

## Solar energy for homes sahrawi arab democratic republic

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Against the yellow sand thousands of curved mirrors, each taller than a human, stand in rows. These are part of a solar-power generating plant called Noor or Ouarzazate Solar Power Station, which is rapidly changing how the whole continent produces its electricity.

The mirrors cover an area of roughly 1.4 million square metres. The first phase of this plant generated enough electricity to supply 650,000 people when it was switched on in 2016.

Perhaps more importantly, the solar farm, near the city of Ouarzazate - known as the gateway to the desert - could also be the doorway to a new era of cleaner energy production in Africa.

Symbolically, the name of the plant - Noor - is an Arabic word meaning "light" and its success could mark the dawn of a new industry for a country that until recently imported 97% of its energy needs.

The Noor solar panels make a humming noise as they move to track the sun, which shines for up to 3,600 hours a year in the desert, giving Morocco one of the world"s highest levels of solar power potential.

Noor 1, the first phase built at Ouarzazate, provides 160 MW of the ultimate 580 MW capacity and has already reduced Morocco's carbon emissions by hundreds of thousands of tonnes a year, its designers say.

A further three phases of the Ouarzazate Solar Power Station project are expected to be up and running by the middle of 2018, Mustapha Bakkoury, head of the Moroccan Agency for Sustainable Energy, said in February.

The country is well on its way to achieving that goal. Renewable energy was already supplying 34% of the kingdom's electric power production by the end of 2017, according to the government.

The humming, tracking mirrors of the first two phases concentrate the sun's rays onto a synthetic oil that runs through pipes and heats it to 350?C (662?F), creating water vapour that drives a turbine-powered generator. This is similar to the way fossil fuels are used to generate electricity but replaces the carbon dioxide-making fuels with sunlight as the power source.

But Noor 3 will consist of a single large tower surrounded by about seven thousand flat mirrors that will track and reflect the sun"s rays towards a receiver at its pinnacle.

The construction of solar capacity on such a large scale could have important implications for the future of power generation on the continent as a whole, according to one of Noor"s biggest backers.



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Mafalda Duarte, the manager of Climate Investment Funds (CIF), told The Guardian in 2016 that: "Morocco is showing real leadership and bringing the cost of the technology down in the process."

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