



## 1 MW PV plant to be built at Limpopo mine

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South African photovoltaic engineering, procurement and construction company Solea Renewables will start construction of the first off-grid, utility-scale photovoltaic (PV) plant in Southern Africa at a chrome mine near Thabazimbi next week.

The 1 MW plant at Cronimet Chrome Mining's Thaba mine, in Limpopo, is scheduled for completion at the beginning of November and will produce about 1.8 GWh of electricity per year, for about 20 years.

Covering close to 2 ha, the plant would consist of about 4 170 panels, each generating 240 W.

Solea Renewables director **Vusi Mhlanzi** told *Engineering News Online* that the shipment of components for the plant would be arriving at the Durban port on Friday.

"Assembly and installation will be done on site. We hope to finalise commissioning and final integration by the end of October," he noted.

Mhlanzi further said the German-owned Cronimet, which has been operational in South Africa for three years, was using costly diesel generators to power operations at the Thaba mine, while its electricity application awaited approval from State-owned Eskom.

He added that Cronimet was planning to move operations underground within the next two years, which would amplify its electricity requirements further.

While there was no clarity of when Eskom would provide power to the operation, Solea Renewables holding company Germany-based Solea Capital MD **Rollie Armstrong** said the PV plant would serve as a cogeneration solution.

"The plant will supply them [Cronimet] with enough daytime energy to turn down their diesel generators by at least two-thirds, but their diesel generators will still create a base frequency," he explained.

Armstrong added that the plant's output would enable Cronimet to capitalise on a natural long-term hedge against rising diesel costs.

He said the plant would lower the mine's overall running cost for power from between R3.50/kWh and R4/kWh to about R1.8 kWh.

### LOCALISATION

He indicated that in terms of creating local value, all civil works would be carried out by local contractors, while some of the low-tension electrical work and medium-tension work would be sourced locally.

"A local subcontractor team will shadow a German group during the installation of the plant to transfer the skills so that we can use them on future projects," Armstrong noted.

The maintenance and operation of the plant would also be handled locally.

Armstrong said most of the equipment for the plant was sourced from Germany, as the South African market was not yet matured enough to allow for local procurement.

"As soon as the South African market is able to provide the quality products that are of the same quality as in Europe, we will procure locally. It makes much more economic sense to have local project partners," he noted.

Armstrong said various other mining companies, as well as Botswana's Department of Energy, had expressed interest in a PV power plant, which offered a quick solution, as construction could be completed in a matter of months.

Mhlanzi added that, in South Africa, mining operation costs were high, driven up by the shortage of electricity, and that the supply security offered by a PV plant could assist in keeping costs from skyrocketing further.

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