
<http://www.miningweekly.com/article/renewable-energy-for-mines-still-relevant-despite-decline-in-oil-price-2015-02-11>

Renewable energy for mines still relevant despite decline in oil price

11TH FEBRUARY 2015 BY: SIMON REES



T
ORONTO

Barrick Gold's Punta Colorada wind farm, Chile.
Photo by: Barrick Gold

(miningweekly.com) – The complexities and challenges of running a mine are immense, but the end result is simple; either it makes or loses money. In the current downturn, the difference between success and failure can be a fine line.

Central to the issue of margins is the cost of power supply, consumption rates and

operational expenditure.

With this in mind, the reduction in oil prices has been a welcome boon for the industry, particularly for operations reliant on diesel generators in remote areas and without grid access.

But the drop in the oil price is likely to be temporary, mining industry panellists warned audience members at a renewables seminar hosted by the Canadian German Chamber of Industry and Commerce's Competence Centre for Mining and Mineral Resources this month.

"Don't get too reliant on the low energy price as a prime driver of your business," Iamgold executive VP and COO **Gordon Stothart** cautioned. He also reminded audiences of the sharp move higher by oil prices three years ago and how this still informed industry decision-making and its approach to renewables.

Barrick Gold director for power projects **Scott Fraser** concurred and outlined the company's price forecast. "We have some pretty good predictions that say oil will rise back up to \$60/bl to \$70/bl by the third quarter. This is a temporary drop."

Companies were also keen to reduce diesel transportation and the risk associated with this, he noted. "Every time we take a tanker of diesel into a remote site there's a risk. We see it as [important] to reduce the number of tankers on the road."

The panellists noted that renewables were increasingly competitive in cost and performance. In addition, the price of energy storage tied to renewables was expected to continue falling.

GETTING IT RIGHT

Central to the implementation of renewables was project planning, Fraser stressed, noting that it could be difficult to find the right balance in electrical consumption in the earlier stages of a mining project.

For operators seeking to install renewable components from the offset, obtaining data throughout the various development phases was a key task.

Detailed planning also allowed operators to fine-tune a mine's grid to cope with the peaks and troughs of renewable power. "In all your discussions about renewable needs, remember it must be applicable to the site and the load balancing [required]," he added.

Fraser emphasised the importance of on-site training and the development of relevant skill sets, which would help boost a renewable component's efficiencies.

Having the right people in charge was essential. “The person responsible for running an asset must view it as an important part of the mining operation,” he said, as this person would become the "champion" to ensure a high level of performance.

Fraser highlighted Barrick’s Punta Colorada 20 MW wind farm that was built to support the Pascua Lama gold/silver project, which remained suspended. The wind farm was connected to the national grid through Barrick’s substation, which had enabled other renewable developers to construct projects in the vicinity and create a positive spin-off for Chile.

“Right now there’s 300 MW of renewable capacity being installed in the immediate area, simply because we built the substation to support the mine,” he noted.

Stothart outlined lamgold’s installation of a 5 MW capacity solar plant at its Rosebel gold mine, in Suriname, that comprised more than 16 000 solar panels. “At peak time it’s about 4 MW to 5 MW out of a 33 MW system, so you’re talking about a just over 10% penetration at full power.”

Built primarily by local contractors, the plant came on stream in August and cost \$11-million. “The plant works because it has relatively low penetration and we’re connected to the national grid, which is robust enough to absorb [the renewable power] variability without affecting the operation,” he advised, adding that the project’s integration had been seamless.

EVERY LITTLE BIT HELPS

Renewables also had a role to play on the smaller scale. Avalon Rare Earth Metals VP for exploration **Bill Mercer** noted the success of a small renewable system at the company’s exploration camp, in the remote Northwest Territories, which significantly reduced the level of diesel used for heating purposes.

Stothart outlined lamgold’s use of solar-powered portable communications towers. Not only did this save on costs, but it meant generator sets did not have to be run or power lines laid when they were in use. He also pointed out how the company used solar-powered water heaters at a personnel camp, achieving a good return on investment.

Another area of growing importance for renewable energy was mine rehabilitation, where a site team required power but at a far lower rate.

Some companies might also maintain renewable energy production as a legacy for local communities. “If the industry can leave something that sustains a benefit to the community long after an operation has gone, then there are some real, intrinsic advantages for us to do that,” Stothart said.

Many old mine sites also had latent potential for power generation through water

displacement and pump schemes. As brownfield projects, the ability to obtain permitting for a change of use may be easier, Fraser added.

In the future, other renewables, including geothermal energy production or renewable liquids that displaced diesel, would be used. “And, as we move towards scarcities in fresh water, [critical] for mining companies will be the use of renewable energy in desalination work,” he commented.

Mining companies were also likely to face growing social pressure to reduce their fossil fuel consumption and cut their carbon emissions. Renewables would have an important role to play in responding to this, Mercer advised.

Many of the polarised views surrounding renewable technology need to be removed from the debate. “It’s important this aspect gets removed and people look at renewables based on cold and calculated facts,” he added. 

Phone: +27 (0)11 622 3744

Fax: +27 (0)11 622 9350

Email: newsdesk@engineeringnews.co.za

Website: <http://www.engineeringnews.co.za>