

New technology takes mining industry by storm

Major South African mining companies excited about greener and more efficient drilling system

A new environmentally friendly drilling technology looks set to revolutionise the SA and global mining industries, with two leading mining houses already planning to introduce it to their mines.

Peterstow Aquapower has developed a new drilling system which could save global mining companies millions of dollars in capital and operational costs, whilst dramatically reducing the industry's environmental impact.

Cost and environmental challenges have a serious impact on the mining industry, leading to mine closures and struggles to meet environmental targets. Pumping water and energy down deep mines, and removing and disposing of it, has proved so expensive that some mines have struggled to stay profitable.

Deep level mining, used to extract gold and precious metals, requires high pressure air to be pumped as much as three kilometres down mines to run drills. Energy inefficiency is staggering; with up to 99% of energy being lost on route. Current drills also require several tons of water to cool the hot air, which needs to be pumped down and back up again and contributes to acid mine water, which can devastate local communities and ecosystems if not treated.

Peterstow technology changes that. Its new drilling systems for hard-rock deep mining can use less than 5% of the energy required by some existing pneumatic systems and a fraction of water.

In addition to dramatic cost savings, it will help the companies respond to increasing regulatory and political pressure to improve energy efficiency.

The Peterstow system also cuts capital cost by eliminating the need for much of the underground infrastructure needed for traditional hard rock drilling processes, such as compressed air reticulation columns and high strength water piping.

The system uses Peterstow's patented closed-loop water hydraulic technology and modular powerpacks. The closed-loop design dramatically cuts water usage and ensures a more efficient transfer of power to the drill with greater reliability than existing technologies. It reduces water wastage and flooding which allows for the reduction of pumping facilities, opening up additional opportunities for savings.

The technology represents the life's work of entrepreneurs Douglas and Alan Barrows. Douglas said: "We believe this is the single most important piece of technology to hit the mining industry in 50 years. The interest we have received already reflects how important this will be for the industry."

Ian Cockerill, former CEO of Gold Fields and an advisor to Peterstow, commented:

"This is a breakthrough technology which can give a huge leap in productivity. This kind of innovation means the mines can still operate while reducing their power requirements, and at the same time get a much more efficient drill which gives you more operating time at the face."

"From work done to date, it appears there is a real financial case to change from the high pressure water columns driving conventional drills to Peterstow's remote operated closed loop water hydraulic system.

"Mines are going to come under huge pressure as significant consumers of power. But big business like mining has the capability to put in place a game changing technology, and this is a game changing technology," Cockerill said.

Peterstow has built its world class manufacturing plant on a 32-acre site in Ngwenya, Swaziland, where it employs more than 100 people. The location provides strong transport links to key parts of southern Africa, and offers ample opportunity for expansion to meet increasing demand.

The presence of the factory, coupled with Peterstow's charitable work, brings important business and social benefits to the local community.

Phiwa Ginindza, Chief Executive Officer of the Swaziland Investment Promotion Authority, welcomed the

investment: “We very much welcome the Peterstow factory in our country. The investment is amongst the biggest in Swaziland for five years and amongst the top ten ever. It’s great that Peterstow are manufacturing entirely in our country for the export market, creating jobs for 100 engineers and contributing to the high tech economy.”

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