

Solar power united arab emirates

Mohammed bin Rashid Al Maktoum Solar Park is a solar park spread over a total area of 77 km² (30 sq mi) in Saih Al-Dahal, about 50 km (31 mi) south of the city of Dubai in the United Arab Emirates (UAE).

It is one of the world's largest renewable projects based on an independent power producer (IPP) model. Besides solar farms using PV technology, the project includes concentrating solar power (CSP), with the total capacity of the entire project planned to reach more than 4,000 megawatts. It is estimated that the park will be generating 5 gigawatts of renewable energy by 2030.

The plant was implemented by the Dubai Electricity and Water Authority (DEWA). The first phase of the project was commissioned on 22 October 2013. At the end of 2020 the solar PV complex reached a generating capacity of 1.013 GW with the aim to reach 5GW by 2030. The 4th (700 MW CSP + 250 MW PV, known as Noor Energy 1) and 5th phase (900 MW PV) are under construction.

The 200-megawatt second phase of the project drew global attention as the winning bid of the tender set a new record-low tariff of only US \$5.89 per kilowatt-hour. This is about 20% lower than any previous, unsubsidized power purchase agreement (PPA) the world has seen before. The PPA is set to a 25-year time frame.

The first phase of the park was a 13 MWp solar farm (DEWA 13) constructed by First Solar. It was commissioned on 22 October 2013. It uses 152,880 FS-385 black CdTe modules and generates about 28 GWh per year which corresponds to a capacity factor of 24.6%.

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In April 2015, Dubai Electricity and Water Authority (DEWA) publicly announced the third phase of 800 MWp. A consortium led by Abu Dhabi Future Energy Company (Masdar) was awarded the contract for phase three in June 2016. The third phase was completed in 2020.

On 21 November 2019, DEWA announced the selection of ACWA Power and Gulf Investment Corporation as preferred EPC and financier respectively, to build and operate the fifth phase, a 900 MW solar power plant based on photovoltaic technology. The plant is scheduled to be commissioned in 2021.

The Mohammed bin Rashid Al Maktoum Solar Park is the largest single-site solar park in the world based on the Independent Power Producer (IPP) model. It has a planned production capacity of 5,000 MW by 2030, with investments totalling AED 50 billion. When completed, it will save over 6.5 million tons of carbon emissions annually.

The Mohammed bin Rashid Al Maktoum Solar Park contributed to DEWA winning the Best Sustainable Project of the Year in the UAE at the 2014 MEED Quality Awards. This is the first time this award was given to a renewable energy project in the Middle East and North Africa.

DEWA is anticipating and shaping the future of energy using innovative disruptive technologies in the production, transmission, and distribution of electricity and water. This will transform Dubai into a global centre for clean energy and green economy.

The Dubai Clean Energy Strategy 2050 and the Dubai Net Zero Emissions Strategy 2050 aim to provide 100% of the energy production capacity from clean energy sources by 2050. To achieve this, DEWA is developing the Mohammed bin Rashid Al Maktoum Solar Park in phases, to eventually generate 5,000MW from photovoltaic and Concentrated Solar Power (CSP) technologies.

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