

COMMERCIAL DEMONSTRATOR 247SOLAR PLANT[™]

OUARZAZATE, MOROCCO | 2019/2020

247Solar Inc., a US company (<u>http://www.247solar.com</u>), is building its first commercial demonstration 247Solar Plant[™] in Ouarzazate, Morocco.

It is doing so in partnership with the Moroccan Agency for Sustainable Energy (MASEN) <u>http://www.masen.ma/en/</u> (a global leader in the commercialization of solar energy. MASEN is Morocco's agency responsible for significantly reducing the country's reliance on foreign sources of energy by turning to renewable energy technology.

The Commercial Demonstrator will be deployed at MASEN's Ouarzazate (Noor) Solar Complex, the largest and best known concentrated solar power (CSP) project in the world. https://en.wikipedia.org/wiki/Ouarzazate_Solar_Power_Station

The Commercial Demonstration 247Solar Plant[™] will be used to provide incontrovertible, documentable, and independently verifiable evidence as to the performance of the technology so that customers and financiers can be confident that it will perform to the designated specification.

Data from the Commercial Demonstrator will be compared with economic modelling, which will be continually updated to ensure accurate, predictable models for the future.





ROST International Trading **Limited**

247Solar have appointed UK based Rost International Trading to assist them 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 their Associate Partners Rod Lancaster (Dubai) in charge of Renewables and Logistics, Andy Birtles (+44 7446952224), in charge of Mining and Heavy Industries; James Turnbull (+44 7734157745), Head of Finance and Financial Planning.

The Commercial Demonstrator of 400 kWe is an exact model of the standardized, pre-engineered 247Solar Plant module that will be replicated on customers' sites as many times as necessary to achieve the required power output.

In addition, the Commercial Demonstrator 's performance will be monitored against similar rival technologies, many of which are available on site, to provide accurate cost benefit analysis of the various technologies.

THE COMMERCIAL DEMONSTRATOR

The commercial demonstration project will be a single, standardized 400 kWe system overseen by a team of international Concentrated Solar Power and turbomachinery experts.



- About 4 acres (<2 hectares, 16,000m2) of heliostats (pole-mounted, solar mirrors from a third- party vendor) totaling 4000 sq m that track the sun and focus ~1500 suns of energy onto...
- ...an innovative high-temperature, air-heating 247Solar Receiver[™], where air is heated at near atmospheric pressure to 970oC. The Receiver is mounted on...
- ...a common, off-the-shelf truss tower ~35m tall, which holds the ducting that carries the air to and from the Receiver. Toward the bottom of the tower, some of the hot air goes to...
- ...an off-the-shelf, 400 kWe "microturbine" package that is shipped operation-ready with generator and power electronics for quick grid connection and very high reliability.

Microturbines use compressed hot air rather than steam, require just 4-6 hr/yr of maintenance, and have overhaul schedules of 50,000 hours. The package also includes the 247Solar Heat Exchanger[™], which transfers the solar heat from the low-pressure air to the compressed air from the turbine's compressor.

5. The rest of the low-pressure hot air from the solar receiver goes to a ~10-hour 247Solar Thermal Storage System™, which powers the turbine when the sun is not shining. The 247Solar Plant's hot air heats "dry" storage such as firebrick or small pieces of ceramic rather than molten salts typical of other CSP systems. If desired, the turbine burns conventional fuels or biofuels (liquid or gaseous) when the thermal storage system is depleted.

For further information contact info@rostinternational.com, or visit our website www.rostinternational.com