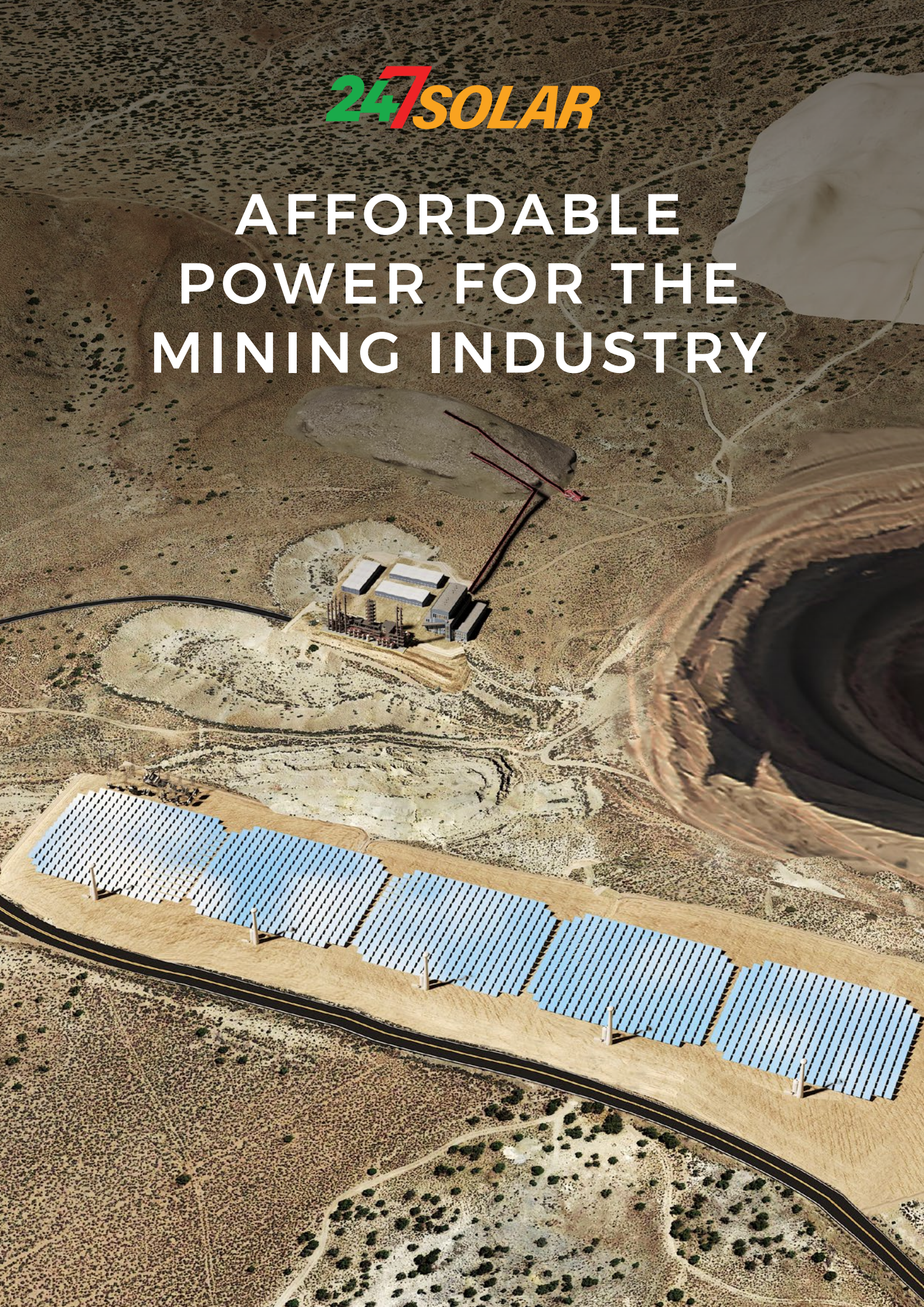




# AFFORDABLE POWER FOR THE MINING INDUSTRY







## REIMAGINE SOLAR ENERGY

Thank you for your interest in mass-produced, turnkey 247Solar Plants™.

The world needs affordable, clean electricity 24/7 every day of the year, not just when the sun shines or the wind blows. For just a few hours of backup power, batteries are super expensive. The only clean 24/7 technology, conventional Concentrated Solar Power (CSP), is complex, costly, and viable only at large scale.

Our 247Solar Plants overcome these limitations while adding the best of both technologies: the mass production and simplicity of PV, plus the 24/7 operation of CSP. Add the modularity of 247Solar Plants, and—*voilà!*—24/7 solar power at almost any scale, from distributed and off-grid applications as small as 400 kWe, to utility-scale farms.

247Solar Plants offer low risk highly reliable on demand power supply in off grid situations while addressing society's most pressing challenge -bringing affordable clean energy solutions to the task of slowing climate change.

We invite you to read on and learn more about our game changing way to produce electricity. Contact us directly to explore the opportunities our proprietary technology presents for mine investors and developers, power project develops and for the planet we share.

Here's to doing well while doing good,

**Bruce Anderson**  
CEO - 247Solar, Inc.

**Stuart Whitelock**  
Rost International Trading Ltd  
Exclusive Mining Business Developers for 247Solar, Inc

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# 247SOLAR PLANTS™

## Baseload 24/7 clean power

247Solar, Inc. breaks down barriers of complexity and cost with a turnkey solution for producing electricity around the clock at costs competitive with PV today and with coal tomorrow at scale. Called the 247Solar Plant™, it eliminates most disadvantages of conventional CSP, PV, wind, and traditional power technologies. Its hot-air-driven Brayton Cycle system operates at atmospheric pressure and requires no steam, molten salts, or heat transfer oils.

## Scalable modular design

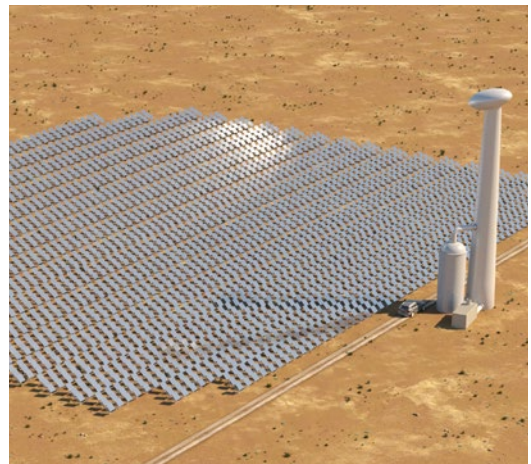
247Solar Power Plants are standardised modules of 400kW capacity. As they use mostly factory-built components, installation and commissioning timeframes are relatively short. Due to their modular design, the first 400kW plant typically can begin supplying power in 6-8 months from the time of confirmed order, with completion of 10MW in 12-15 months. Power for mine development, construction, pre-production, and production phases can be supplied incrementally, allowing for staged financing.

## Low cost

The 247Solar Thermal Storage System™ stores the sun's energy as heat ready for generating electricity during no times of no sunlight. To guarantee electricity on demand, the Plants' turbines can also burn a variety of fuels, enabling a highly reliable, uninterrupted supply of power around the clock in any weather for a fraction of the price of other sources of electricity.

## Environmental and social benefits

247Solar Plants use no water except for mirror cleaning, produce no waste, and require minimal maintenance. 247Solar technology allows mining operations to significantly reduce their carbon footprint and contribute to the company's Corporate Social Responsibility initiatives. Local communities and other social facilities may also benefit both immediately and after the mine has ceased operation, as the Plants can continue to supply local communities or be wholly or partially relocated to other sites.



## LOWEST COST 24/7 SOLAR ELECTRICITY

- Highly versatile modular power generating system
- Reliable, uninterrupted power supply 24/7/365
- Low cost power, ideal for remote areas with high DNI (Direct Normal Irradiance)
- All components readily
- transportable and deployable on uneven ground

### ORIGINATED AT



### OUR PARTNERS



resources & energy



# IMAGINE... MODULAR, MASS-PRODUCED CSP

Turnkey, rapidly deployable Concentrated Solar Power that...

## Offers the best of PV

- + Low cost, low risk
- + Rapid deployment
- + Small to large scale

## Without the disadvantages of PV

- Sunshine-only operation
- Not dispatchable

## Plus the best of CSP

- + 24/7 operation
- + Dispatchable

## Or the disadvantages of conventional CSP

- Cost
- Risk, complexity
- Financing challenges
- Long project cycles

## Unique advantages


- ▶ Instant grid stabilization
- ▶ Flexible operation
- ▶ No emergency backup required
- ▶ Cost-free, instantly-responsive spinning reserves
- ▶ Waste heat available for industrial applications


247Solar technology is an exciting approach to producing reliable, uninterrupted, inexpensive power for mining projects in areas with high levels of Direct Normal Irradiance. The commercial demonstrator, currently under construction in Morocco, is expected to verify the cost effectiveness of this technology for the mining industry.


## Breakthrough technology


247Solar Plants™ are true third-generation CSP systems that use a breakthrough solar receiver design and proprietary thermal storage system, combined with other proven technologies and off-the-shelf components, to produce the world's lowest cost 24/7 solar electricity. Each plant is constructed from just five pre-engineered, standardized sub-systems.


### How it works

 **Heliostats:** A 4-acre (~1.6 hectare) field of off-the-shelf, pole-mounted solar mirrors tracks the sun and focuses ~1500 suns of energy onto the solar receiver.

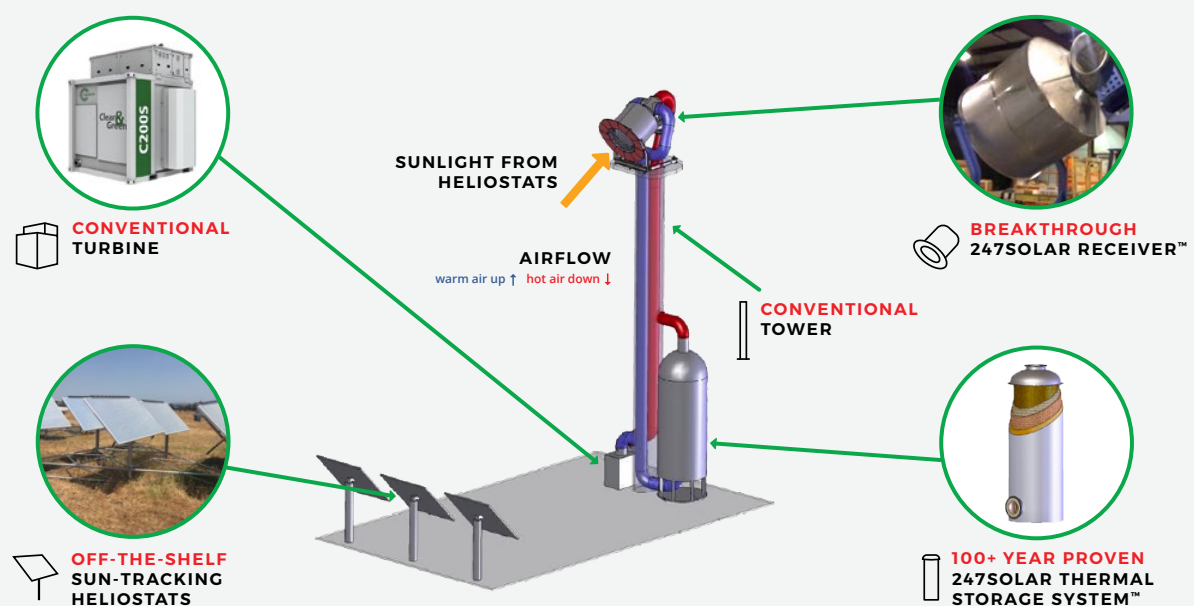
 **247Solar Receiver™:** Our innovative high-temperature receiver operates at atmospheric pressure and heats air to 970C—50% hotter than conventional CSP.

 **Power Tower:** The receiver sits at the top of a conventional tower system that includes standardized, factory-built ducting, blowers, and electrical components. At 120' (~35m) tall, this tower is less than ¼ the height of some CSP installations.

 **Turbine:** An off-the-shelf turbine uses compressed hot air instead of steam to produce up to 400 kWe on demand. The turbine package includes a proprietary 247Solar Heat Exchanger™, which transfers solar heat from the receiver to compressed air from the turbine's compressor.

 **247Solar Thermal Storage™:** Hot air that's not used by the turbine is routed to the 247Solar Thermal Storage System™, which stores up to 15 hours of the sun's energy as heat in simple firebrick or ceramic, to power the turbine when the sun is not shining. The turbine can also burn conventional fuels or biofuels for backup.

### Simple design, few moving parts



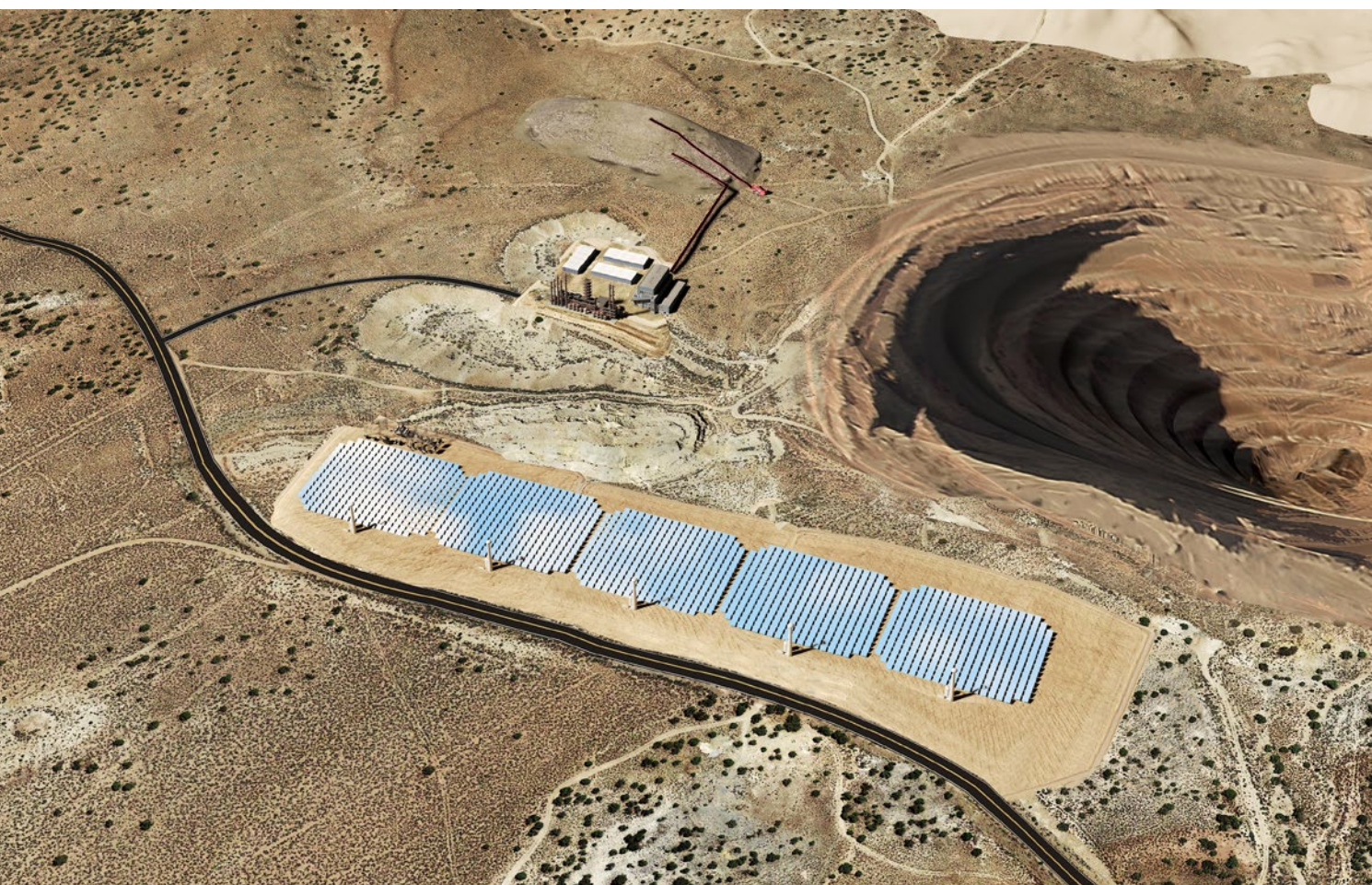


# POWER GENERATION

## Conventional power generation – 400 kWe to utility scale

247Solar Plants™ support power project sizes ranging from 400 kWe to large central plants of virtually unlimited capacity. They are deployable on uneven ground and use no water/steam, molten salts, or oils to minimize environmental impact and streamline permitting. With capacity

factors approaching 100%, 247Solar Plants offer predictable and stable electricity prices over time, without the need for backup facilities. Because all 247Solar components are pre-engineered and factory-produced, projects are low-risk and financeable, and project cycles are short.



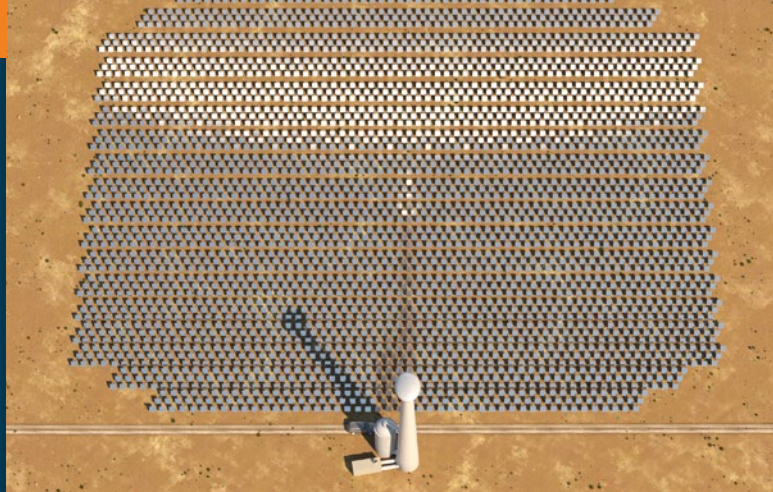
## Low-cost alternative to gas peakers and batteries

Unlike PV and wind, 247Solar Plants operate instantaneously, day or night, delivering power as needed, not just when the sun shines or the wind blows. Responsiveness to grid voltage and frequency

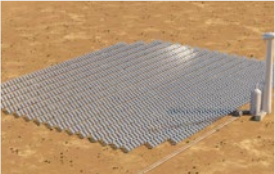

fluctuations rivals that of batteries, making 247Solar Plants a natural, lower-cost alternative to gas peakers and batteries when PV and wind are offline.



**Low Maintenance:** Simple components, proven technologies, and few moving parts mean high reliability and low maintenance. No on-site operators are required, and local talent can easily operate and maintain the system.



## FEATURES AND BENEFITS

	 247Solar Plants™	 PV + Batteries	 Conventional CSP	 Wind
Low-cost, low-risk	✓	✓	✗	✓
Rapid deployment	✓	✓	✗	✓
Small to large scale	✓	✓	✗	✓
24/7 operation	✓	✗	✓	✗
Dispatchable	✓	✗	✓	✗
Strengthens the grid	✓	✗	✗	✗
Simplicity	✓	✓	✗	✓
Short project cycles	✓	✓	✗	✓
Flexible operation	✓	✗	✗	✗

“(247Solar’s CSP solution) is a revolution waiting to happen.”

**Belén Gallego**  
Founding CEO, CSP Today



### Factory-Built Components:

247Solar Plants use standardized, mass-produced components that require minimal custom engineering, allowing for rapid site assembly, shorter project cycles, and lower component costs with volume.

## ECONOMIC DEVELOPMENT

Many mining projects are in remote areas, requiring power to be supplied by installing new power lines over long distances, new local power generation facilities, or on-site generator sets. In some cases, the national power supplier is unable or unwilling to guarantee uninterrupted power. 247Solar Power Plants are modular and can be built in stages, to meet the need for development, construction, pre-production and full production, spreading the capital expenditure over several years. Any surplus power can be used to supply local communities and industries, potentially providing additional income.

## ENVIRONMENTAL BENEFITS

247Solar technology allows mining operations to significantly reduce their carbon footprint and “greenhouse gas” emissions. 247Solar technology is wholly sustainable, requires no water for its operation, produces no waste, requires minimal maintenance and is able to contribute to the mining company’s Corporate Social Responsibility initiatives.

## ADDITIONAL BENEFITS

247Solar Plants offer outstanding reliability, resilience and flexibility as their generators are designed to burn a variety of fuels during prolonged cloud cover, or periods of limited direct sunshine. Proximity to the mine means that additional equipment may also benefit from a sustainable power supply reducing costs and emissions further. Local communities and other social facilities may also benefit immediately and after the mine has ceased operation as it can continue to supply local communities or be wholly or partially moved to another site.

## GUARANTEED SECURE AND CLEAN POWER

247Solar Plants™ are ideally suited to mining applications in remote areas and where electricity supply is unreliable. They provide highly reliable, uninterrupted power for mining, processing, and ancillary operations at very low operating costs, while eliminating the disadvantages of conventional power technologies. **This reliability is achieved by constructing dedicated 247Solar Power Plants close to the operations.**





## **Tell us about your project.**

When we come and chat to you about your mining project, and how we can assist in improving your profitability, here are a few questions that will assist us in enabling us to determine the magnitude of benefit that 247Solar Power Plants can offer.

Location of your mining project

Power requirement through the phases of development (construction, pre-production, production, expansion)

Currently planned power supply arrangements and contingencies

**Contact us directly for an in-depth consultation and proposal.**



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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, together with Associate Partners Rod Lancaster (Dubai) in charge of Renewables and Logistics, Andy Birtles in charge of Mining and heavy industry applications, and James Turnbull, Head of Finance and Finance Planning. Full profiles of the Rost team may be found at [www.rostinternational.com](http://www.rostinternational.com).

The Rost International team is convinced as to the efficacy of 247Solar technology and are proud to be associated with the project. In addition to stand alone power applications, Rost International is convinced that there is considerable added value to be had from 247Solar technology in the mining industry, particularly in remote locations or where the grid is unreliable. We are looking forward to taking clients to Morocco where 247Solar is constructing a commercial demonstration plant. This will enable potential users and their financiers to assess the technology, the associated costs, and the risks involved, so that they may compare the technology with alternatives and invest with confidence. Other applications include power supply for the electrification of railways, desalinisation plants, smelters, and other high-energy-usage applications like pharmaceuticals or bottling plants. For more information contact Rost International on their website.

“247Solar cuts mining operating costs and simultaneously delivers dispatchable, round-the-clock power.”

**Andy Birtles**  
*Mining Engineer*



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