

MINE POWER

SUSTAINABLE POWER SOLUTIONS FOR MINING APPLICATIONS



UPDATE:

247SOLAR DEMO PLANT

Progress continues on 247Solar's first operational pilot Plant, its [Commercial Demonstrator](#), under construction in Ouarzazate, Morocco. Major engineering milestones have been completed on all core components, with manufacturing and fabrication well underway. Here's a snapshot:

1. The 247Solar Combustor™, which allows the system's turbines to burn a range of fuels as backup, is being tested.
2. The first 247Solar Power Block™, a modified [Capstone](#) turbine shipped operation-ready with generator and power electronics, is nearing completion. Testing is slated for late March or early April, prior to delivery.
3. All core specialty sub-components of the 247Solar Receiver™ are tested and ready for shipment.
4. Fabrication is underway on [innovative heliostats](#) that operate wirelessly and require no concrete foundation.
5. Final engineering on the tower is underway prior to groundbreaking and laying the foundation.

Watch this space for further updates.

GUEST CONTRIBUTOR: ANDY BIRTLES

SUSTAINABILITY IN MINING



From time to time, we'll feature contributions from outside experts on topics involving the mining industry's accelerating transition to renewable sources of energy. Submissions are welcome and encouraged.

Contact us at newsletter@247solar.com for more details.

This month, we feature the thoughts of UK-based mining consultant Andy Birtles.

[READ MORE ON PAGE 2](#)

OF TIMELY INTEREST

FORBES: HOW CORONAVIRUS MAKES THE CASE FOR RENEWABLE ENERGY

Forbes contributor David Vetter argues that the double shocks of coronavirus and an oil price war make a compelling economic case for transitioning to less volatile sources of energy.

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SUSTAINABILITY IN MINING

By Andy Birtles

There has recently been much discussion regarding climate change, sustainability and social responsibility. Unfortunately, mining is often at the top of the hit list. Yet, let us consider for a moment the oldest profession. Genesis 2:11 and 12 tell us that “The name of the first river is Pishon; it winds through the whole land of Havilah, where there is gold. And the gold of that land is pure, and bdellium and onyx are found there”. These metals and minerals have always been associated with mining activities. In verse 15, man is placed in the Garden of Eden “to cultivate and keep it”. This makes farming the second oldest profession. Which brings us to our point. If it can’t be grown, and it can’t be bred, it has to be mined.

Many things we take for granted are extracted from the earth and processed into something useful. Consider a house. Steel for the supporting girders is processed from iron ore, coal and other metals and minerals. Glass is processed from a specific type of silica sand. Copper wire, lead piping, metal piping, cast iron guttering ... I could go on. Mining is important to us in many ways.

However, examples of incidents that have had a severe impact on the environment abound: Deepwater Horizon oil spill, Mariana and Brumadinho tailings dam failures, Baia Mare cyanide spill, etc. A single mining-related accident can wipe millions (if not billions) of dollars off the value of mining companies, and send

prices spiraling upwards. Mining is a risk industry, and in their quest to satisfy the global demand for minerals and metals, mining companies are realising that they have to be part of the solution to ensure the effect of mining on the environment is minimised.

Responsible mining companies are now looking to reduce the impact of their activities on the environment. This is where sustainability is important. Traditionally, a definition of sustainability might have been “to be able to maintain operations at a certain rate or level”. More recently, perhaps, “the ability to exist constantly”. In the 21st century, it refers generally to “the capacity for the biosphere (environment) and human civilisation to coexist”.

To achieve this, mining companies are now planning for closure and rehabilitation of the mine even before the first tonne of rock is removed. Importantly, they are also considering more sustainable sources of energy— photovoltaic, wind, concentrated solar power, hydropower, even hybrids combining several “renewable” types of electricity generation. They are ensuring the local community will not be affected during the operation of the mine, or after the mine has closed. They are reconsidering the impact of the mining operation on the flora and fauna of the area, particularly biodiversity and its interaction with mining operations. Smelters and processing facilities are

being designed to reduce the impact of by-products on the surrounding environment—emissions, waste treatment and impoundments, water treatment, product handling, visual impact, etc.).

So, the next time you pick up your stainless steel knife and fork to eat food off your bone china plate and drink your wine from a lead or silver crystal glass, having reserved a cast iron table at the local restaurant, reflect that it is the mining industry that has made this possible. Only a responsible and sustainable mining industry will ensure that the biosphere and human civilisation continue to coexist for a very long time.

About Andy Birtles: Andy is a fully qualified Mining Engineer, Professional Engineer and Chartered Engineer, who has specialised in the coal mining sector since 1979 and in the metalliferous and heavy minerals sector since 1999. Andy is a Fellow of the Institute of Materials, Minerals and Mining (IoM3), a Board Member of the Mining Technology Division of the IoM3, a Member of SA Colliery Managers Association (SACMA), and also a Member of SA Institute of Mining and Metallurgy (SAIMM). In 2014, Andy set up his own consultancy [ANB Mining](#) and joined ROST International Ltd. as Director of Mining in 2019.

FOR FURTHER READING

Topics of interest at the intersection of mining and sustainability.

EY:

[Mining: the growing role of renewable energy](#)

DOWNLOAD OUR BROCHURE



Click on the image at left to learn more about 247Solar Plants™ and the unique attributes that make them particularly well-suited to mining applications in remote, off-grid locations.



**ROST International
Trading Limited**

247Solar has appointed UK based ROST International Trading to assist in developing their business.

Founded in 2014 by partners Stuart Whitelock and Paul Foster, ROST operates in the Renewable Energy, Energy and Water industries.

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