



The Mining Industry and the Energy Crisis

What is the role we are playing?



I find myself confronted with my own ignorance after a few months (if not years) of an overwhelming information onslaught about the state of South Africa's infrastructure. More specifically, our country's energy crisis. I realized that with this torrent of information, I still cannot say what the future of our energy infrastructure and supply will look like. More importantly, if the future indicates an ongoing energy gap, what will be the impact on the mining industry?

A report from the Centre for Sustainability Transitions at Stellenbosch University has estimated that \$250 billion will be required over the next 30 years to support South Africa's transition away from coal. The Just Energy Transition Partnership Investment Plan (JETP-IP), currently in its first draft, seeks to unlock \$8.5 billion in finance over 3 to 5 years to assist South Africa's transition away from fossil fuels. Commentary indicates that this will not be sufficient to address the current energy gap.

South Africa relies heavily on electricity generation by an ageing fleet of coal-fired power stations. Eskom plans to remove approximately 3.5 GW of supply by decommissioning five coal-fired stations, which will have reached the end of their 50-year lifespan between 2021 and 2025. Approximately 60% of the nominal capacity of 37.4 GW is generated by power stations between 35 and 59 years old. With this imminent threat, it is estimated that without additional capacity there will be an electricity gap of around 5 GW over the next four years. Since electricity generation from fossil fuels retains a monopoly in South Africa, plans had to be put in place to manage the energy gap through the Integrated Resources Plan (IRP), which focuses on pursuing an energy mix, including renewables, hydrogen, and nuclear to meet the country's energy demand. Should there be any further slippage in executing the installation of renewable energy sources and the completion of the transition development plan (TDP), the supply gap will balloon to 9.1 GW by 2030. This would be disastrous for South Africa and the mining industry.

Mining is one of the biggest contributors to South Africa's gross domestic product, accounting for almost 9% of the GDP in 2021, and according to Statistics South Africa at the end of March 2022 the mining industry marked the second most significant quarter-on-quarter increase of 2% in employment. Statistics vary, but 14% to 30% of South Africa's total energy is supplied to the mining industry, around 40% of which is consumed by the platinum mining industry. Platinum is one of the key materials for batteries and hydrogen technologies. South Africa produces 72% of the world's platinum and in layman's terms, a growing energy gap would mean that underground operations would cease, causing major PGM supply disruptions. Apart from the risk to PGM supply, an ongoing and increasing energy gap could cost the country billions of rands in lost tax revenue from the mining industry as production slows. In April 2022, Stats SA showed a slump of 14% in mining production, which was far worse than market forecasts of a 5% decline at the time.

Is there a role for the mining industry to play within this energy crisis?

South Africa's President announced that the licence-exemption cap on self- or distributed-generation plants would be raised from 1 MW to 100 MW. The implication of this is that mining companies can now build power generation units of up to 100 MW without applying for a licence through the National Energy Regulator of South Africa (Nersa). Keeping in mind that the mining industry is one of South Africa's largest energy consumers, the mining industry aims to reduce its own consumption by approximately 30% with 73 self-generation projects, from 24 mining companies, which could generate up to 5.1 GW of electricity (technology analyst Christian Teffo from the Minerals Council South Africa). According to the Minerals Council, gold producer

President's Corner *(continued)*

Pan African Resources is already producing 10 MW, Gold Fields is set to add a further 50 MW, and Harmony Gold is aiming to produce 38 MW. This year alone, Nersa has registered 295 MW of projects for mining companies. Sibanye-Stillwater is preparing feasibility studies for prospective 50 MW and 85 MW solar PV projects; Anglo Platinum is looking at building a 75 MW to 100 MW solar PV plant and in May 2022, at the annual African Mining Indaba held in Cape Town, unveiled a prototype of the world's largest hydrogen-powered mine haul truck. Northam Platinum is looking at modules of 10 MW. According to Gold Fields CEO Chris Griffith, their solar PV plant will generate more than 20% of the mines' electricity and will save Gold Fields R120 million a year in power costs.

All these initiatives will go a long way towards achieving a net-zero carbon emissions target set for 2050. South African miners commit to playing their part to support the new energy plan, protecting economic growth and the production of key minerals for batteries and hydrogen technologies. However, the possible solutions for closing the energy gap are complex and the role that the South African mining industry can play to support the national energy plan is not without risks and barriers.

Risks that enjoy media attention reach across social, economic (especially capital costs), technological, and regulatory barriers. The dialogue around fossil fuels cannot happen without acknowledging political influence. National plans to install alternative energy slipped mainly because of a failure to implement policy between 2015 and 2018 and the consequent breakdown in procurement. The missed opportunity is immense, considering that new IPP renewable energy sources can potentially come on-line quite quickly and smaller projects can be implemented rapidly (compared to coal-fired power stations). Moreover, there is still debate around structural reforms, including unbundling of the national power supplier, the option of independent transmission operators, and independent energy trade, which has explicitly been mentioned by Jevon Martin, the chairperson of the Energy Intensive Users Group (EIUG). Although there is a risk in affordable energy storage options for renewable power, it seems that the barrier that is most often discussed is regulatory challenges. Have we truly addressed our regulatory barriers? Nikisi Lesufi, the Minerals Council's senior executive for environment, health, and legacies, said there was still a 'plethora of red tape' which is stopping individual mining companies from fast-tracking power projects. He mentions that the lack of coordination between different authorities and long lead times in obtaining authorization are unnecessarily increasing the project timelines of mining companies. It is evident that the South African energy policy and legal regulations are highly complicated and dynamic, with obvious institutional fragmentation.

Is there a role for the mining industry to play in addressing these regulatory barriers? The SAIMM continues to create a platform for our stakeholders to discuss these challenges. One example was the Just Transition ESGs Webinar in October 2022, where Andrew van Zyl, who is currently managing the SRK team that is part of the EU Re-sourcing Project, Dr Megan Cole, sustainable development researcher from the University of Cape Town, and Mzila Mthenjane, executive head, strategy and stakeholder engagement at Exxaro Resources, gave an excellent perspective on our coal mining, the associated communities, and the just transition in South Africa. I urge our stakeholders to join us and continue having this conversation

Z. Botha
President, SAIMM