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The Evolving Landscape for Mine-Renewables Partnerships in Africa

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Jean-Charles Brun
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African mines are showing a steady and growing interest in renewables to power remote sites and address grid stabilization, reports Jean-Charles Brun, Sales Manager Smart Generation Solutions, at Siemens. Building leadership in this market requires patience and perseverance, however, with projects taking a long time to come to fruition. In this Industry Q&A, Brun offers his views on the excellent potential for mining-renewables partnerships in Africa and the challenges ahead.

Q Siemens is one of the earliest to develop a hybrid solution customized for the mining sector. What has changed over the last two years in terms of the conversations you are having with mines?

A Two years ago, we were the ones proposing and explaining the solutions and now we are being contacted by an increasing number of mining operators to study how these solutions can be introduced into their strategies. We are seeing more big players in the mining sector come directly to us and ask if we can demonstrate our solution. They want us to work on a specific mine to bring some financial advantage to their [energy] supply. So, we have more potential projects and the flow of information is coming to us.

Q Why do you think the lead time for these projects is still very long despite the increasing interest from African mines?

A We expect a lot from the African market but, yes, we are facing some delays and there are several reasons. Firstly, the typical development cycle for African projects is longer because you are dealing in countries where there are recurrent financing problems so things don't move as quickly. Also the mining sector is very conservative and they would like to see a big project in operation so they can see how it works.

The other challenges is the discrepancy between the development time for a project and the life of mine. It can take 3-5 years to develop a power project which is not compliant with the lifetime of the mine which can be 5-7 years. So we have to shorten the project implementation because if it takes 2 years to build, that is lost production, earnings and savings for the mine.

Q Has lower oil impacted mining's appetite for fuel savings?

It's not a problem because there is no project starting now that can be achieved in the next 6 months and we know that the price of oil is going up. And even

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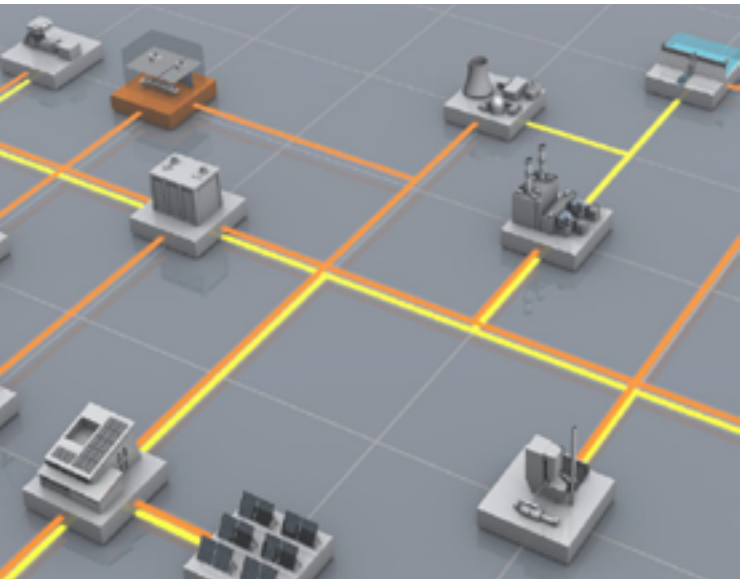

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with this lower oil price, projects in remote areas where oil pricing is important still look interesting.

When you take into account the life-of-mine and development time for a project, lower oil is not an issue because you know the cost will vary. Also a significant portion of the diesel costs are related to transport, storage, and security and so that all has to be considered and is not affected by lower oil.

Q Can you offer some insight into how the conversation around financing for these projects is developing?

A: It is not difficult to find a project that can be paid in 3-5 years for these remote areas. You just take into account the fuel savings. You can increase the amount of savings tremendously for grid stabilization projects as well. When the utility is not reliable enough to maintain stability of mine production, we can design a system that decreases the reliance on diesel back-up and stabilizes the internal grid of the mine. When you add a power system that is reliable and stable, then the savings are significant.

If I am an owner of a mine, I want to make my energy cheaper. So, if I am not grid-connected, I will look at the cost of building lines to the grid but that is not the solution because you will get access to the cheaper energy but you will import some of the instability of the grid. So what you thought was a good deal will, in the end, require you to run your diesel engines.

Q What are your predictions for the energy supplies for remote mining operations in Africa over the next few years?

A Africa is a perfect place for renewables for mines because the majority of mines have a tough time

getting grid connection and there is excellent solar resource. We are in the first stage where we are presenting the solution and we are doing a lot of prefeasibility studies and the next step is to transform these into projects. We know the volume could be very high because so many mines in Africa are facing energy problems.

The criteria that make a good project for a mine are high cost of energy, as long as possible life-of-mine and the possibility of strong savings that you can aggregate over a long period of time.