

2024: ISSUE 1

# Beneath the surface

*Unearthing Wisdom. Shaping Tomorrow.*

**Resilience in Resources:**

Navigating challenges,  
harnessing opportunities



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# Navigating the future of mining: BDO's presence at the 2024 Mining Indaba

In the dynamic landscape of African mining, change is not just inevitable; it's the catalyst for progress. Join the BDO team at the 2024 Mining Indaba in Cape Town from the 5th to the 8th of February as we delve into the theme, 'Embracing the Power of Positive Disruption: A Bold New Future for African Mining.'

## Empowering Progress Through Disruption:

The mining industry in Africa stands at the precipice of transformation, and the 2024 Mining Indaba serves as a platform to champion positive disruption. At BDO, we recognize the necessity of change and are committed to encouraging and supporting the bold shifts required for the industry's advancement.

## Engaging Insights from BDO's Global Network:

Our team, comprised of seasoned professionals from South Africa, Australia, and the UK, will be at your disposal throughout the week. From Johannesburg, South Africa, Servaas Kranhold, Head of Natural Resources, along with Bert Lopes, Global Head Mining and Managing Partner and Jacques Barradas, Partner at BDO SA, will bring their insights into the South African mining landscape. Sherif Andrews, Head of Global Natural Resources from Australia and Matt Crane, Partner and Head of Natural Resources and Energy UK, will provide a global perspective at the Mining Indaba 2024.

## Meet the Minds Shaping the Future:

Connect with us to explore a myriad of topics crucial to the future of mining. Our team is ready to engage with you and your team, sharing knowledge, experiences, and innovative solutions that transcend borders.

## BDO's Global Perspective:

With a presence in South Africa, Australia, and the UK, BDO brings a truly global perspective to the table. Our international network enables us to understand the intricate challenges and opportunities shaping the mining industry on a global scale.

## Let's Shape the Future Together:

The 2024 Mining Indaba is not just a conference; it's a collaborative journey towards a bold new future for African mining. Join us as we explore, discuss, and shape the path forward. We look forward to spending valuable time with you, unraveling the potential that lies in the future of mining in South Africa and beyond.



# Navigating the currents: The evolving landscape of copper in a sustainable world

As the global energy landscape undergoes a transformative shift towards sustainability, copper is emerging as a linchpin in the transition from hydrocarbon-based production systems to diverse and eco-friendly alternatives, writes Dorcas Nhlapo from BDO South Africa.

In this era of evolving energy dynamics, the significance of copper as a cost-effective and efficient conductive material used in capturing, storing and transporting new sources of energy is more pronounced than ever. This is reflected in current trends and predictions for the metal.

The recent PwC Mine Report for 2023 sheds light on the pivotal role copper plays in the mining industry. According to the report, 66% of deals in the mining sector last year were centred around critical minerals, with copper dominating at 85%. This, together with a global capital market estimated at USD 453.76 million and a projected growth rate of 5.1% by 2030, means the copper market is positioned for substantial expansion going forward.

The driving forces behind this surge in demand are diverse, encompassing industries such as construction, electrical and electronics, automotive, and consumer goods. The trajectory of global copper mine production further supports this trend, with an anticipated average annual growth rate of 3.2% from 2023 to 2032, and annual output rising from 22.6mnt in 2023 to 29.2mnt by 2032.

## Copper: The New Oil?

In 2022, Goldman Sachs described copper as "the new oil," underscoring its centrality to the low-carbon transition. However, this designation also raises concerns about the potentially divisive role copper may play in the global economy.

The Environmental, Social, and Governance (ESG) question comes to the forefront here, as the increasing demand for copper may challenge nations to prioritise market dominance over responsible production. S&P analysis paints a potentially troubling scenario, suggesting a looming 9.9 million-tonne shortfall in copper supply by 2035, akin to the 20th-century scramble for oil. The fear is that copper scarcity could destabilise international security, raising questions about the compromises nations may make on ESG principles in pursuit of securing their copper supply.





## Global Supply Chain Challenges

Examining the reserves and geographical locations of copper mining, it becomes evident that major producers still heavily rely on imports. China, for instance, imported US\$52.4 billion worth of copper ore in 2021, and the US, at the best, will still import 57% of its refined copper by 2035, according to S&P analysis.

The copper value chain spans the globe, with geopolitical tensions and competing regulatory regimes adding complexity to the supply chain. This fragmentation may burden supply chain operators, diverting resources from responsible production and compliance with ESG principles.

The growing environmental footprint of increased copper demand poses another challenge. The International Finance Corporation's Net Zero Roadmap for Copper warns that without mitigation measures, greenhouse gas emissions from copper production alone could double by 2050.

## Africa's Role in the Copper Industry

As the demand for copper intensifies globally, Africa finds itself at a crossroads. Despite being home to key copper producers like Zambia and South Africa, the continent remains on the periphery of the global copper supply and demand chain — with four of the five leading companies in the copper market (Anglo American, Antofagasta Plc, BHP, Codelco and First Quantum Minerals Ltd) based outside of Africa.

In South Africa, investment in mining exploration has lagged since 2003, leading to a decline in output. In the case of Anglo American, this decline is reflected in an overall drop in ore grades, significantly impacting output in 2022.

For Zambia, government intervention has hampered copper production, but there are hopes for a rebound in the medium term as agreements are reached and funding is secured.

It's crucial for Africa to position itself as a key player in the copper industry, particularly in the context of the growing green energy initiative. Known as a predominantly long-cycle commodity, copper typically takes up to three years to be incorporated into an existing mine and up to eight years to establish a new greenfield project. As such, long-term planning and investment are imperative to counteract losses from ageing mines and ensure a sustainable future for the continent.

The current and future trends of copper underscore its critical role in the evolving global energy landscape. As nations grapple with ESG considerations, supply chain challenges, and environmental impact, strategic planning and collaboration are essential to ensure a responsible and sustainable future for the copper industry. Africa, in particular, stands at a pivotal moment, with the opportunity to assert its role as a significant player in the copper market of tomorrow.

By Dorcas Nhlapo: Senior Audit Manager, BDO South Africa

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## Women in Natural Resources leading the way through example

In a historically male-dominated industry, Lehlogonolo Mashego and Xanthe Taylor stand out as beacons of change, empowerment, and leadership. With unwavering dedication to environmental sustainability and a shared commitment to driving positive impact, these two women have transformed their passions into successful careers, leaving an indelible mark on the field of natural resources.

Lehlogonolo Mashego's journey into the world of environmental sustainability was sparked during her time as a Girl Guide in high school. These experiences in nature, coupled with a deepening fascination for hiking and camping, laid the foundation for a lifelong commitment to safeguarding the environment.

Born in Tembisa and then moving to Benoni, Lehlogonolo's background provided her with first-hand insights into the challenges faced by underserved communities. This upbringing became the driving force behind her work, fuelling her determination to bring about sustainable change.

While still pursuing her Masters, Lehlogonolo started her professional career at Myezo Environmental Management Services. From there, she went on to work for two other Environmental Consulting companies with a great focus on the mining and renewable energy sectors. With this gained experience, Lehlogonolo made the conscious decision to move into the Sustainability space which brought her to BDO South Africa.

As a Sustainability Manager in BDO's Risk Advisory Services department, Lehlogonolo plays a pivotal role in guiding various companies on their sustainability journeys.

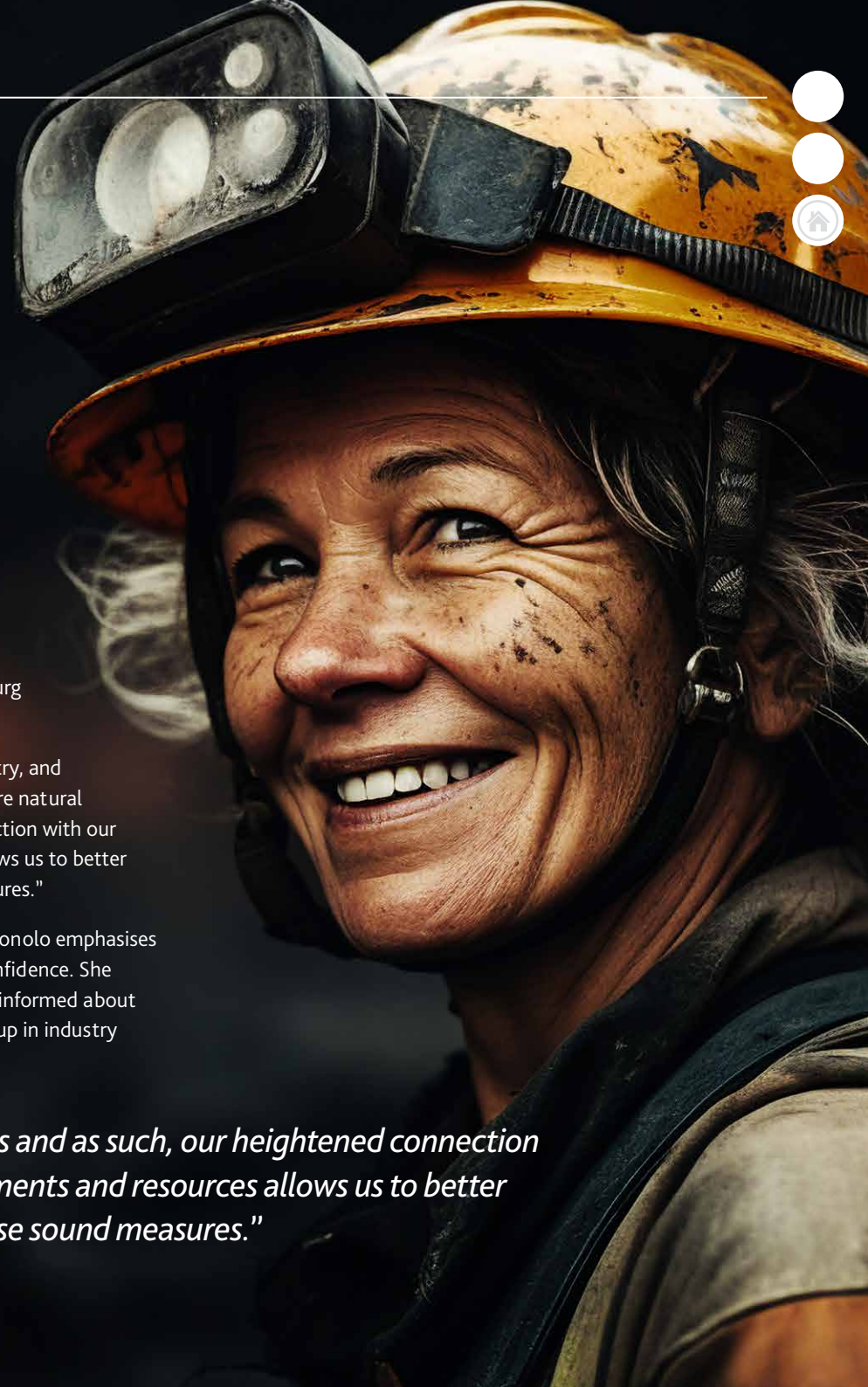
Her responsibilities include devising plans, identifying gaps, and establishing key sustainability priorities for formal reporting and comprehensive sustainability reports. Her past collaborations with industry giants like Anglo American, Tharisa Minerals, and Exxaro Coal, as well as the City of Johannesburg underline her impact and influence.

Lehlogonolo embraces her place in the industry, and believe others like her should too. "Women are natural nurturers and as such, our heightened connection with our surrounding environments and resources allows us to better understand impact and propose sound measures."

For those aspiring to join the industry, Lehlogonolo emphasises the importance of technical expertise and confidence. She advises investing in personal growth, staying informed about global trends, and unapologetically speaking up in industry discussions.

*"Women are natural nurturers and as such, our heightened connection with our surrounding environments and resources allows us to better understand impact and propose sound measures."*

— Lehlogonolo Mashego





"Stay true to your why, and may that ground what you do and how it is carried out," she advises. "The best results come from taking risks and confidently breaking through the structural limitations that are set to tear you down."

Xanthe Taylor's career is a testament to the transformative power of following one's true passion. Beginning her professional life in media, Xanthe made a big shift in her late 20s when she pursued her interest in the natural world by studying Environmental Management.

Xanthe's first foray into the environmental field came as a Junior Environmental Scientist at a small Pretoria-based consultancy with a focus on mining. This initial step paved the way for Xanthe's future in the industry. She subsequently moved to a larger consultancy in Johannesburg, managing large mining environmental applications, later joining the company's Sustainability team.

Driven by a desire for impactful change, Xanthe then transitioned to her current role as an ESG (Environmental, Social, and Governance) Manager at BDO, driven by her belief that this is where she can truly make a difference and find a sense of purpose and fulfilment. With over a decade of experience consulting within the mining sector, Xanthe has witnessed the industry evolve, becoming more inclusive and respectful of women's contributions. However, she remains dedicated to increasing female representation at leadership levels.

Xanthe's advice for women entering the industry centres on humility and continuous learning and growth. Her journey underscores the importance of embracing mistakes and maintaining a forward-focused mindset.

As she guides projects with Ivanhoe Mines Decarbonisation Project and collaborates with prominent industry players like Anglo American and Sibanye-Stillwater, Xanthe's trajectory shines as a guiding light for those aspiring to create a meaningful impact in the realm of environmental sustainability and climate action.

"Everyone goes through an evolution in their career where one gets to a point of feeling confident in one's own subject matter," says Xanthe. "But also remember, there's strength in saying when you don't know something. My advice to anyone is not to pretend to know everything but know how to showcase the skills you do possess."

Lehlogonolo Mashego and Xanthe Taylor exemplify the spirit of leadership, determination, and resilience. Their paths have been marked by challenges and triumphs, proving that women in the field of natural resources are not only capable but are also driving transformative change through their unwavering commitment and passion for the environment.

*"Everyone goes through an evolution in their career where one gets to a point of feeling confident in one's own subject matter, but also remember, there's strength in saying when you don't know something. My advice to anyone is not to pretend to know everything but know how to showcase the skills you do possess."* — Xanthe Taylor



# Why aren't we harnessing the power of hydro as part of a comprehensive energy mix?

After trudging through almost two decades of the country's long term decline in power production, 2023 has seen some of the worst rolling blackouts to date. Yes, there has been positive progress in the renewable energy sector, but it's simply not enough. We should be including hydro solutions with existing solar projects to get us off the back foot and potentially ahead of the energy crisis, says Nato Oosthuizen, Partner and Renewable Energy Expert at BDO.

The nation's growing energy demands, coupled with the urgent need to combat climate change, have thrust renewable energy sources into the spotlight. Among these, hydropower has emerged as a financially viable option in the country's renewable energy mix, holding the potential to reshape South Africa's energy landscape and foster economic growth while preserving the environment.

Hydropower, as a renewable energy source, harnesses the energy of flowing water, making it an ideal fit for a country with diverse geography. Although we are classed as a drought prone country, by tapping into rivers, dams, and other water bodies, which are often fuller in the rainy seasons, South Africa can unlock a significant portion of its renewable energy potential.

One of the primary benefits of hydropower lies in its reliability and predictability, if it is installed in the right locations. Unlike solar or wind energy, which are dependent on weather conditions, hydropower offers a stable and consistent energy output if it is built on a river or dam where the overflow of a feeding dam can drive the turbine. This characteristic is particularly crucial in South Africa, where loadshedding has been a recurring issue, impacting industries, households, and overall economic stability. Integrating hydropower into the energy mix can mitigate these challenges by providing a steady supply of electricity, reducing the risk of blackouts and ensuring a reliable power supply for both urban and rural areas.

But as a drought-prone country, is hydropower generation a feasible option?

Critics might raise concerns about the environmental impact of hydropower, especially related to dam construction and alteration of water ecosystems. While these concerns are valid, responsible planning and implementation can mitigate potential adverse effects. To fully realise the potential of hydropower in South Africa's energy mix, we must consider that when combined with solar solutions – for example using solar to pump water which is then stored in smaller dams to be used to flow through hydro turbines – there is potential for a much more economically viable option for peak power generation.

We have seen some evidence of collaboration between government bodies, private sector stakeholders, and local communities but unfortunately, red tape seems to be the bottle neck that is holding back the tide.

A case in point is the Inga 3 hydro project announced in 2013 with World Bank support, a project that was supposed to deliver 11 GW of power, primarily for export to South Africa. However, the World Bank cancelled its involvement in 2016 due to what it called "strategic differences" and since then the project has repeatedly been delayed by red tape. Although President Ramaphosa announced recently that the project is to be revived, we could still have to wait around 18 months to see any movement as new deals with new partners are discussed.





However, solutions don't always have to be on such a grand scale. In April this year, the Department of Water and Sanitation (DWS) initiated the DWS Hydropower Independent Producer Programme (DWS HIPP) in an effort to allow for the available infrastructure and water courses to be used to contribute to the power grid with renewable energy. The types of hydropower technologies that can be applied for include impoundment, river diversion or run-of-river, pumped storage and floating or kinetic turbines (small-scale generating capacity).

Unfortunately, small scale hydro projects are often cast aside in favour of solar or wind solutions that are perceived as more cost effective. However, if the DWS HIPP is successful it could open the door for smaller projects, such as mini hydro plants, that do not require a massive investment for set up to become welcome additions to a comprehensive solution to the energy crisis that takes into account all facets of the resources available to the country. In periods of drought, we can turn to solar and in periods of rainfall, hydro solutions can take the lead. The outcome we are all looking for at the end of the day is a solution that allows us to generate as much power as possible to keep our country – and economy – running, especially during peak periods.

It is clear that the inclusion of hydro power in South Africa's renewable energy mix is a necessity to truly harness the power of renewables. Unfortunately, as we have seen in the past, necessity certainly does not always equate to action.

The country cannot pin its hopes on the revival of projects that have been in the pipeline since 2013. The severity of the energy crisis in 2023 requires a solution that isn't the topic of discussion for another 10 years, but rather one takes into account all options available.

To reiterate the President's own sentiments at the 2023 SONA address: "Extraordinary circumstances call for extraordinary measures. The energy crisis is an existential threat to our economy and social fabric. We must spare no effort, and we must allow no delay in implementing these measures." Are we really allowing no delays in implementing any measures possible to keep the lights on, Mr President? Will we truly see movement in the hydropower space? Because right now, your words don't hold much water.

By Nato Oosthuizen: Partner and Renewable Energy Expert, BDO South Africa

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# Empowering women leaders in South Africa's Mining Sector: A prerequisite for sustainable growth

In a world where industries are striving for gender inclusivity, South Africa's mining sector lags in empowering women for leadership roles. Carla Clamp, Director at BDO South Africa, sheds light on this issue, drawing from her experiences at the annual Women and Leadership in Mining Conference.

"South Africa's mining, a cornerstone of the nation's economy, holds an undiscovered treasure—untapped potential within its women. It's time to spark a dialogue and action by highlighting the urgent need to empower women in this vital sector", says Mining Superintendent Dolly Masilela from Exxaro Resources. She, along with other inspirational women leaders gathering to share valuable insights and guidance for the future of female leadership in this industry at the event.

According to the 2020 World Bank report, women comprise of just 15% of the global mining workforce, and in South Africa, despite a promising increase from 11,400 in 2002 to 56,691 in 2019, they still represented a mere 12% of the total mining labour force of 454,861 people in 2019. With mining increasingly becoming one of South Africa's most important industries, the sector is ripe for transformation and closing the gender gap must be made a priority.

One of the most pressing challenges facing women in mining is a disproportionate gender pay gap because of occupational segregation. Women are often concentrated in lower-paying administrative and support roles while men dominate higher-paying technical and operational positions resulting in a persistent gap in pay estimated to be around 15% on average. This disparity highlights the urgent need for women to ascend to leadership roles within the industry.

We simply cannot ignore the imperative of having more women in leadership positions as the crucial caveat in transforming the industry. This is about so much more than just achieving gender equality; it's about disrupting the industry's future, fostering innovation, and driving sustainable development. Masilela says: "The mining industry is no stranger to tradition and long-established practices. However, disruption in this sector should not just be a buzzword; it's an essential force driving progress, sustainability, and competitiveness. South Africa's mining sector is sitting on a goldmine of untapped talent in the form of women. By disrupting the deeply entrenched gender status quo, breaking down barriers and encouraging women to take on leadership roles, the industry can access a diverse pool of skills, perspectives, and experiences that have been historically underutilised."





First and foremost, increased female representation in leadership positions is essential to combat gender inequality and promote inclusivity. Historically, women have been underrepresented in the industry due to stereotypes and biases that have limited their access to opportunities and career advancement. This systemic exclusion perpetuates gender inequalities and hampers the sector's potential for growth. By actively promoting and supporting women in leadership roles, we can challenge these norms and provide much-needed role models for young women aspiring to enter the field.

Another aspect where female leadership can make a significant difference is in environmental stewardship. Mining, by its nature, has a substantial environmental footprint. Women leaders, who often have a stronger track record of environmental consciousness and sustainable management, can help steer the industry towards greener practices that safeguard the environment for future generations while ensuring the sector's long-term viability.

Women are also showing their prowess in STEM (science, technology, engineering, and mathematics) fields, and their inclusion in leadership positions can accelerate the sector's digital transformation. As the industry becomes increasingly driven by data analytics, automation, and artificial intelligence, diverse perspectives are crucial for harnessing the full potential of technology.

Beyond these economic and environmental imperatives, there is also the issue of community development and social responsibility. Mining operations often have profound social and cultural impacts on the communities where they operate.

Women leaders are more likely to prioritise community development, education, and healthcare, fostering a more inclusive and socially responsible mining sector. This not only benefits local communities but also helps improve the industry's image, reducing conflicts and resistance from affected populations.

So what do we need to do to ensure that more women are able to access and take on more leadership positions?

Masilela says that it begins with recognising that women are ready to take their place at the helm. "South Africa's mining sector has the potential to be a beacon of progress and transformation, not just economically but socially and environmentally. To harness this potential fully, we must empower women to take their rightful place as leaders, innovators, and drivers of change within the industry."

First off the bat, mining companies should actively work to challenge and break down gender stereotypes by promoting success stories of women who have excelled in mining roles, highlighting their achievements and contributions. Take for example, women like Nonkululeko Nyembezi-Heita, and Bridget Radebe who shattered the glass ceilings and whose stories are testament to the power of determination and vision. Across the sector, women too can take on pivotal roles and challenge stereotypes, but they must be recognised and be made examples of.

There needs to be a much greater investment into education and training. Mentorship programmes and apprenticeships that specifically target women are essential. But just as essential is support beyond these programmes. We must make sure that women are not over mentored and then under sponsored.

Programmes must provide support for women at all stages of their careers, right through to leadership roles. Developing inclusive workplace cultures that prioritise diversity and respect is also crucial. Part of this is relooking at all aspects of the female experience – from working ablutions, to safe and secure changing areas, to personal safety and respect both on and off the mine, we must start to hold leaders accountable for creating a safe and respectful space for all employees.

The demanding and often remote nature of mining jobs can conflict with women's caregiving responsibilities, making it difficult for them to balance work and family life. Much more needs to be done in recognising and accommodating these challenges. Mines could start by offering more flexible work arrangements, including remote work options and family-friendly policies.

As we journey towards a more inclusive and equitable mining sector, let us remember that when we empower women, we empower the future. With some of the largest mines in the world, South Africa's mining sector has an opportunity to lead by example, to prove that our mining legacy is not in the minerals beneath the earth but in the strength and resilience of its women. Learning to unlearn is the cornerstone of success for women in the mining sector. By shedding preconceptions and embracing change, women can not only succeed but also lead the industry towards greater inclusivity, innovation, and progress.

# Navigating uncertainty: the current state and future prospects of the diamond industry

In recent times, the diamond industry has faced a series of challenges that have led to notable shift in its landscape. From a 15% to 18% reduction in diamond prices over the past year to the unsettling decline in pricing and volumes at market tenders among major mining companies, the industry is in the midst of a transformation that demands careful analysis and strategic foresight, writes Servaas Kranhold, Head of Natural Resources and Jacques Barradas, Partner: Natural Resources, at BDO South Africa.

The diamond market has experienced a notable downturn of late, largely attributed to a confluence of macroeconomic factors. The US market, for instance, is a historically robust consumer of diamonds that's been grappling with recessionary concerns, impacting the demand for Gem quality diamonds. Additionally, China's economy, while recovering from its zero COVID policy, has not rebounded as swiftly as anticipated, leading to subdued demand. These factors have combined to create a complex environment for diamond traders, causing prices to stagnate and volume declines.

Adding to this dilemma is an increase in diamond supply, coinciding with a contracting market. Notably, synthetic diamonds have contributed significantly to the volumes posing a considerable challenge. The inability of current mining technology to consistently differentiate between synthetic and natural diamonds has led to further price suppression.

This scenario has been compounded by the emergence of new mining operations, such as De Beers Venetia underground mine and the return of Russian diamond sources. With softer demand and increased supply, the industry faces a formidable challenge.

In the face of these challenges, the diamond industry is undergoing a fundamental transformation. Mining companies are re-evaluating their operational strategies to remain competitive in a low-price environment. Many have shifted from open-cast mining to underground operations locally, embracing technological advancements such as remote mining to reduce costs. This shift in approach signifies the industry's resilience and willingness to adapt to changing circumstances.

*"The inability of current mining technology to consistently differentiate between synthetic and natural diamonds has led to further price suppression."*





## Prospects for Recovery: Predicting the Path Forward

While the immediate future of the diamond industry remains uncertain, a glimmer of hope exists for recovery. The transition from open-cast to underground mining operations presents a potential catalyst for improved selling prices as cost increase and volumes decrease. As more mines delve underground, the scarcity of resources and increased operational complexities could drive prices upward. However, this prospect hinges on the behaviour of diamond resources as mining goes deeper.

The viability of underground operations relies on the ability of resources to maintain their size and footprint at greater depths. Some mines face the challenge of diminishing resources as they go deeper, potentially rendering underground mining unfeasible. This poses significant considerations for larger listed diamond mines, which may need to weigh the feasibility of continuation against the backdrop of current prices and available resources.

In cases where ongoing mining proves unviable, the spectre of large traditional mines closing looms, potentially leading to substantial impacts on local communities and economies.

## Sustainable Survival: The ESG Imperative

As the industry navigates these challenges, the importance of environmental, social, and governance (ESG) considerations cannot be understated. Diamond mines are often integral to the economies of the communities in which they operate. The potential closure of mining operations due to macro-economic factors could have far-reaching consequences, including a mass exodus of inhabitants leading to further urbanisation and the transformation of thriving communities into ghost towns. Balancing the economic imperatives of the industry with its broader societal responsibilities is a delicate yet necessary endeavour.

The diamond industry as such finds itself at a crossroads, grappling with a complex web of market dynamics and external pressures.

The current state of reduced prices and increased supply poses challenges, yet the industry's history of resilience and adaptation offers hope for the future. As the industry shifts its focus towards underground operations and embraces innovative technologies, it remains to be seen whether these measures will spark a recovery in diamond prices.

While the short-term forecast may be uncertain, the diamond industry's intrinsic value, both as a source of exquisite adornments and as a driver of economic growth, ensures that it will continue to shine, even in the face of adversity. As we navigate these uncharted waters, one thing is certain: the allure of diamonds, both natural and lab-grown, will persist, capturing the hearts and imaginations of generations to come.

By Servaas Kranhold: National Head, Natural Resources & Jacques Barradas: Partner, Natural Resources, BDO South Africa

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# The benefits of the REIPPPP have the potential to extend even further

Touted as one of the world's best renewable energy tenders, South Africa's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) has paved the way for the private sector and Independent Power Producers (IPPs) to invest in the country's renewable energy market. However, there could be an additional benefit that may not have been considered as of yet, says Nato Oosthuizen, Partner and Renewable Energy Expert at BDO.

Since its inception in 2011, REIPPPP has enabled 89 IPPs to provide a steady stream of over 6000MW of renewable energy to the country. With expectations that energy procured in Bid Windows 3 and 4 will bring a further 100MW and 75MW online in 2024, and with three projects under Bid Window 5 having started construction with an investment value of over R12 billion, we may not be exactly on target, but progress is certainly positive.

But while the country waits – often in increasingly higher stages of darkness – for these projects to reach completion, is there not perhaps an opportunity to shed some light on the local communities where construction is taking place, instead of shedding more of the load?

As part of the REIPPPP bid process, approved IPPs are tasked to contribute towards local community development through socioeconomic and enterprise development, local ownership and local job creation. These requirements have to be fulfilled within a 50km radius of the project and oblige

renewable energy companies to engage with the developmental opportunities and needs of communities around their project sites. Awarded projects are required to spend a certain amount of their generated revenue on Socio-Economic Development (SED) and Enterprise Development (ED) and share ownership in the project company with local communities.

The most critical aspect of the SED and ED element is that initiatives should result in the sustainable economic participation by its intended beneficiaries and discourage perpetual dependence on hand-outs. Many times this simply doesn't happen as initiatives may start off successfully but then dry up as donations get used towards overhead structures or the initiative simply doesn't have staying power and eventually fizzles out leaving communities high and dry.





## The major impact of mini grids

The majority of REIPPPP projects are being implemented in rural areas that are primed with natural resources such as solar or wind. What if, instead of the revenue going to various SED and ED initiatives, the government mandated this money to be specifically spent on electricity related projects within the community – such as building mini grids that supply power to the community. This would result in many of the country's most vulnerable being able to reap the immediate and long term benefit of access to electricity, and become active participants in their own economic freedom.

How? Project development teams have specific skills in creating power generating facilities and could probably negotiate a good price with the engineering, procurement and construction (EPC) contractor that is building their own plant. That EPC contractor can then build a smaller plant at the same time in the rural communities and the project can claim the costs back from the ED or SED fund. This way the development of mini grids can be pre-funded and accelerated by experienced individuals. Furthermore, the annual operation and maintenance (O&M) of these grids can be maintained by the same O&M provider that services the primary project.

To take it one step further, local community members could be trained to maintain, run and even provide security for the mini grid which would substantially increase skills development and drive local job creation. This approach would provide an opportunity for those who have the competence to become a much larger player in the solution through a two-pronged approach that creates a sustainable renewable energy source, and empowers a local community at the same time.

Probably the most compelling why this approach should be considered is the fact that IPPs are signing a 20-year contract that locks them in to the community for the long term. These are not fly by night initiatives that are swooping in, giving a hand out and then disappearing. These are institutions that have the skill, the staying power and the funds to impact the power crisis by being part of the solution.

### Scenario:

*Assume the development of a 100MW solar project where a community trust would be granted a 5% funded shareholding and 2.5% of revenue would be paid to SED/ED contributions for local development.*

- 1** Rather than giving 5% funded shareholding, construct a 5MW (5% of 100MW) solar plant close to the local community. The funding and repayment of this project costs would be funded by the main project, as it would be allowed to still build a full-size plant of 100MW and earn 100% of the return thereon, rather than having a lower percentage shareholding in the total project.
- 2** The O&M cost, Insurance, Security, Management fees etc. for running the project can also be paid for by the main project, substituting the payment of previously committed SED/ED costs.  
The synergies that can be obtained through this cost absorption makes it feasible for a smaller size project to be financially and technically viable.
- 3** The ownership of the project can be housed in a Non-profit Organisation. The electricity (or excess) generated by this plant, if not used by the community, can be sold to the local community, municipality or industry at discounted prices with the proceeds of this being used for community projects (i.e. SED/ED type projects). Hence, the community will directly benefit again by paying for electricity (even at reduced prices).

**If we have the power to harness resources that spark self-sufficiency, shouldn't we be exploring every way possible to find solutions that can be felt sooner and last exponentially longer?**

# Shining a light on the value of solar installations in the residential property sector

Residential users are increasingly investing in solar installations to mitigate the impact of loadshedding and increase property value. For all players in the residential property sector, renewable energy offers many valuable benefits, says Paul Badrick, Head of Real Estate and Construction at BDO South Africa.

The recent announcement by President Cyril Ramaphosa in his 2023 state of the nation address of various loans and incentives to move South Africans onto solar energy bodes well for the residential property market.

Individuals can now claim a rebate to the value of 25% of the cost of new and unused solar photovoltaic (PV) panels, up to a maximum of R15 000 per individual. A significant win for property owners, but also a solid case for investment as the market responds more positively to homes fitted with renewable solutions.

In the first half of 2022 alone, households imported more than R2.2 billion worth of solar photovoltaic (PV) panels, and estimations are that this will more than surpass what the government itself has been able to procure in solar energy over the last decade once installed.

Early studies are also predicting that the installation of a solar photovoltaic (PV) system can potentially increase the value of a home by 3% to 8%. This could be a significant increase in value, particularly for properties in areas where solar power is more popular. Solar installations can also have a positive impact on a property owner's monthly costs. By reducing energy bills, solar panels can help homeowners save money on electricity costs over the long term. Value can be realised for the property itself as well as the property owners, who are providing solar energy for their tenants.

Aside from the cost saving and value-adding benefits, solar panels are a visible sign of the property's commitment to sustainability and clean energy. Solar investment is seen as a statement of the property owner's forward-thinking approach to energy use. This appealing to environmentally conscious buyers who are willing to pay a premium for eco-friendly features, particularly appealing for younger buyers who prioritise sustainable living.







*“Almost all major banks now offer loans to provide finance to their customers specifically for backup utilities due to their expense – whether it be generators, batteries, or renewable energy sources such as solar.”*

For property owners who have limited capital to fund a solar installation the significant benefits of solar means that even though the cost of solar PV installations is still high, many installers offer rental or rent-to-own contracts. These contracts usually offer tailored packages according to specific residential requirements and generally include the cost of regular maintenance and system upgrades, making installation much more affordable.

Finance groups such as banks who are also seeing solar as a good investment are coming on board with specialised finance for installation purchases. This is provided it is installed professionally, compliant with relevant regulations, and is adequate for the home's needs. Almost all major banks now offer loans to provide finance to their customers specifically for backup utilities due to their expense – whether it be generators, batteries, or renewable energy sources such as solar.

In the residential rental market, tenants are becoming much more solar savvy when it comes to choosing their rental property. They are more likely to seek properties that already have renewable solutions in place. Landlords must recognise this trend or risk their investment losing value.

For those landlords who want to retain their current tenants, solar upgrades must be considered which does present an initial cost outlay upfront, but will secure long-term value in tenant retention.

As much as solar installations have been touted the way of the future, our unique South African circumstances dictate that solar is very much necessary in the present. The accelerated rate of adoption of solar across the country – and across demographic levels – is evidence that it will not be long before solar will be considered as much of a fixture as a geyser itself.

There is simply no downside to installing a quality solar system. Whether you own or rent residential property, the impact of solar installations on property is significant and multifaceted. From increasing property value and attractiveness to reducing environmental impact and saving money on energy costs, the benefits to property owners are endless. As renewable solutions become more cost effective, popular and accessible, we are almost guaranteed that the solar residential revolution will continue well into the foreseeable future.



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