

Morupule Coal Mine

CASTING A 'SEAM-TO-VALUE'
SUCCESS STORY





MCM

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Casting A 'Seam-to-Value' Success Story

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Botswana is blessed with a rich seam of natural resources, from diamonds and gold to coal. Indeed, coal is the driving force that has made the African nation what it is today: a stable and progressive country.

At the heart of this economic advancement are two coal-fired power stations, Morupule A Power Station, which opened in 1986, and Morupule B, which came into service in 2012. However, none of the country's electrical needs would be possible without the coal needed to fire the plants.

This is where the Morupule Coal Mine (MCM) comes into its own. It has been a fully operational underground mine since 1973. However, as energy demand is expected to rise to around 800 MW by 2028, a planned expansion called the Motheo Opencast Project is now underway.

Overview

Morupule Coal Mine (MCM), initially known as Morupule Colliery, celebrated a monumental milestone on 31st July 2023, marking 50 years since its first production of coal in 1973. Located around 300 kilometers north of Gaborone, MCM has transformed from a modest operation producing 30,000 tonnes per annum through conventional drilling and blasting to a powerhouse achieving 1 million tonnes per annum with a continuous miner operation by 2005. This journey epitomizes operational excellence, turning MCM into a cornerstone of Botswana's economy and a beacon of coal production in the region and internationally.

Botswana, blessed with over 200 billion tonnes of coal resources, anticipates an energy demand exceeding 800 MW by 2028. MCM's role in meeting this demand

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has never been more critical. From its origins as a subsidiary of Anglo American Corporation, MCM transitioned to full ownership under Debswana Diamond Company and, in 2016, became wholly owned by the Botswana Government's Minerals Development Company Botswana (MDCB).

In 2023, MCM celebrated its golden anniversary with grandeur and pride. The festivities included a series of vibrant activities culminating in a spectacular event in September. Under the theme "50 Years of Energising the Nation," the celebration reflected on MCM's legacy and envisioned its future. CEO Edwin Elias passionately spoke about intertwining MCM's rich history with its Corporate Strategy #1-3-27, aiming for future growth and innovation. The unveiling of the MCM50 logo, a symbol of unity and pride, was a highlight of the celebration, showcasing designs chosen by

employees. Union representative Ofentse Lemponye encapsulated the excitement by emphasizing the year's historical significance for both MCM and Botswana, encouraging everyone to contribute ideas for the commemoration.

As MCM looked back on five decades of achievements, it also set its sights on a future of endless possibilities, committed to maintaining its status as a global leader in the coal market and a vital player in Botswana's ongoing development. The 50th anniversary was not just a celebration of the past but a launchpad for an even more ambitious and prosperous future.

Morupule Coal Mine

The mine is located 14 km northwest of the urbanized village of Palapye, the fastest-growing centre outside the capital city of Gaborone, along the Serowe-Palapye

ENGEN

Engen Marketing Botswana Commercial business is divided into the South and North according to the geographical make-up of the country. The South side of the business is mostly urban industrialized businesses while the North part focuses largely on Mines. The commercial Engen business in Botswana is driven by Mines, Resellers, construction and Government.

In recent years the commercial business has seen growth in the mining sector winning business and partnering with Morupule Coal Mine based in Palapye. This business further yielded new opportunities as Engen was able to get more business from the mine's leading mining contractor Bothakga-Burrow and Basil Read Mining Joint Venture. The experience that the company has benefited through collaboration with both entities has proven useful as the commercial business has introduced new fuel & Lubes storage equipment and fuel management systems that were never used before.

The introduction of these new initiatives has allowed for ease of business reporting, training and ordering. In addition, the sales of fuels and lubricants has significantly improved and shows even better promise compared to post

covid times. The benefits of being in business with Morupule Coal mine and Bothakga-Burrow and Basil Read Mining Joint Venture extend to local company contractors as well. Engen has engaged local transporters to be the ones delivering oils and lubricants and engaged local contractors for facility maintenance and repairs.

Finally, Engen is currently in talks to extend a helping hand as part of Corporate Social Responsibility with these two entities. Morupule Coal Mine will be hosting their GM's Annual Charity Cycle Challenge in the second quarter of the year. The initiative started in 2009 with the view to improve overall fitness of mine employees and surrounding communities to raise funds to assist the less fortunate. Funds raised during the past races were mainly applied towards different projects including construction of houses for indigent families in and around Palapye, construction of classrooms for disabled pupils at Ratsie Setlhako Primary School, refurbishment of the Palapye Secondary School library, purchase of pupils play equipment at Sehunou Primary School among others.



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national highway. MCM has a mining lease area covering approximately 42531.625ha and a total inventory of coal of 4 284.9Mt, both from indicated, inferred, and measured resource categories.

It operates an underground mine, within a 4 billion tonne classified semi-bituminous thermal coal resource. The resource comprises three main seams: Lotsane, Number 2 Seam and Morupule Main Seam and currently targets producing at least 4.2 million tons per annum, with plans to deliver at least ten mtpa by 2027.

MCM coal has "self-scrubbing" characteristics and, unlike many coals, does not have a proclivity to produce acid mine drainage. This is due to the unique proportion of the buffering inorganic minerals in the coal to the acidic minerals. The coal types that MCM produces range in five types, from 0-14mm up to 40-75mm.

Motheo Project

MCM's expansion, the Motheo Project, was approved in 2019 to position the company as a strategic source of energy by producing coal using opencast mining. The open cast will increase the tonnage produced by MCM from the current coal production capacity to 4.2 million tons per annum of run-of-mine (ROM) coal.



This will allow MCM to supply new customers to maintain and grow its market share, improve resource utilization, realize potential asset value, and de-risk coal supply from a single underground mine access.

Strategically, the open cast mine can be scaled up to produce up to 6mtpa saleable coal, coupled with the development of a rail link into the Waterberg region of RSA and other markets that are currently being studied.

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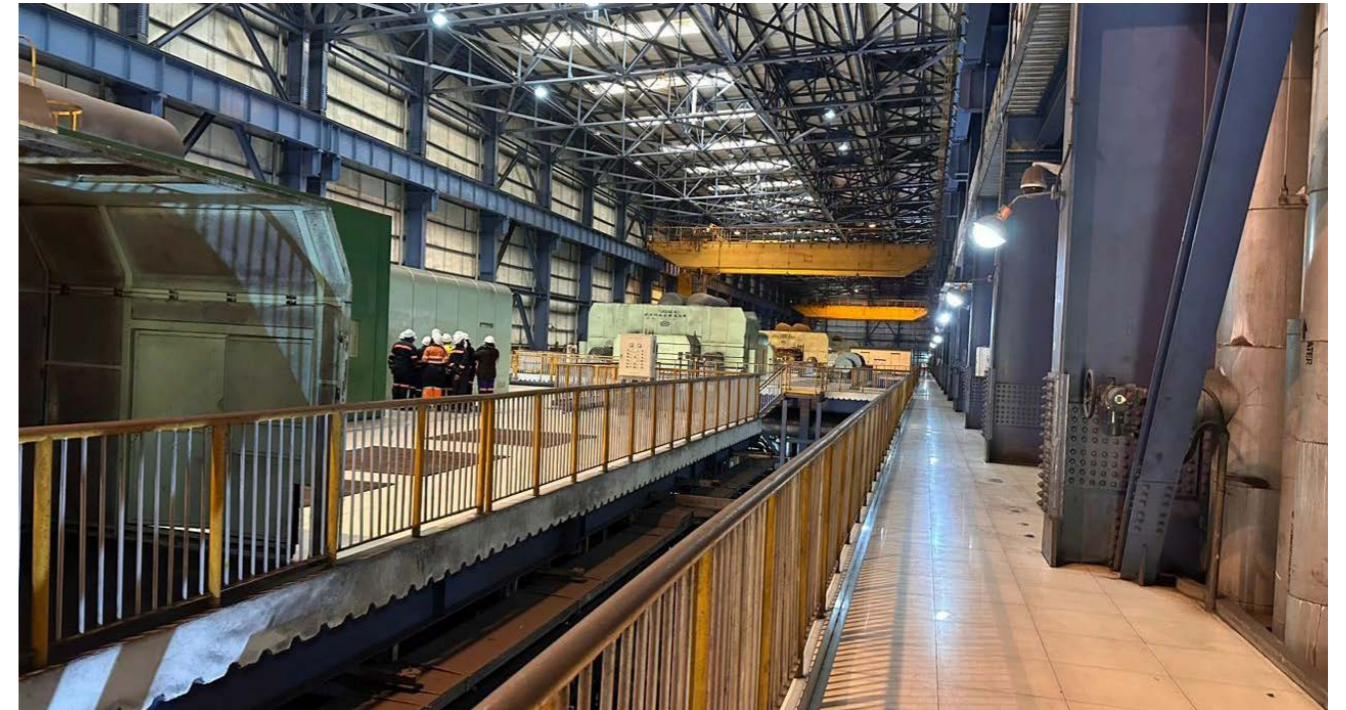
MCM's Chief Executive Officer Mr Elias said Morupule Mine will use Motheo—which means 'foundation'—as a springboard to help grow and expand its business and participate in and capture the prevailing market opportunities in the coal industry

Work on the Motheo Project began in late 2021 when the President of Botswana, Dr. Mokgweetsi Eric Keabetswe Masisi, officiated at the groundbreaking ceremony.

When fully operational, the mine will include a coal-washing plant and associated infrastructure to supply coal to the regional market. The construction phase has created 900 local employment

opportunities so far, and the operation phase of the project will create over 350 employment opportunities.

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In a keynote address, President Dr Masisi expressed gratitude that the Motheo project had finally become a reality. He said mining remains one of the most important economic sectors, which holds the key to transforming Botswana into an upper-income country. Currently, Botswana has 212 billion of untapped coal reserves. He added: "We anticipate employment creation, particularly for the youth from this project given its scope of work."

Mining contractor BasilRead-Bothakga Burrow (BRBBJV), Bothakga Burrow Managing Director Arthur Siwawa said the joint venture will undertake the opening cast mine planning, scheduling, drill and blast, load and haul of coal and waste over five years. BRBBJV will mine 23 million cubic meters of waste and run-of-mine coal.

Siwawa said the Joint Venture will employ more than 250 people during the five-year period. "We will continue with the

roll-out of our Graduate Development Programme, which will see us continue to invest in our future leaders in the mining sector," he said.

Strategic Partnerships with Local Suppliers Paving the Way

Strategic partnerships with both local and international suppliers have been instrumental in Morupule Coal Mine's journey, enabling it to achieve remarkable milestones over its 50 years of successful operations. These collaborations have provided essential services and innovative solutions, driving the mine's efficiency and growth. Edwin Elias, CEO of Morupule Coal Mine, highlighted the significance of these partnerships, stating, "Over the years, our strategic partnerships with local suppliers have been a cornerstone of our success. These relationships have not only provided us with essential services but have also fostered innovation and efficiency." Local partners such as TMS Group Industrial Services Pty have delivered critical



with Johdee Mineral Processing, have brought expertise in mineral processing, optimizing the extraction and processing of coal. Cummins Botswana has supplied reliable power solutions, crucial for maintaining uninterrupted operations, while EH Construction and Excavator Hire has facilitated heavy equipment rental and maintenance, ensuring that the mine's machinery is always operational. Light Reel Engineering Solutions and Nesas Surveying have delivered precise engineering and surveying services, essential for the mine's planning and development activities. Water Surveys Botswana has offered critical water management solutions, ensuring sustainable use of water resources, and Startrans Botswana (Pty) Ltd has ensured the supply and maintenance of cutting-edge mining equipment, keeping the mine at the forefront of technology.



In addition to local collaborations, strategic partnerships with international suppliers have also played a crucial role in Morupule Coal Mine's success. "Our international partners bring cutting-edge technology and global expertise, ensuring that Morupule Coal Mine remains at the forefront of the industry," Elias

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industrial services, ensuring operational continuity and efficiency. Pindulo Logistics has played a vital role in providing seamless transportation and logistics support, while Engen has supplied high-quality fuel and lubricants essential for the mine's machinery and vehicles. ICL Botswana has contributed advanced chemical solutions,

enhancing various mining processes, and Aon Botswana/Minet has provided robust insurance and risk management services, safeguarding the mine's operations. Julzon has offered specialized industrial solutions, further supporting the mine's technical needs. Additionally, Red Dune Engineering and Mineral Processing, along



remarked. Fluor South Africa/Botswana has provided comprehensive engineering and construction services, significantly enhancing the mine's infrastructure and capacity. Sandvik Mining Botswana has ensured the supply and maintenance of advanced mining equipment, contributing to the mine's operational efficiency and productivity. Minetek and DCD Group have enhanced operational safety and equipment performance, providing advanced safety systems and robust equipment solutions. Rapid Group Holding Ltd has specialized in advanced material handling solutions, improving the mine's logistics and material transport processes. Brelko Conveyor Products (Pty) Ltd has contributed innovative conveyor products, optimizing the handling and transport of coal within the mine. "The synergy between our local and international partners has been pivotal in driving our efficiency, safety, and growth. This collaboration has cemented our legacy of success over the past 50 years," Elias noted. As Morupule Coal Mine celebrated its 50th anniversary,



it reflected on the importance of these strategic partnerships in its journey. Elias concluded, "The partnerships we have built are not just business relationships; they are a testament to our commitment to operational excellence and community prosperity." These collaborations have underpinned Morupule Coal Mine's legacy, showcasing a synergy of local expertise and global innovation that continues to drive the company forward



Seam To Value

At MCM, company culture is woven around a robust set of values. It has a mission of 'Seam to Value' - this captures its ambitions for the future and shaping its reputation in the marketplace.

MCM has been operating for over 50 years, and during this period, its safety performance has been phenomenal. In 2023, MCM achieved 22 years without a fatality and 11 years without a lost time injury.

The company is also working toward building partnerships to achieve its decarbonization journey. One project under investigation is with Botswana Oil, in researching and exploring the function of coal-to-liquid technology (CTL). CTL technology makes it possible to convert coal into liquid fuels such as diesel and gasoline.

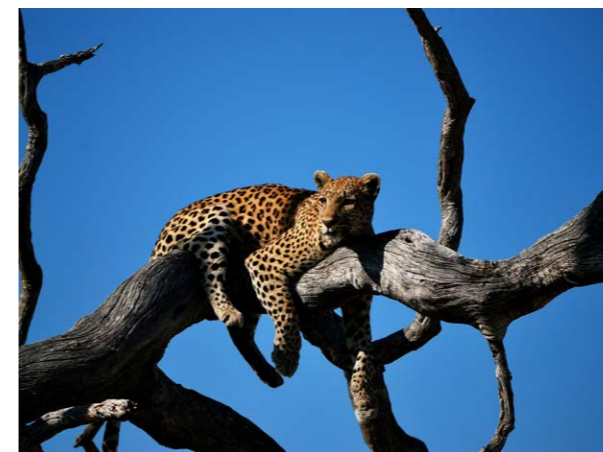
MCM has also entered key strategic alliances. One with Access Bank Botswana will provide financial support and business opportunities to private businesses through the government's Citizen Economic Empowerment Programme. A memorandum of understanding between MCM and Letshego Botswana will also



give micro and small contract suppliers access to \$157 million in funding over five years.

MCM is also highly committed to lifting the lives of communities within the regional context of the mines. It is directly involved with numerous activities from donating computers and music instruments to elevating healthcare and empowering local children and women.

"At the heart of Morupule Coal Mine's operations, sustainable mining and innovation are core to our strategic pillars. We, therefore, are continually committed to driving economic growth through key initiatives such as citizen economic empowerment that bear the required impact of sustainable job creation and resilience of our business," concluded Mr Elias.



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