

## **PRESS RELEASE**

### **THEnergy study: Solar power without initial investment becomes reality for mining companies**

*More external investors examine rental and PPA models for solar-diesel-hybrid power plants*

Remote mines are often perfectly suited for solar-diesel-hybrid power plants, because they possess the necessary land, have a high load during the day and are challenged by high electricity prices from diesel generators. Regularly solar is up to 70% less expensive than electricity from diesel generators. Given that many mining companies have faced financial issues for the last years, the main bottleneck is financing. The investment for solar plants has to be made when the plant is built, that means before the first MWh of electricity is produced. Existing diesel generators often are rented with the fuel being the main cost driver. The fuel has to be paid when it is consumed, i.e., the expenses are spread over the lifetime of the mine.

External investors that are already familiar with renewable energy play an important role to close this gap. Various types of external investors have already entered the renewable energy business. The development is mainly driven by the low risk of the investment as solar energy is technically mature and generates predictable income, especially if the market risks are covered by feed-in-tariffs or long term power purchase agreements (PPAs) to a large extent. This is the main difference for solar-diesel-systems at remote mining sites. Even if there is a long-term PPA in place, the counterparty risk is substantial due to the fact that normally the mine is the only possible off-taker of the electricity in remote locations. If the mine does not fulfill the contract, e.g., if it has to file for insolvency, the generated electricity cannot be sold easily.

The THEnergy study “Solar-diesel-hybrid power plants at mines: Opportunities for external investors” shows several solutions of mitigating the risk for external investors. A trend to mobilize solar solutions can be observed. Solar panels are mounted to sub-structures of the mounting-system and containerized in a next step. The costs for dismantling the solar plant and reinstalling it in different locations are decreased. From the financial perspective risk can be mitigated by a higher rental rate or electricity price during the first years of operation. One solution is that the mine pays during the first years a price that is equivalent to the price of electricity from the diesel generators. After the pay-off period of the solar plant the power price or rental rate is lowered substantially and the mining company and the investor share the additional cost savings of the project. In any case the rental company or power provider has to perform a resource-based and market-based due diligence of the mining operations. In another scenario the mining company co-invests in the solar power plant and assumes more liability for the market risks. Finally, the external investor tries to close contracts in which the parent company is the contract partner or guarantees for the fulfillment of the rental or power purchase agreement.



First rental and PPA solutions are already available in the market. A growing number of solar companies and investors see the mining industry as a reliable partner for rental or PPA models. This development is considerably likely to accelerate the extension of solar applications at mines.

**About Dr. Thomas Hillig Energy Consulting (THEnergy)**

THEnergy assists companies in dealing with energy related challenges. Renewable energy companies are offered strategy, marketing and sales consulting services. For industrial companies THEnergy develops energy concepts and shows how they can become more sustainable. THEnergy combines experience from conventional and renewable energy with industry knowledge in consulting. In addition to business consulting, THEnergy is active in marketing intelligence and as an information provider in select fields such as renewables and mining through the platform [www.th-energy.net/mining](http://www.th-energy.net/mining).

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**The study can be downloaded at: <http://www.th-energy.net/english/platform-renewable-energy-and-mining/reports-and-white-papers/>**

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