



Press Release

22 July 2020

Immediate Release (draft)

Where mining meets energy: small operational changes reap great savings

Amid national energy constraints and a mining sector set to contract, opportunity exists for South Africa's mining sector to continue exploring cost-saving measures with improved energy efficiency. With mine production in the country having plummeted in April and May due to lockdown restrictions and a near total industry shutdown, boosted efforts to save energy and costs can improve the sustainability of this sector, which accounts for 8% of the country's GDP.

"While energy and cost saving measures are already present across the mining industry, the new challenges facing the country – and the mining and energy sectors specifically – present a need for further exploration of cost- and energy-saving initiatives," says Barry Bredenkamp, General Manager, Energy Efficiency & Corporate Communications for the South African National Energy Development Institute (SANEDI).

Addressing the ways energy is used in the mining sector can lead to huge financial and environmental savings for mine operations and for South Africa's national grid. "Looking at the crossroads of mining and energy, and making some simple changes to operations, means that we can achieve a better economic return on our precious mineral and energy resources," says Bredenkamp. Although most mines already have initiatives in place, newer technology and energy saving techniques offer opportunities for improvement so desperately needed as mine productivity strives to recover.

The decision by President Ramaphosa last year to combine the Department of Energy and the Department of Mineral Resources amplifies the critical importance and synergy between these drivers of the economy. The Department of Mineral Resources and Energy (DMRE) has created a platform for the two industries to work together. Bredenkamp says, "A recent case study by SANEDI on the 12L Tax Incentive has demonstrated just how much energy efficiency can be gained through simple changes to mining operations. The 12L Tax incentive provides

an allowance for businesses to implement energy efficiency savings. The savings allow for a tax deduction of 95c/kWh saved on energy consumption for a consecutive 12-month period.

Huge savings from simple changes

SANEDI undertook a case study with a large iron ore open-pit mining operation to establish what could be done to improve the mine's energy efficiency. The study centred on the heavy mine-owned haul trucks, famous for being "gas guzzlers". The mine's trucks consumed a combined total of approximately 73 million litres of diesel during the baseline period.

To improve efficiency, the mine increased the amount of material transported by the haul truck fleets in each cycle, resulting in energy savings due to less cycles, achieving the same quantum of tonnes moved. The case study used a calibrated simulation model to assess the savings and found that, over two years, the haul trucks yielded a combined fuel savings of 21,685,430 kWh equivalent energy. Bredenkamp comments: "Changing the haul load was a relatively simple technical challenge to overcome and it achieved incredible savings. The potential for even greater energy savings lies in every mine in South Africa, and a deeper look into how these mines operate holds huge implications for our economy."

"This case study shows just how critical the intersection of mining and energy really is. Focussing efforts on improving energy efficiency in the mining industry, South Africa can reap huge economic and environmental rewards and see businesses in these sectors become more sustainable," concludes Bredenkamp.

Ends 605 words

Follow SANEDI on social media

Facebook: @sanedi.gov

Twitter: @sanedi.org

LinkedIn: @sanedi.org

About SANEDI

The South African National Energy Development Institute (SANEDI), established by the Government, directs, monitors and conducts applied energy research to develop innovative, integrated solutions to catalyse growth and prosperity in the green economy. It drives scientific evidence-driven ventures that contribute to youth empowerment, gender equity, environmental sustainability and the 4th Industrial Revolution, within the National Development Plan (NDP), through consultative, sustainable energy projects. For more information, go to www.sanedi.org.za.