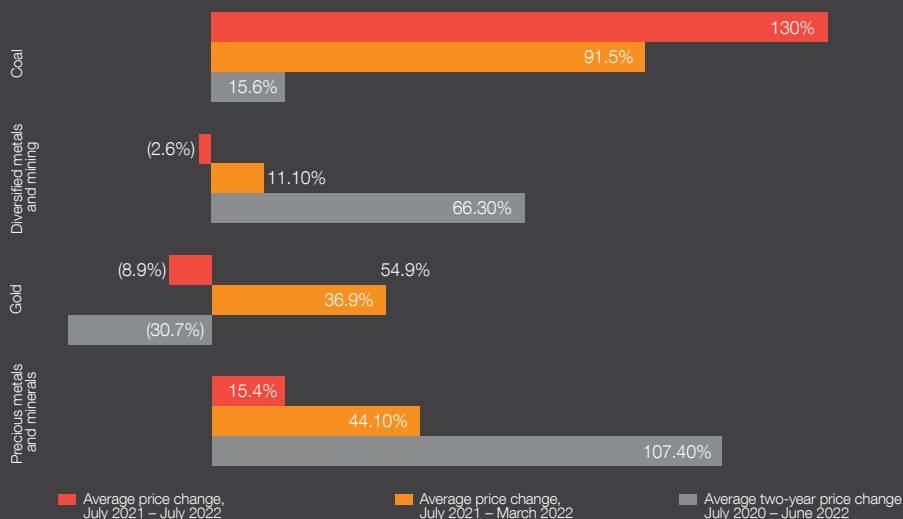


Industry and market analysis

The last 12 months saw significant volatility across key commodities, driven primarily by macroeconomic uncertainty, increasing interest rate environments and strengthening dollar prices.

The Russia-Ukraine conflict continues to have a profound effect on commodities, specifically in reference to record coal prices and performance of the JSE listed coal producers. In addition to coal, the price of nickel soared to \$100k p/tonne in early March in response to concerns around global nickel supply.

Figure 5: Average share price change (July 2021 – June 2022)



Source: S&P Capital IQ, PwC analysis*

The largest beneficiaries of these commodity price fluctuations are the JSE listed coal producers, especially Thungela Resources, with a c.470% year-on-year share price growth and was able to distribute a maiden dividend of over R8.2bn to shareholders, more than its total market capitalisation on listing in June 2021.

In general, PGM producers ended the period higher than the prior period in terms of average share price change despite a retraction in share prices to the end of the reporting period. That said, these average price changes could also be influenced by a number of announced or proposed transactions including the pursuit of RBPlats by Impala and Northam.

* Mere arithmetic average share price of JSE listed mining shares



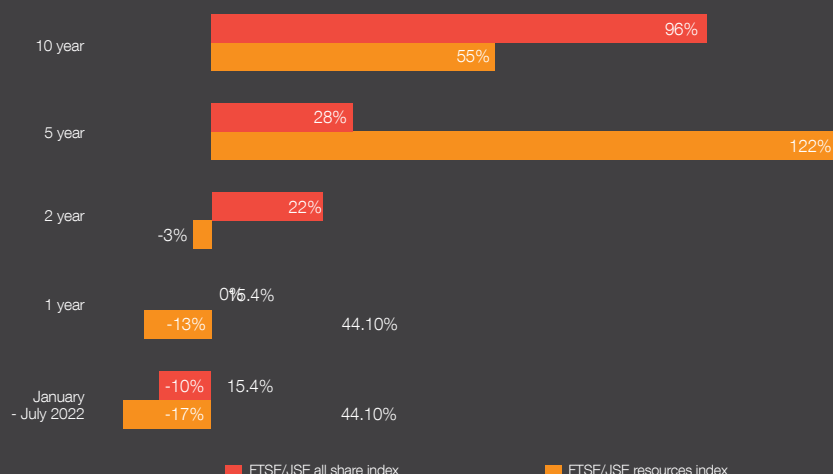


The gold sector globally experienced a sell-off towards the end of H1 2022, driven largely by the two decade record dollar appreciation (making gold more expensive for other currencies), multiple decade record inflation rates with increased interest rates as response and global recession fears. Despite the marked underperformance by the vast majority of JSE listed gold stocks, Gold Fields and Pan African Resources were still able to achieve positive share price gains of 16% and 14% (year-on-year) respectively.

The diversified mining companies have experienced a mixed bag of returns depending on their exposure to their underlying commodities.

Shareholder returns

Figure 6: Relative sector total shareholder return performance



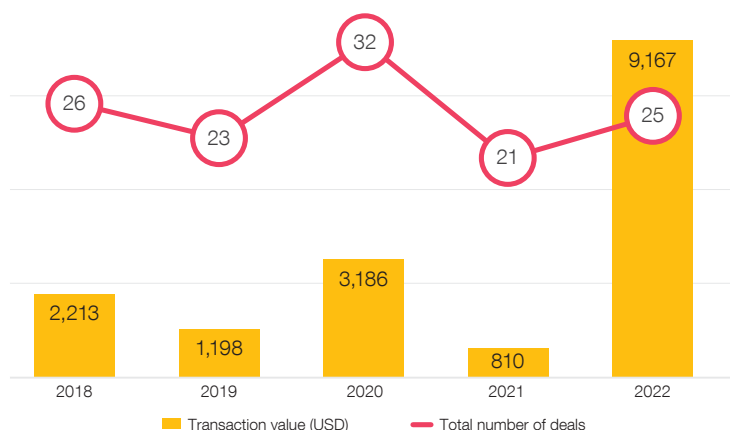
Source: S&P Capital IQ, PwC analysis

Mining continues to be an enigmatic industry in the South African context, having underperformed the JSE ALSI across all but one relative period (five year return), despite the strategic importance of the industry to the South African economy. However, South African mining companies continue to demonstrate commitment to delivering value to stakeholders, with many companies delivering record profits and dividends over the period.

South African mining M&A activity

Thanks to a reignited appetite for consolidation, the pursuit of diversification strategies as well as speculative acquisitions, 2021/2022 has proved to be a standout year in a M&A context. The number of transactions announced involving South African mining companies increased from a five year low, to a record deal value of over \$9bn across 25 deals (including three transactions with undisclosed values).

Figure 7: South African announced (disclosed) M&A transaction USD'm



Source: S&P Capital IQ, MergerMarket, PwC analysis

Gold and PGMs remain the largest deal drivers among South African mining companies, but in line with the global thematic, critical minerals deals continue to gather steam. Despite continued vigilance in capital outlay, South African mining companies recognise the need for consolidation to redevelop true African mining champions, portfolio incorporation of cleaner energy, critical minerals, and control over supply chain processes. Select deals which evidence these key themes include:

Goldfields and Yamana megadeal: At the end of May 2022, Gold Fields announced the \$6.7bn all stock acquisition of the TSE Listed gold producer Yamana, creating a top four global gold major, with a portfolio of 14 mines across four continents, with gold equivalent reserves of 81Moz a production pathway to 4.0Moz per annum. Yamana shareholders are set to receive 0.6 Gold Fields shares for every Yamana share held (39%), with Gold Field's shareholders ultimately holding 61% interest in the merged entity. This mega deal is set to be the largest mining deal in recent history, with total value equivalent to almost 90% of the previous four year deal values combined (\$7.4bn)¹⁸. Gold Fields believe that the Yamana acquisition provides a logical strategic fit that will result in long-term growth of the quality and value of the combined portfolio of assets, while maintaining capital discipline and optimising shareholder returns.

¹⁸. Announced values / values which have been made publicly available.



Sibanye continues to bolster through acquisitions: In addition to becoming the African consolidation jockey, the group continued its diversification strategy into battery metals, with a number of transactions concluded in the reported period, including some of the following highlighted deals:

- **Keliber Oy:** Following on from its initial investment of 20% in the previous reporting period, Sibanye announced a series of transactions involving Keliber Oy, a Finnish based Lithium project, taking the groups shareholding to c.86% (c.\$357m) and solidifying the first strategic step by Sibanye-Stillwater into the 'battery metals' sector
- **Pioneer:** Sibanye subscribed for 145.9m new shares in Pioneer Ltd, the Australia based company engaged in mineral exploration, to raise a total of AUD 95.6m. The share subscription represents a stake of 7.1% in Pioneer.
- **Sandouville nickel processing facilities:** announces that on 4 February 2022 it completed the acquisition of the Sandouville nickel hydrometallurgical processing facility from Eramet SA
- **Mega-Merger idea:** The idea of a mega-merger between Africa's three largest gold producers (Sibanye, AngloGold and Goldfields) was explored by Sibanye, in order to rival major international players, while avoiding the threat of becoming takeover targets.



AngloGold Ashanti continues to expand its global gold portfolio: AngloGold Ashanti acquired the remaining 80.50 stake of Corvus Gold Inc, the Canada-based gold mining company for a total consideration of \$370m. The acquisition of Corvus provides AngloGold Ashanti with the opportunity to establish, in the medium and longer term, a low-cost, long-life production base, and consolidation within Nevada.

ARM acquires and rejuvenates Bokoni Platinum mine: African Rainbow Minerals announced the acquisition of the 100% stake in Bokoni, a South African platinum mine jointly owned by Anglo American Platinum (49%) and Atlatsa Resources (51%), in a cash deal for \$221m. For ARM, this acquisition provides access to scale its PGM portfolio and increase global competitiveness. This acquisition provides the Bokoni mine with the necessary technical and operational expertise, as well as access to funding in order to restart operations at the mine. The acquisition will form part of ARM's new subsidiary, African Rainbow Mineral Platinum, which will be rebranded as ARM Bokoni Mining Consortium, which will own an 85% stake, with a ESOP SPV local community SPV and black industrialist SPV each owning 5%.

Northam and Implats pursuit of Royal Bafokeng Platinum:

- **Impala Platinum:**
 - In October 2021, Implats and RBPlat released a joint SENS announcement of the non-binding indicative proposal from Implats to acquire 100% of RBPlat. By late November, Implats owned 24.5% in RBPlats, and announced its firm intention to acquire the remaining shares not held in RBPlats, for a consideration of R150 per share. As a result, a mandatory offer was triggered in January 2022.
 - Towards the end of July, Implats had increased its total shareholding to 37.93% after several additional acquisitions.
- **Northam Platinum:**
 - In early November 2021, Northam announced the acquisition of a 32.8% interest in RBPlats from Royal Bafokeng Investment Holdings (with an option to increase holdings to 33.3%), for an aggregate purchase consideration of R17bn, representing R180.50 per RBPlat share. Northam subsequently increased shareholding in RBPlats to c.34.95% in December.
 - By the end of March 2022, the TRP ruled in favour of Northam's position that the alleged mandatory offer had not been triggered, and that the submission made by the RBPlats independent board alleging that Northam had possibly triggered a mandatory offer was dismissed.
- **Latest update:**
 - The competition commission at the end of April 2022 issued a positive recommendation to the TRP in relation to the Implats mandatory offer.

Is the extractive industry ready for the OECD's Pillar Two?

Pillar Two involves the introduction of a global minimum tax of 15% for multinationals with revenue greater than 750 million euros. There is a misconception in some quarters that extractive industries would be exempt from Pillar Two as a result of the potential exemption from Pillar One of the Organisation for Economic Co-operation and Development's (OECD's) Base Erosion and Profit Shifting (BEPS) 2.0 project. On the basis that there are no special concessions for extractive industries in Pillar Two, questions arise as to the expected application and impact of Pillar Two on extractives and mining houses.

BEPS background

The first iteration of the G20/OECD attack on Base Erosion and Profit Shifting (BEPS) started in 2013, aimed at addressing weaknesses in domestic and international tax rules that made it easier for multinational groups to shift taxable profits into low-tax (or no-tax) jurisdictions. While that project continues to run its course, the 2.0 version is essentially the result of further thought on the question of digitalisation.

It's probably appropriate to pause and debunk another misconception. BEPS-1 initially, and very briefly, referred to 'the digital economy', and created the impression that the focus of this aspect was essentially on tech-heavy groups and transactions (Netflix, Google, Amazon, Facebook, Uber, etc.). However, BEPS 2.0 in fact focuses on the impact of the digitalisation of the global economy in general, across all industries from services to manufacturing to mining. The point of departure is that many aspects of globalisation (across all industries) are substantially enhanced through digitalisation. Almost all business functions have become far more mobile and transferable as a result of digitalisation — from marketing to R&D to manufacturing to even strategic management and control. In summary, digitalisation has made it easier to locate high-value assets and functions in low-tax jurisdictions, thus defensibly justifying higher profit-allocations to those jurisdictions.

Against that backdrop, BEPS 2.0 seeks to:

- Pillar One – attach greater importance to one of the biggest business elements that is not mobile or transferrable, i.e., the consumer market.
- Pillar Two – temper the impact of low-tax jurisdictions by ensuring that all corporate profits are subject to a minimum corporate tax rate, currently proposed at 15%.

As previously stated, the current proposals indicate that the extractive industry will be excluded from Pillar One, however, there is no such exemption from Pillar Two.

Pillar Two operation

The endgame in Pillar Two is to determine whether a multinational should pay an additional 'Top-up Tax' on the profits in any country where its effective tax rate (ETR) is less than the proposed 15%. But, as with so many areas of taxation in the modern era, arriving at that simplistic end-result may be fraught with complexities in application and computation. Some key considerations are the following:

- Are there any exclusions in principle? Apart from non profit organisations and certain categories of investment funds and similar vehicles, no specific industries are expected to be exempt. On the question of size, the OECD's current proposals are to catch only groups with a consolidated global top-line revenue of EUR750M or more — but some countries are already suggesting that they would dispense with, or substantially reduce the threshold (and simply apply Pillar Two to most multinationals anyway).
- Whose figures would we use? For the sake of simplicity, all the relevant computations will be based solely on the multinational group's consolidated annual financial statements (e.g., reporting based on International Financial Reporting Standards, etc). Thus, specific in-country tax laws would be largely irrelevant. Importantly, the relevant input figures would be aggregated on a country-by-country basis, not entity-by-entity (e.g., if you have more than one subsidiary tax-resident in one country, the input figures will be aggregated for that specific country).
- How will the Top-up Tax be computed? Several adjustments are mandated in relation to many of the components leading up to the Top-up Tax determination. For example, ETR is determined as simply 'covered tax' divided by 'profit before tax', but both of these components are subject to potential adjustments, specific inclusions, and exclusions, etc. The bulk of the detailed Pillar Two work required by multinational groups would be in the areas of data collection, adjustments and computation.
- How will the Top-up Tax be collected? The Top-up Tax will be collected in one (or a combination) of three jurisdictions, namely, the country of either the ultimate parent company or the subsidiary with the low ETR, or other group companies that make payments to the low-taxed subsidiary; by means of three different collection mechanisms.

Several other uncertainties and complexities still need to be unpacked, such as implementation, timing, administration, compliance rules, and more.

Impact on extractives

As is the position for other multinational groups, the impact of Pillar Two on extractives and mining houses will largely depend on the countries they operate in, the applicable tax regimes and incentives, and the level of tax planning.

One of the main reasons the Top-up Tax would arise for an extractive group is the prevalence of marketing hubs in low-tax jurisdictions (with hubs often based in countries like Singapore, Switzerland, Luxembourg, and UAE).

Another reason would be tax incentives or beneficial tax regimes in relation to the extractive industry in specific jurisdictions — whether offered under statute or agreed and guaranteed by particular tax authorities. In such instances, the Top-up Tax could apply, for example, where a tax incentive or an accelerated capital allowance results in the ETR for a particular territory falling below the global minimum tax rate. This may in essence reduce or eliminate the benefit of the incentive. For example, suppose the effective tax rate of an extractive group in a particular jurisdiction is 25% before applying a tax incentive, but 13% after utilising the tax incentive. In this case, the global minimum tax could then apply to increase the effective tax rate to 15%, reversing some of the benefits the incentive provides.

When considering the current economic environment within the South African extractive industry, specifically the low levels of capital investment seen in the past few years, most mining companies — when considering the South African jurisdiction's share of the overall taxes — do not have real tax shields left that would reduce their current ETRs below the global minimum tax rate. We do however caution that, with an increase in deals activities and project expansions within the South African extractive industry, there is a possibility that the qualifying South African mining companies' ETRs could be reduced by the accelerated capital allowances afforded, potentially resulting in a Top-up Tax payable.

It is worth noting that whatever the aggregated average ETR is for the overall group as a whole (i.e., irrespective of whether it might be well above 15%, the ETR is likely to increase), the impact of Pillar Two is to target only the territories with a lower ETR without any relief for the fact that the group might have substantially higher ETRs in other territories.

Having said that, the tax community globally is eagerly waiting for OECD to release the Pillar Two Implementation Framework (expected before the end of the year) with the possibility of the safe harbour(s) that would reduce administrative burdens, where particular operations of a multinational group are almost certain to be taxable above the minimum rate. The final design of any safe harbours, as well as other aspects of administration, compliance, and coordination, is expected to be reflected in this Implementation Framework.

Operational readiness

The impact of Pillar Two on the end-to-end operations of the tax function is likely to be significant. In the run-up to implementation, companies will need the data to forecast and model the expected impact on the group's overall ETR (and to plan accordingly). And, upon enactment, groups will need the data to maintain reporting and compliance requirements. In addition to tax, there are several key stakeholder groups within the organisation, including finance, tax and treasury departments, that will be impacted by the impending changes. One of the common challenges many companies will face is a gap in resources to address the questions and challenges across four broad categories: People, Process, Data and Technology.

Are you #Pillar2ready?

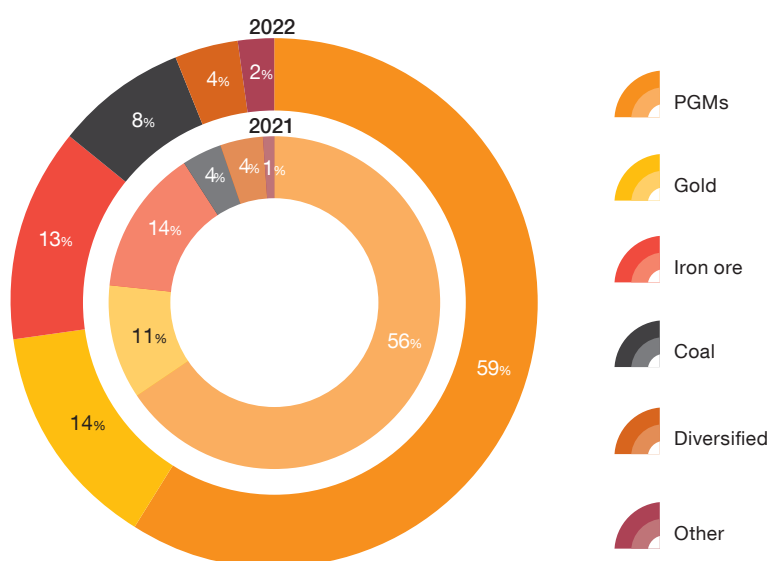
Preliminary experience is already showing that unexpected results are produced, even in areas where the perceived ETR appears safe — we recommend that multinational groups within scope should understand, evaluate, and model the impacts of Pillar Two. Including, but not limited to, assessing the additional data, reporting and compliance requirements, evaluating the existing technology ecosystem and capabilities, establishing processes and controls, preparing and training resources, and managing stakeholder expectations.



Financial performance

Market capitalisation

Figure 8: Market capitalisation per commodity



Source: S&P Capital IQ, Iress, PwC analysis*

Total market capitalisation decreased in the current year to R1,303bn from R1,470bn.

This total is a R166m (11%) year-on-year (YOY) decrease from 2021, mainly attributable to the decrease in market capitalisation of companies within the Iron Ore and PGMs sectors.

PGMs and gold accounted for 73% of the market capitalisation (2021: 76%) of the companies analysed this year. This dominance of precious metals is well above the global Top 40 percentage of 20%.

Fears of a recession and ongoing COVID-19 lockdowns in China, during the second half to June 2022, resulted in a decrease in iron ore prices. PGM prices were also under pressure due to production recovery and semiconductor shortages placing pressure on vehicle supply. The lower prices resulted in a significant decrease in market capitalisation for the large PGM producers.

Anglo American Platinum Limited lost almost 6% – or more than R40 bn of its market capitalisation due to said fluctuations in commodity prices.

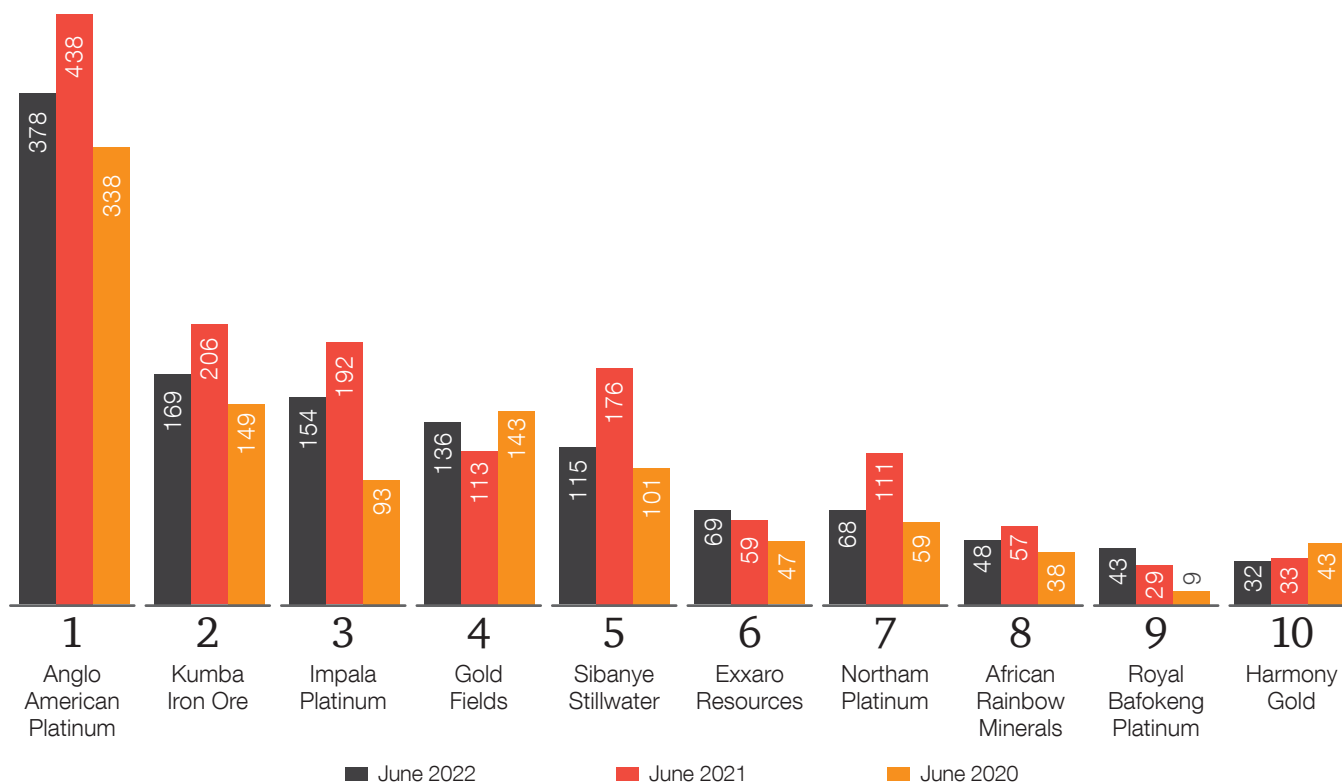
Energy prices, including the price for export coal reached record highs on the back of supply constraints and the effect of the conflict in the Ukraine. This trend continued after June 2022 and a company like Thungela Resources would have been included in the Top 10 if measured in August.

A new entrant to the current year SA Mine is Southern Palladium Limited which completed its listing on the Australian Stock Exchange and the Johannesburg Stock Exchange on 8 June 2022.

* Please note that Coal has been separately carved out with Exxaro Resources being removed from Diversified together with Thungela Resources and Salungano Group from Other.



Figure 9: Market capitalisation of the top ten companies, 30 June 2022 (R'bn)



Source: S&P Capital IQ, Iress, PwC analysis

The composition of the top ten companies remained consistent with the prior year.

Figure 10: JSE Mining Index vs HSBC global mining index



Source: IRESS, PwC analysis

There is a relatively good correlation in USD terms between the HSBC Global Mining Index and the JSE Mining Index in USD terms. The JSE Mining Index outperformed the HSBC Global Mining Index for parts of the year due to its precious metal bias. At year end, as a result of lower PGM prices, the JSE was weaker in relative terms.

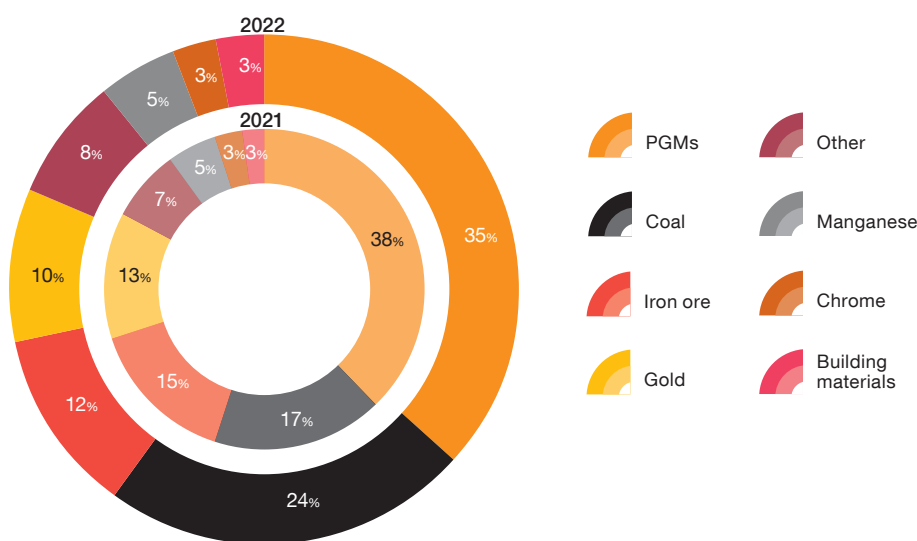
Revenue

Total revenue for the industry in rand terms grew by 10% to June 2022 even though production only saw a 5% increase. This was once again driven by the excellent commodity prices that were realised in the market. Coal was the largest contributor in the revenue growth representing a staggering 59%. Chromium came in second with revenue growth of 24%.

Gold and Iron Ore showed a reduction in revenue of 12% and 8%.

The PGM Basket remains the highest contributor to the revenue with Coal coming in second. The significant increase in coal sales (R's) was due to the record high thermal coal prices which more than compensated for the 10% decrease in supply, mainly as a result of Transnet Freight Rail limitations.

Figure 11: Percentage mining revenue per commodity, 2021 vs 2022



Source: Stats SA, PwC analysis

Coal was the largest contributor in the revenue growth representing a staggering 59% despite a 10% decrease in production.

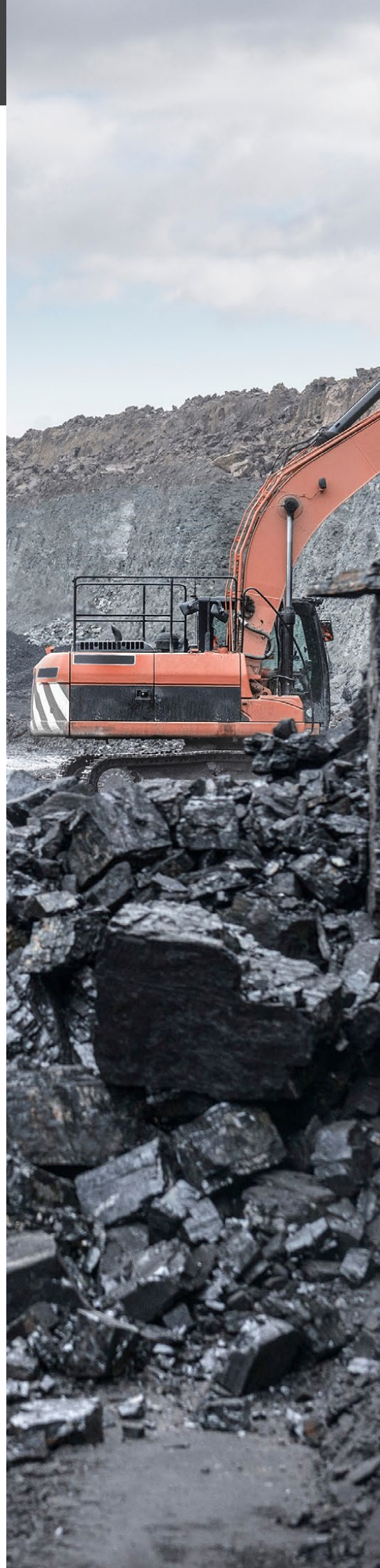
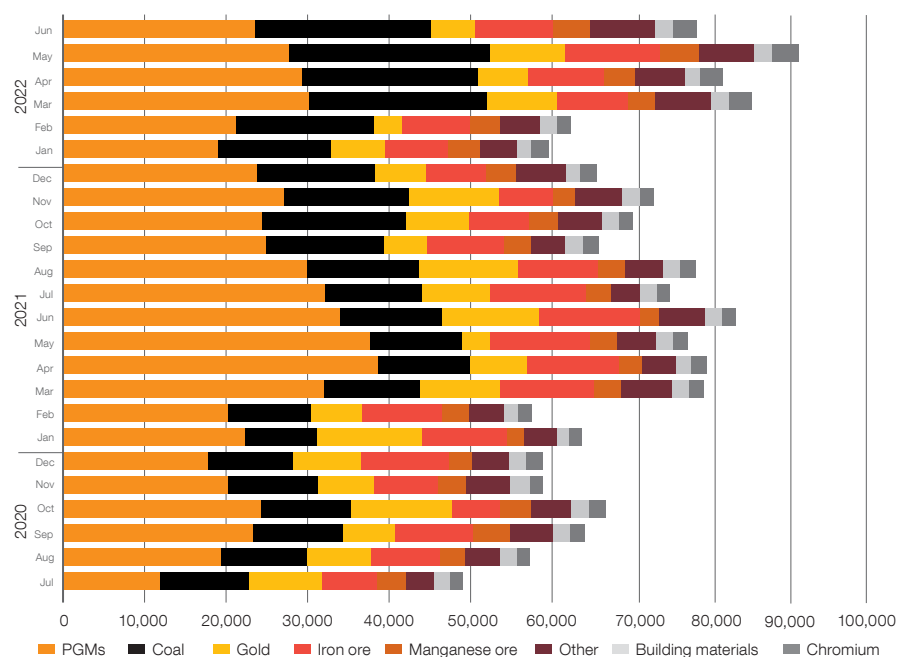


Figure 12: Monthly mining revenue per commodity

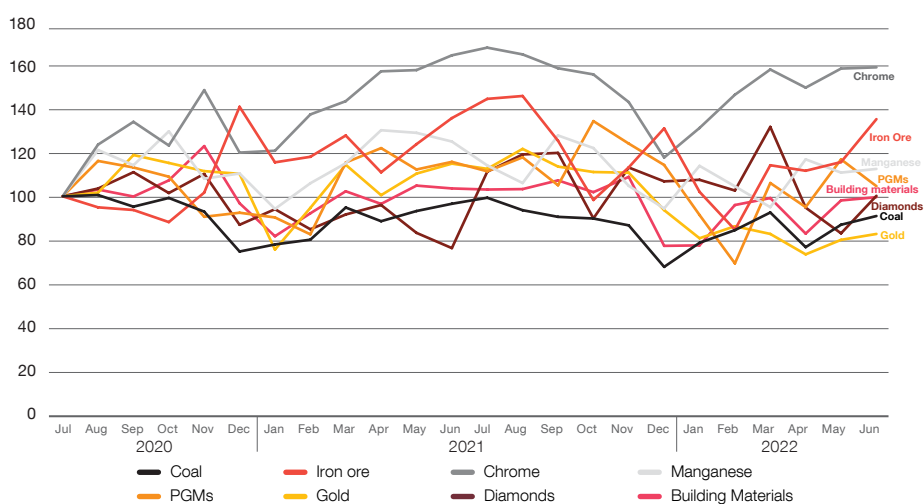


Source: Stats SA, PwC analysis

Rand price volatility drove the monthly movement in prices with a continuing upward trend.

Production

Figure 13: Indexed monthly production per commodity



Source: Stats SA, PwC analysis

The current period only saw a production increase by 5% YOY. Apart from Coal and Gold most of the large revenue generating commodities saw an increase of supply as the comparative period was still impacted by COVID-19 shut downs or ramp ups.

Production in the second half of the year was impacted by severe rainfall in the summer rainfall areas, which impacted especially on open pit operations, Transnet Freight Rails constraints and the protracted strike at Sibanye Stillwater's Gold mines.

Prices

By far the biggest star on commodity prices is coal – reaching a never seen before increase of 403% over the two year period. The large coal price increase has been driven by a long term move away from coal production and accentuated by the Russia-Ukraine conflict that impacted global energy prices.

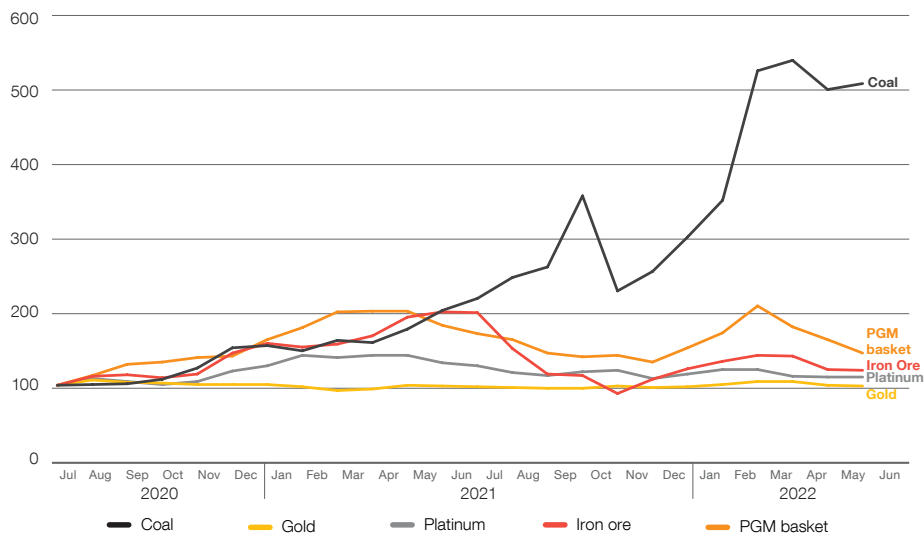
Iron ore increased only by 11% on the back of the strong prices already realised in the previous cycle.

Gold prices have remained fairly constant over the period only showing a 1% decrease in the two year period.

The rand PGM basket price increased by 43%, with Rhodium increasing by 65% as original equipment manufacturers ramp up their demand again.

Up until March 2022 Rhodium and Nickel saw respectively a 127% and 183% increase from July 2020.

Figure 14: Commodities at US-dollar-indexed prices



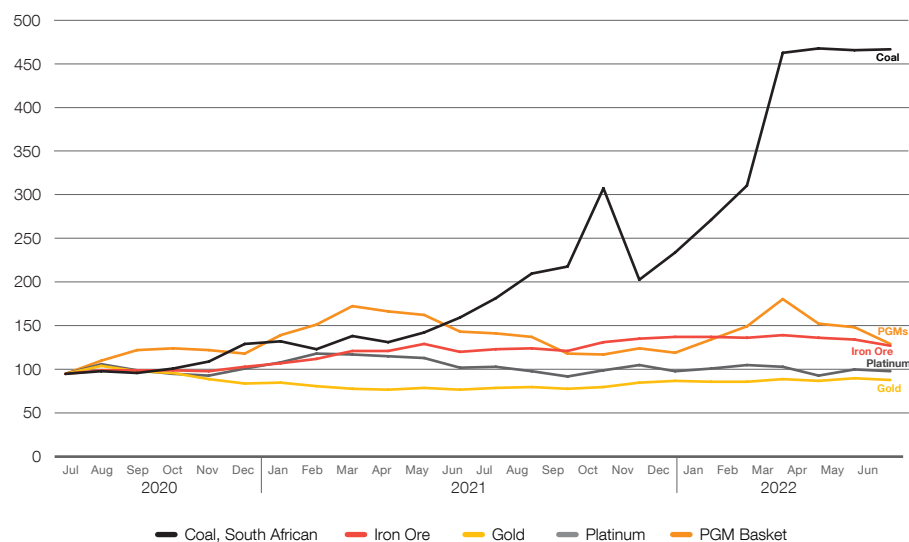
Source: World Bank, PwC analysis

By far the biggest star on commodity prices is coal – reaching a never seen before increase of 403% over the two year period.





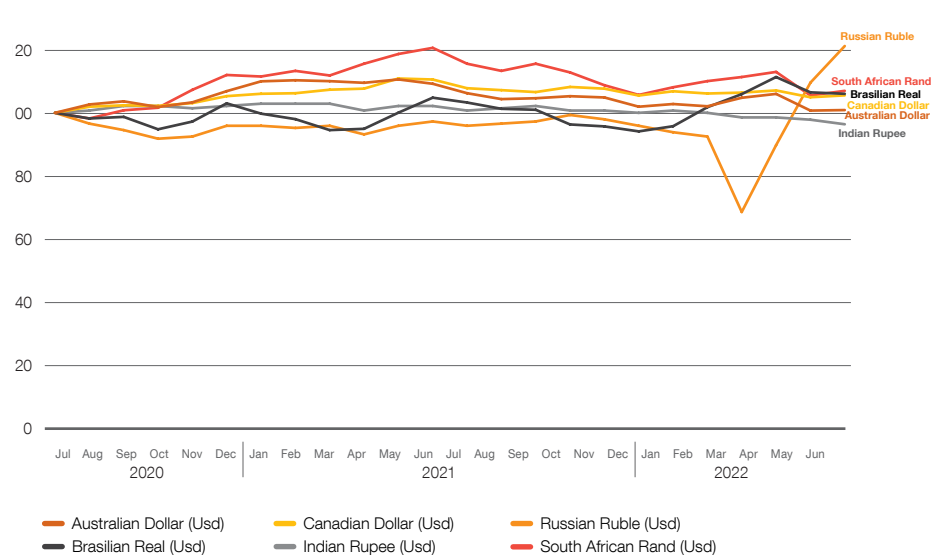
Figure 15: Commodities at rand-indexed prices



Source: World Bank, PwC analysis

The rand was significantly weaker in the period compared to the previous period. Since end of June 2022 it slumped to a low that was seen last in July. The weaker rand will support mining revenues, yet will add to already above inflation input costs in the medium term.

Figure 16: Currencies indexed against the US dollar



Source: EquityRT, PwC analysis

Cash flows

Cash flows	Current year Rbn	Prior year Rbn	Difference Rbn	% change
Cash generated from operations after working capital changes	327	322	4	1%
Other	2	1	1	183%
Income taxes paid	(78)	(68)	(10)	14%
Net operating cash flows	251	255	(4)	(2%)
Purchases of Property, plant and equipment	(72)	(53)	(19)	36%
Free cash flow	179	202	(23)	(11%)
Cash flows related to other investing activities				
Purchase of investments	(25)	(3)	(22)	740%
Sale of investments	6	9	(3)	(36%)
Other	3	0	3	(1500%)
Net other investing cash flows	(17)	6	(23)	(370%)
Cash flows related to financing activities				
Proceeds from ordinary shares issues	0	4	(5)	(107%)
Proceeds from interest-bearing liabilities	49	23	27	117%
Repayment of interest bearing liabilities	(47)	(57)	10	(17%)
Distribution to shareholders	(190)	(78)	(112)	143%
Other	(4)	(2)	(1)	50%
Net financing cash flows	(191)	(110)	(82)	74%
Net increase/(decrease) in cash and cash equivalents	(29)	98	(127)	(129%)

Source: PwC analysis

Free cash flows

Free cash flow is defined as cash from operating activities less purchase of property, plant and equipment (PPE). It provides an indication of a company's ability to settle debt, pay dividends and fund acquisitions. Free cash flows have decreased from the prior year with 11% due to the increase in taxes paid and capital expenditure incurred despite the high level of Cash from operations.

Cash generated from operations after working capital changes increased by 1% from the already high levels of the previous year. Income tax paid increased by 14% or R20bn as unredeemed capital expenditure and tax losses were largely fully utilised. Capital expenditure grew with a net increase of 36% or R19bn.

Other investing Cash flows

Significant increase in the purchase of investments was seen in the Platinum sector of R20bn which is largely represented by the purchase of the interest in Royal Bafokeng Platinum Limited by Impala Platinum Holdings Limited and Northam Platinum Limited.

Financing activities

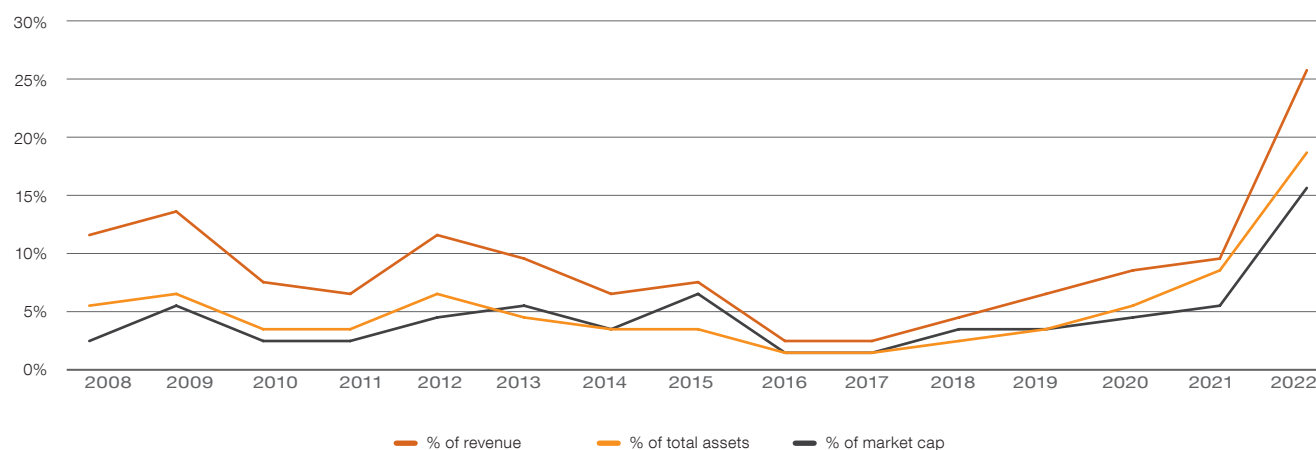
With debt levels at sustainable low levels, companies used the opportunity to restructure debt portfolios for the long term.

Distribution to shareholders

Dividends are generally paid after the financial year end. In the current year we saw distribution to shareholders increase to R190bn (2021: R76bn) on the back of improved free cash flows. These distributions included share buybacks for a number of entities.

Stellar dividends of R79.5bn (2021: R12.08bn) and R43.5bn (2021: R25.78bn) were paid by Anglo American Platinum Limited and Kumba Iron Ore Limited respectively. Total distribution to shareholders exceeded long term historic metrics on all accounts as shareholders shared in the value generated over the last 2 years.

Figure 17: Distribution to shareholders ratios



Source: PwC analysis

Income statement

Income statement	Current year Rbn	Prior year Rbn	Difference Rbn	% change
Revenue from ordinary activities	747	735	12	2%
Operating expenses	(369)	(330)	(39)	12%
Metal purchases	(81)	(106)	24	(23%)
EBITDA	297	299	(2)	(1%)
Impairment charge	(6)	10	(16)	(155%)
Depreciation charge	(35)	(33)	(2)	5%
Profit/(loss) before interest and tax	257	277	(20)	(7%)
Net interest	(2)	(5)	3	(59%)
Tax expense	(74)	(88)	15	(16%)
Equity accounted income	20	22	(2)	(8%)
Discontinued operations	0	2	(2)	(100%)
Net profit	202	208	(6.4)	(3%)
EBITDA margin	40%	41%	1.0%	
Net profit margin	27%	28%		

Source: PwC analysis

Revenue	Current year Rbn	Prior year Rbn	Difference Rbn	% change
Gold	78	84	(6)	(7%)
PGMs	450	436	14	3%
Other mining	51	49	2	4%
Iron Ore	81	112	(31)	(27%)
Coal	88	54	34	62%
Total	747	735	12	2%

Source: PwC analysis

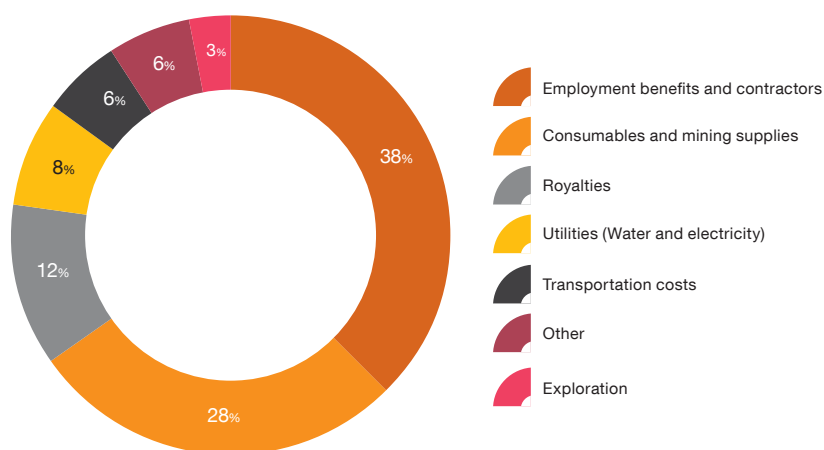
Gold mining companies have seen a decrease of 7% of y-o-y revenue whereas the Iron Ore sector saw a 27% decrease. Gold revenue was largely impacted by the decreased production while iron ore was mainly impacted by lower prices.

The increase in coal revenue was as a result of the significant increase in export prices, despite the more than 20% decrease in export volumes as a result of logistical constraints. Although the RBCT reference prices have increased by multiples more, domestic coal sales are often made in terms of long term off take agreements, not impacted by the export price.

Operating expenses

Operating expenses, excluding metal purchases, increased by 12% reflecting the increased production of 5% and above inflation increases in energy cost (Electricity and fuel), chemicals and labour cost.

Figure 18: Composition of operating expenses



Source: PwC analysis

Employee benefits and contractors

This category has seen a 6.5% increase from the prior year and remains the largest contributor to expenses for these companies.

Royalties

For companies that disclosed royalties, royalties increased by 7% despite a revenue increase of only 3%. The higher increase is as a result of higher royalty percentages applied on the back of higher profitability.

Impairments

Impairment charges during the current year increased to R5.7bn from the previous year impairment reversals. Impairment charges of R4.4bn was recognised by Harmony Gold Mining Company Limited on their Tshepong Operations.



EBITDA

The average EBITDA margin of the mining companies included in this analysis was 40%, a 1% decrease from the previous period. Although this margin is still well above the long term average in South Africa for the last 10 years of 27%, early signs of cost pressure which will translate into margin pressure are being seen.

EBITDA	Current year R' billions	Prior year R' billions	Difference R' billions	% change	EBITDA Percentage Current Year	EBITDA Percentage Prior Year
Gold	4	19	(15)	(80%)	5%	22%
PGM's	229	187	42	23%	51%	43%
Iron Ore	43	73	(30)	(41%)	53%	65%
Other Mining	21	21	0	0%	16%	13%
Coal	39	8	31	400%	45%	14%
Total	336	307	29	9%		

Source: PwC analysis

Tax expense

The aggregate tax expense for the mining companies was R74bn with an effective tax rate of 29%. This represents a decrease from the previous year of 16%.

Net profit/(loss)

Net profit decreased by 3%. Although the current year net profit move was impacted by impairment differences and deferred tax expense changes, the underlying cost pressure, which will erode margins, is starting to show.



Financial position

Financial position	Current Year Rbn	Prior Year Rbn	Difference Rbn	% change
Current assets				
Cash and cash equivalents	181	194	(12)	(6%)
Inventories	120	125	(5)	(4%)
Receivables and other current assets	89	89	(0)	0%
Total current assets	391	408	(17)	(4%)
Non-current assets				
Mining and production assets	516	455	61	13%
Investments	135	93	42	45%
Other Non-Current Assets	31	40	(9)	(23%)
Total non-current assets	681	588	93	16%
Total assets	1,072	996	76	0
Share capital & reserves				
Share capital and reserves	688	621	66	11%
Total equity	688	621	66	11%
Current liabilities				
Accounts payable and other liabilities	156	155	0	0%
Interest bearing liabilities	4	15	(11)	(71%)
Total current liabilities	160	171	(11)	(6%)
Non-current liabilities				
NC Interest bearing liabilities	71	58	12	21%
Deferred taxation liabilities	88	79	9	11%
Other non-current liabilities	66	67	(1)	(1%)
Total non-current liabilities	224	204	20	10%
Total liabilities	384	375	10	3%
Total equity and liabilities	1,072	996	76	13%

Source: PwC analysis

Key ratios

The financial and liquidity position of the industry is extremely strong providing it with an opportunity to implement strategy.

Key ratios	Current year	Prior year
Market capitalisation to net asset value (times)	1.9	2.4
Net borrowing (R'bn)	(106)	(120)
Gearing percentage	(13%)	(16%)
Solvency ratio (times)	2.8	2.7
Current ratio (times)	2.4	2.4
Acid ratio (times)	1.7	1.7
Net borrowings to EBITDA	(0.4)	(0.4)

Source: PwC analysis



Investing for sustainability

The mining industry in South Africa increased capital expenditure to support long term sustainability while continuing to reward stakeholders in the form of dividends.

The mining industry was faced with several challenges during the past 12 months which included capacity constraints from a railway perspective resulting in a loss of potential export quantities, increased pressure on the power grid leading to increased production losses as a result of load-shedding and significant cost inflationary pressure which lead to increases in overall production costs.

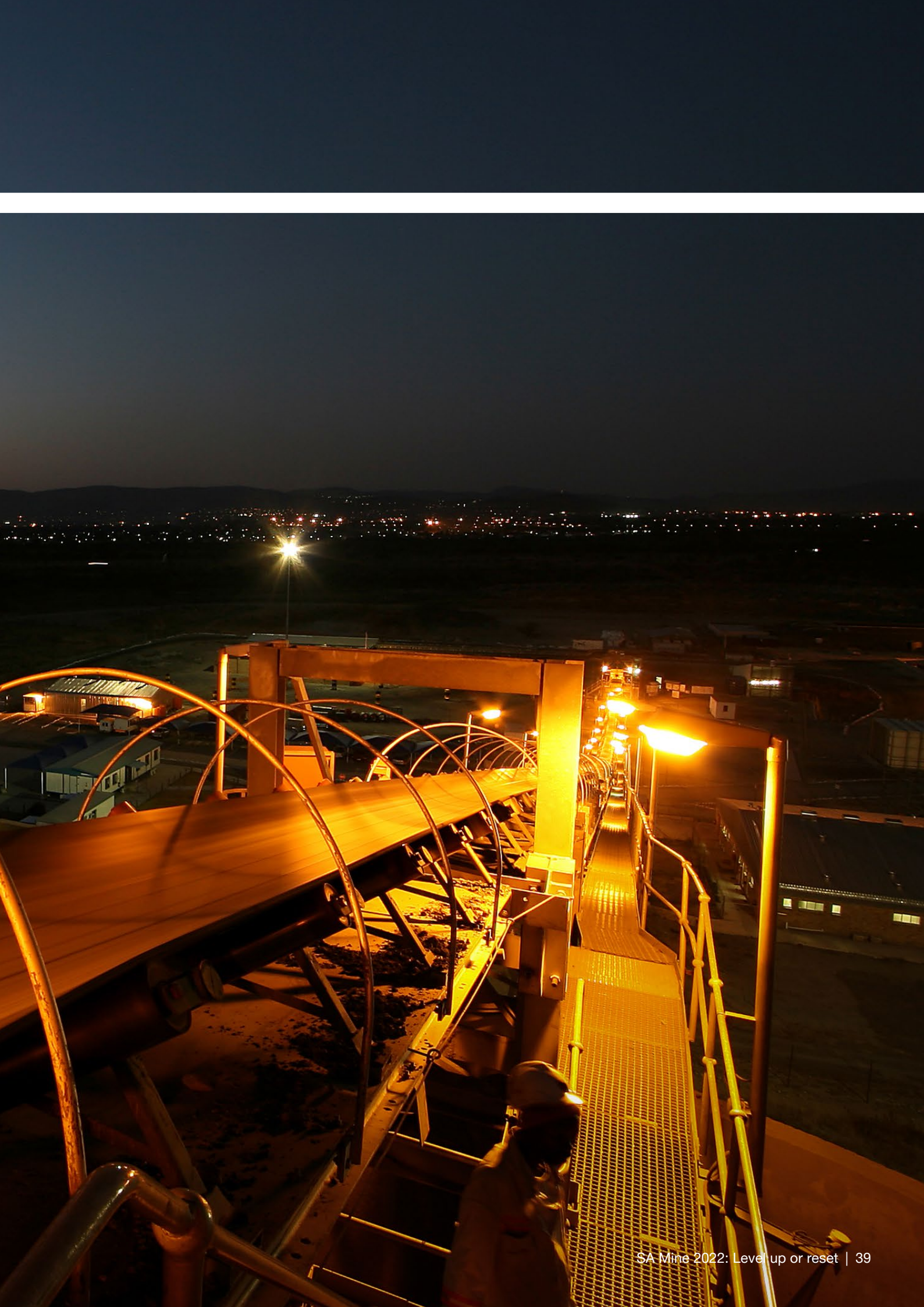
A trend witnessed in the South African mining industry over the past 12 months has been an increase in commitment to capital expenditure, something that was missing over the past few years. This bodes well for both the overall economy as well as the communities surrounding these mining operations, as suppliers, labourers and government all benefit from these investments. The capital expenditure relates to the maintenance of existing operations, expansion through new projects as well as a diversification into areas such as electricity generation through solar plants. This in turn is expected to contribute to increased tax contributions to the state and job opportunities for local communities.

The mining industry in South Africa continues to play an important role in terms of its contribution to infrastructure, taxation revenues, job creation and the downstream impact on stakeholders in various sectors. The investment in the future is therefore key to the industry and the country as a whole.

Share of value added

Share of value added	2022	2021
Employees	21%	20%
Employee taxes	3%	3%
Direct taxes	18%	18%
Mining royalties	5%	6%
Capital expenditure	18%	16%
Return to lenders	1%	1%
Return to shareholders	40%	18%
Community investment	1%	1%
Funds retained	(6%)	18%

Source: PwC analysis



Ten-year summary

The information included below differs from that in the rest of our analysis as it includes the aggregated results of those top companies as reported on in each respective edition of *SA Mine*.

Ten-year summary of financial information (Rbn)

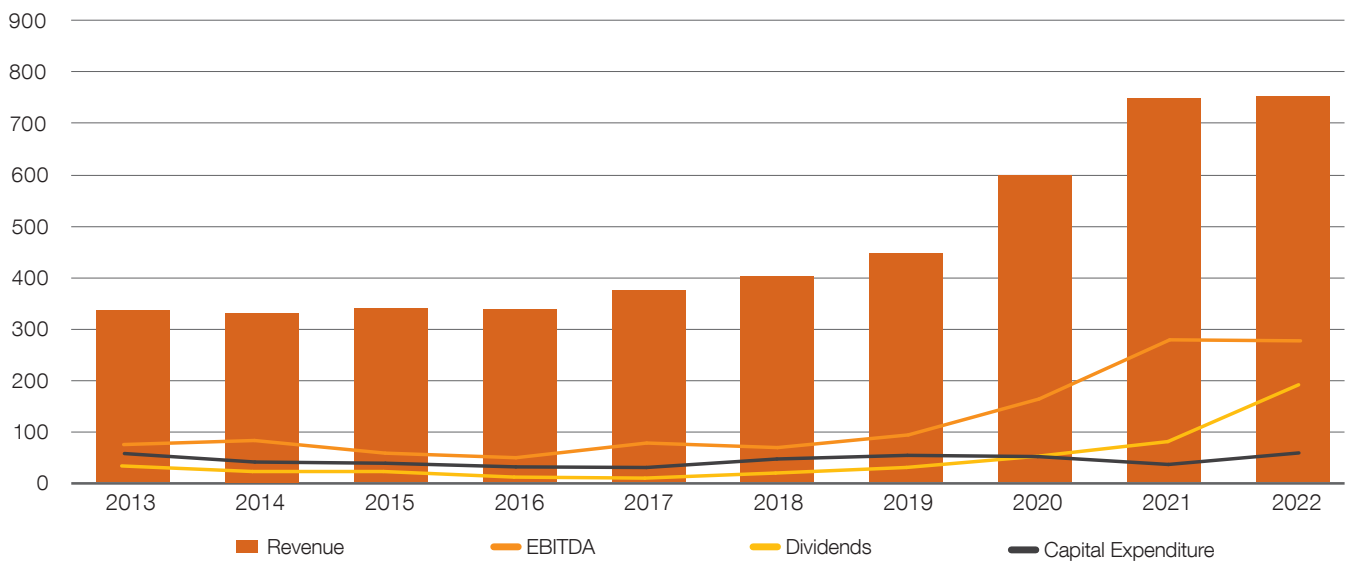
Rbn	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Market capitalisation	1,303	1,471	1280	884	482	420	560	414	675	597
Aggregated income statement										
Revenue*	747	735	594	443	398	371	333	335	327	332
EBITDA	297	299	182	111	86	95	66	75	100	92
Impairment charges	(6)	10	(6)	(22)	(46)	(22)	(60)	(24)	(49)	(25)
Net finance costs	(35)	(33)	(11)	(11)	(11)	(10)	(10)	(7)	(6)	0
Income tax expense	(74)	(88)	(37)	(15)	(9)	(11)	(2)	(8)	(8)	(16)
Net (loss)/profit	202	208	88	32	(11)	17	(46)	2	5	25
EBITDA margin	40%	41%	31%	25%	22%	26%	20%	22%	31%	28%
Cash flow from operating activities										
Cash flow from operating activities	251	255	153	100	79	83	69	62	69	69
Total capital expenditure	72	53	66	68	62	48	49	55	57	71
Free cash flow	179	202	87	32	17	35	20	7	13	1
Other investing cash flows	(17)	6	(4)	4	(20)	(8)	4	3	(5)	(10)
Dividends paid	(190)	(78)	(49)	(27)	(16)	(6)	(8)	(19)	(19)	(30)
Other financing cash flows	(4)	(2)	(14)	(6)	27	(8)	(7)	11	3	34
Aggregated balance sheet										
Cash	181	194	133	70	65	58	46	38	33	45
Property, plant and equipment	516	455	494	430	406	403	414	425	422	449
Total assets	1,072	996	956	780	717	692	709	724	694	714
Total liabilities	384	375	465	360	325	296	311	293	270	296
Total equity	688	621	491	420	392	395	398	431	424	396

Source: PwC analysis



* Given its international growing footprint, for 2022, the revenue from operations outside South Africa was excluded from Sibanye Stillwater's revenue included in the publication.

Figure 19: Ten-year historical financial information (Rbn)



Source: PwC analysis



About this publication

Basis for compiling this report

The results aggregated in this report have been sourced from the latest publicly-available information, primarily annual reports, and financial reports available to shareholders. We aggregated the financial results of mining companies with a primary listing on the JSE and mining companies whose main operations are in South Africa and that have secondary listings on the JSE, for the financial year ends to 30 June 2022. We used a cut-off market capitalisation of R200m and excluded all companies with suspended listings. All companies with audited results released and their comparatives up until 15 September 2022 have been captured.

Companies depicted in the publication have different year ends and report under different accounting regimes. Information has been aggregated for the individual companies and no adjustments have been made to consider the different reporting requirements. As far as possible, we have aligned the financial results of reporters to be as at, and for, the year ended 30 June 2022. For companies that do not have June year ends, we added and deducted reviewed results to reflect the comparable 12 -month period. We have also taken into account any restatements and /or adjustments to the prior period as currently reflected in the latest published results.

All currency figures are reported in South African rand, except where specifically stated otherwise. The results of companies that report in currencies other than the rand have been translated at the average rand exchange rate for the financial year, with balance sheet items translated at the closing rand exchange rate.

Our selection criteria excluded global mining companies Anglo American plc, BHP, South32 and Glencore plc. Although these companies have a significant South African footprint, their global exposure and size mean that they do not necessarily reflect trends in the South African mining environment. While a large number of the entities included also have international exposure, the bulk of their operations are in Africa. Where practical we have excluded international operations of these entities if they would unduly influence the South African mining trends, e.g. for Gold Fields we only included results from its South Deep operations as disclosed in segmental information.

Some diversified companies undertake part of their activities outside the mining industry. No attempt has been made to exclude such non-mining activities from the aggregated financial information.

Companies analysed

	Company name	Year end
1	African Rainbow Minerals Limited	30 June 2022
2	Afrimat Limited	28 February 2022
3	Alphamin Resources Corporation	31 December 2021
4	Anglo American Platinum Limited	31 December 2021
5	Buffalo Coal Corporation	31 December 2021
7	DRD Gold	31 December 2021
8	Eastern Platinum Limited	31 December 2021
9	Exxaro Resources Limited	31 December 2021
10	Gold Fields Limited	31 December 2021
11	Goldplat PLC	30 June 2022
12	Harmony Gold Mining Company Limited	30 June 2022
13	Impala Platinum Holdings Limited	30 June 2022
14	Kropz PLC *	31 December 2021
15	Kumba Iron Ore Limited	31 December 2021
16	Merafe Resources Limited	31 December 2021
17	Northam Platinum Holdings Limited	30 June 2022
18	Orion Minerals Limited *	30 June 2022
19	Pan African Resources PLC	30 June 2022
20	Petra Diamonds Limited	30 June 2022
21	Platinum Group Metals Limited	31 August 2022
22	Royal Bafokeng Platinum Limited	31 December 2021
23	Salungano Group Limited (Previously Wescoal Limited)	31 March 2022
24	Sibanye-Stillwater Limited	31 December 2021
25	Southern Palladium Limited *	30 June 2022
26	Sylvania Platinum Limited	30 June 2022
27	Tharisa PLC	30 September 2022
28	Thungela Resources Limited	31 December 2021
29	Wesizwe Platinum Limited *	31 December 2021

For the entities indicated with an asterisk (*), results were not released in time for inclusion in the publication.

Glossary

Terms	Definition
Acid ratio	(Current assets less inventory) / current liabilities
ALSI	All Share Index
B-BBEE	Broad-Based Black Economic Empowerment
BEPS	Base Erosion and Profit Shifting
BUA	Business as usual
Capex	Capital expenditure
CDE	Centre for Development and Enterprise
COVID-19	Coronavirus disease 2019
CPPI	Container Port Performance Index
Current ratio	Current assets/current liabilities
EBITDA	Earnings before interest, tax, depreciation, amortisation and impairments
EBITDA margin	EBITDA / revenue
ESD	Electrostatic discharge
ESG	Environmental, social and governance
EIA	Economic impact assessment
ERA	Electricity Regulation Act
EU	European Union
ETR	Effective Tax Rate
EV	Electric Vehicles
FCEV	Fuel cell electric vehicle
Gearing percentage	Net borrowings / (net borrowings plus equity)
GDP	Gross domestic product
(GFCF)	Gross Fixed Capital Formation
GHG	Greenhouse gas
GSCPI	Global Supply Chain Pressure Index
GVA	Gross value added
GW	Gigawatts
ID	International Donors
IDA	Infrastructure Development Act
IPP's	Independent Power Projects
ISA	Infrastructure South Africa

Terms	Definition
JSE	Johannesburg Stock Exchange
KPI	Key performance indicators
LTI	Lost time injury
Market capitalisation	The market value of the company calculated as the number of shares outstanding, multiplied by the share price
M&A	Mergers and acquisitions
Mega-watt	MW
NDP	National Development Plan
NEMA	National Environmental Management Act
NEMAQA	National Environment Management: Air Quality Act 39 of 2004
NERSA	National Energy Regulator of South Africa
Net asset value	Total assets less total liabilities
Net borrowings	Interest-bearing debt less cash
Net profit margin	Net profit / revenue
MPRDA	Mineral and Petroleum Resources Development Act
NZ	Net Zero
NGO	Non-Profit Organisation
NIP2050	National Infrastructure Plan 2050
NWA	National Water Act
OECD	Organisation for Economic Co-operation and Development
PGM	Platinum group metal
PV	Photovoltaic



Terms	Definition
PICC	Presidential Infrastructure Coordinating Commission
PMI	Purchasing Managers' Index
RE	Renewable Energy
R&D	Research and Development
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SARB	South African Reserve Bank
SARS	South African Revenue Service
SBTI	Science Based Target Initiatives
SIPS	Strategic Infrastructure Projects
SLA	Service Level Agreement
SLP's	Social and Labour Plans
SOE's	State Owned Entities
Stats SA	Statistics South Africa
Solvency ratio	Total assets / total debt
TCFD	Task Force on Climate-related Financial Disclosures
TNPA	Transnet National Ports Authority
UN	United Nations
USD	United States Dollar
q-o-q	Quarter on Quarter
Working capital	Inventories plus accounts receivable less accounts payable
y-o-y	Year on year



Contacts

Paul Bendall

Global Mining Leader
Melbourne, Australia
T: +61 3 8603 3891
E: paul.a.bendall@pwc.com

Andries Rossouw

Africa Energy, Utilities and Resources Leader
Johannesburg, South Africa
T: +27 (0) 11 797 4060
E: andries.rossouw@pwc.com

Wayne Jansen

Energy, Utilities & Resources South Market Consulting Leader
T: +27 (0) 11 059 7209
E: wayne.jansen@pwc.com

Laetitia Le Roux

Energy, Utilities & Resources South Market Tax Leader
T: +27 (0) 11 797 5429
E: laetitia.le.roux@pwc.com

George Arhin

West Market Mining Industry Leader – Ghana
T: +233 30 274 2607
E: george.arhin@pwc.com

Emmanuel le Bras

Francophone Africa Energy & Mining Industry Leader - Republic of the Congo
T: +242 05 534 09 07
E: emmanuel.lebras@pwc.com

David Tarimo

Energy, Utilities & Resources Partner – Tanzania
T: +255 22 219 2600
E: david.tarimo@pwc.com

Contributors

Danelle Lundie	Ntshele Nkhi
Liesl Opperman	Rowyn Naidoo
Andries Rossouw	Salome Ntsibande
Anko Moolman	Sheivaan Naidoo
Archi Ramana	Sidney O'Reilly
Cecilia Pretorius	Siviwe Memela
Chantal van der Watt	Stephanie Grobler
Chris van der Merwe	Stephen Boakye
Christie Viljoen	Vuyiswa Khutlang
Christiaan Myburgh	
Danel Gilbert	
Emma Welke	
James Mackay	
Jeaunes Viljoen	
Kyle Drury	
Laetitia Le Roux	
Lambertus Schrap	
Lullu Krugel	
Marcel Rossouw	
Matthew Muller	
Merice Walker	
Mphoti Chilwane	
Nardus Rudolph	
Nino Manus	

For any mining related queries, services or assistance required, please contact our EU&R Centre of Excellence at liesl.opperman@pwc.com.



www.pwc.co.za/mining

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 155 countries with over 327,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

© 2022 PwC. All rights reserved (22-28621)