

Electricity prices started to rise steeply from 2007 and have increased by 328 percent up to 2015 / 16. This presents a significant strain on the financial viability of operations at the Gold Field's South Deep Gold Mine. In addition, Gold Fields Limited would like to diversify its energy mix to include renewable energy to reduce its reliance on energy from fossil fuels. As a result Gold Fields Limited intend to make renewable energy as a key part of their future energy mix at their South Deep Mine operations, especially given that the LoM is more than 70 years.

In line with the strategy described above Gold Fields South Deep Mine, in collaboration with Enel Green Power propose to develop a 40MW solar PV power plant to supply their mining operations with power. The 40MW will be split into two parts, one to supply 20MW of power to Twin Shaft and a further 20MW of power to South Shaft. Enel have undertaken a technical feasibility study and environmental screening assessment in order to select the preferred technology of solar PV and the preferred site (Site 1) for the development.

As the construction and operation of a 40 MW solar PV power plant requires an Environmental Authorisation under NEMA, EGP have appointed ERM as the independent consultants to undertake the EIA studies. As the proposed activities fall within the mining right boundary of South Deep Gold Mine and will supply the mine with electricity directly, the Competent Authority for the Environmental Authorisation has been confirmed to be the Department of Mineral Resources.

This Scoping Report presents a description of the proposed solar PV project at South Deep Gold Mine and also identifies a number of key issues/potential impacts that are expected as a result of this application process and can be summarised as follows:

- Physical footprint (physical presence of solar PV plant, vegetation clearance for infrastructure and interaction with other users);
- Surface and Groundwater;
- Air emissions (dust during construction);
- Noise (construction);
- Waste and wastewater management;
- Socio-economic impacts (livelihoods);
- Non-routine discharges (oil spill and chemical spill);
- Cumulative impacts.

These will form the focus of the EIA phase of the assessment. The Plan of Study (PoS) for the EIA has been included in *Chapter 8* and covers the following aspects:

- Overview of the Impact Assessment Phase;

- Specialist studies;
- Impact Assessment methodology;
- Proposed structure of the EIA Report; and
- Provisional schedule for the EIA process.

The Final Scoping Report will be available on the website on 6 July 2017. Please feel free to contact the person below if you have any queries.

**Alan Cochran of ERM Southern Africa:**

Email: [southdeepsolar.eia@erm.com](mailto:southdeepsolar.eia@erm.com)

Tel: +27 11 798 4300 Fax: +27 11 804 2289  
Postnet Suite 624, Private Bag x29, Gallo Manor,  
2052

Project Website: [www.erm.com/southdeepsolar](http://www.erm.com/southdeepsolar)

ERM Ref Number: 0390166