

Approved solar system at Mozambique's Balama mine reflects priority of energy transition for mining in Africa

Nairobi, 5 May 2022—Momentum is growing in the opening quarters of 2022 for hybrid power solutions catered to the mining industry in Africa. The approval of a solar and battery system at the Balama Graphite Operation in Mozambique reflects a move towards cost savings and sustainability given increasing risks associated with global energy supply chains.

The escalation in energy prices due to the conflict between Russia and Ukraine are hurting countries most heavily reliant on energy imports. In African markets, high consumption industrial and commercial enterprises are feeling the pinch. South Africa, for example, recently put out a call for proposals to private producers to supply an additional 2,600 megawatts of renewable energy.

President of CrossBoundary Energy Pieter Joubert says: "At the moment, solar and wind are cheaper and cleaner electricity options for commercial and industrial companies, particularly mining houses. The mining industry is looking to improve cost structures to increase margins and ensure a strong balance sheet during these uncertain times. Renewable energy solutions can typically save up to 30% in electricity costs and generate an attractive return on capital due to the low upfront capital costs."

As a result, CrossBoundary Energy is seeing increased demand for its hybrid power systems designed specifically for the mining sector. CrossBoundary Energy's approach to the industrial renewable energy transition has brought to bear some of the most significant mining hybrid projects in Africa to launch in the last several months:

Balama Graphite Operation - Mozambique

On average, the 11.25 MWp solar and 8.5 MW/MWh battery energy storage system (BESS) at Balama Graphite Operation will reduce diesel consumption for power generation by 35%. During peak daylight times, the solar battery system will be able to supply up to 100% of Balama's power requirements, taking advantage of the high solar irradiation potential of the site location. The renewable energy system is forecast to save ~US\$8 per tonne at a 15kt per month production rate.

CrossBoundary Energy will finance, own and operate the project under a 10-year build-own-operate-transfer arrangement, with Solarcentury Africa leading project development and EPCM activities. The solar battery system was approved by Syrah Resources' board of directors in April 2022 and is scheduled to be commissioned and operating before the end of March 2023.



QIT Madagascar Minerals (QMM) – Madagascar

The 8MW solar, 12MW wind, & 8.25MW BESS solution located in Fort Dauphin, Anosy, Madagascar, will provide 60% of QMM's energy, making it the largest renewable penetration project for a mine in Africa. The project is projected to reduce the mineral sands operation's annual carbon dioxide emissions by approximately 40,000 tonnes. Groundbreaking took place in December 2021, with operations expected to start by mid-2022. The project is funded by CrossBoundary Energy via a 20-year power purchase agreement with Rio Tinto which will see CrossBoundary Energy build, own and operate the hybrid renewable energy plant.

Molo Graphite Mine – Madagascar

The 2.5MW solar, 1MWh BESS and 3.3MW thermal energy system at Molo Graphite Mine will reduce its total cost of electricity, lower its all-in sustaining costs, as well as minimize its carbon emissions. CrossBoundary will supply the hybrid solar and thermal energy system to power operations at the NextSource Materials' owned mine for a 20-year term. The system has been designed to scale with Molo Graphite Mine and ensure 100% power availability.

Matthew Fredericks, CrossBoundary Energy's Director of Business Development for Mining explains: "We have seen a massive shift in the mindset of mining houses, particularly executive decision-making, not just in Africa but globally. The requirement to control operational costs coupled with the pressure to reduce greenhouse gasses has never been more evident than in the past few months. CrossBoundary Energy's fully funded solutions and ability to move swiftly intersect beautifully with the decreasing costs of renewable technology. Using our solutions, mining houses are able to focus their attention and internal funds on core revenue generating processes while ensuring long-term cheaper, more efficient, and cleaner energy projects."

The ongoing energy transition and future of mining are both interrelated themes of Mining Indaba 2022 conference taking place from 9-12 May 2022 in Cape Town, South Africa. CrossBoundary Energy will be on ground at the conference presenting its mining hybrid energy solutions.

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About CrossBoundary Energy

CrossBoundary Energy, part of CrossBoundary Group, was launched in 2015 as Sub-Saharan Africa's first dedicated fund for commercial and industrial renewable energy systems, including hybrid power systems for the mining sector. CrossBoundary Energy currently active in more than 10 African countries and has a portfolio of over US\$135 million of renewable energy projects for commercial and industrial clients across the continent. CrossBoundary Energy's approach to the industrial renewable energy transition has brought to bear some of the most significant mining hybrid projects in the world. CrossBoundary Energy is a direct investment platform of the CrossBoundary Group and is funded by ARCH Emerging Markets Partners' Africa Renewable Power Fund (ARCH ARPF). For additional information, visit www.crossboundary.com/energy.

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