

Press Release

Mohammed bin Rashid Al Maktoum Solar Park, a pioneering global model that enhances the leading role of Dubai and UAE in clean and renewable energy

- **HE Saeed Al Tayer: We have a strategy and roadmap to transform Dubai into a centre of excellence in essential new technologies to achieve net zero carbon emissions**
- **16.3% is the share of clean energy production capacity of Dubai's total production capacity**
- **More than 8.5 million solar panels and over 84 million working hours in the Mohammed bin Rashid Al Maktoum Solar Park so far**
- **The solar park uses the latest PV and CSP technologies**

Dubai, UAE, 5 July 2023: The UAE is among the largest countries in the world to invest in clean and renewable energy projects and was the first country in the Middle East and North Africa to launch a strategic initiative to achieve net-zero carbon emissions by 2050. During the Year of Sustainability, it hosts the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28) in Dubai Expo City. This underlines the UAE's global standing in climate action and the great importance it attaches to achieving a balance between development and environmental sustainability.

100% clean energy by 2050

"At DEWA, we work in line with the vision of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE, and His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to provide a state-of-the-art infrastructure that keeps pace with sustainable development and the increasing demand for electricity and water services. In Dubai, we have a clear strategy and roadmap to transform Dubai into a centre of excellence in essential new technologies to achieve net zero carbon emissions in line with the Dubai Clean Energy Strategy 2050 and the Dubai Net Zero Carbon Emissions Strategy to provide 100% of Dubai's total power production capacity from clean energy sources by 2050. In the Year of Sustainability in the UAE, we continue implementing our pioneering projects to increase the share of clean energy in Dubai's energy mix. The production capacity of the Mohammed bin Rashid Al Maktoum Solar Park has reached 2,427 MW, which is 16.3% of Dubai's total production capacity," said **HE Saeed Mohammed Al Tayer, MD & CEO of Dubai Electricity and Water Authority (DEWA).**

Leading Global Project

DEWA contributes to promoting leadership in the different areas of sustainability through globally leading projects, focusing on innovation, the Fourth Industrial Revolution technologies, digital transformation, and the

circular economy as key enablers for achieving sustainability. One of DEWA's key renewable and clean energy projects is the Mohammed bin Rashid Al Maktoum Solar Park, the largest single-site solar park in the world, using the Independent Power Producer (IPP) model. It has a planned production capacity of 5,000 megawatts (MW) by 2030 using solar photovoltaic panels and concentrated solar power with total investments of AED 50 billion. When completed, the solar park will reduce 6.5 million tonnes of carbon emissions annually. So far, the solar park has more than 8.5 million solar panels installed with over 84 million working hours.

Announcing the Solar Park

In January 2012, HH Sheikh Mohammed bin Rashid Al Maktoum announced the launch of the Mohammed bin Rashid Al Maktoum Solar Park in Seih Al Dahl. The 13MW first phase became operational on 22 October 2013. This Phase, which uses photovoltaic solar panels, contributes to an annual reduction of about 15,000 tonnes of carbon emissions. It comprises over 152,000 solar panels and required more than 6,000 working hours.

2nd Phase (200MW using PV solar panels)

On 20 March 2017, HH Sheikh Mohammed bin Rashid Al Maktoum inaugurated the 200MW photovoltaic 2nd Phase of the solar park. DEWA implemented the project in partnership with a consortium led by ACWA Power from Saudi Arabia as the main developer and Spain's TSK as the main contractor. This Phase reduces 214,000 tonnes of carbon emissions annually. It included the installation of over 2.3 million photovoltaic solar panels and more than 600,000 working hours.

3rd Phase (800MW using PV solar panels)

On 24 November 2020, HH Sheikh Mohammed bin Rashid Al Maktoum inaugurated the 800MW 3rd Phase of the Solar Park using photovoltaic solar panels. This project was implemented by DEWA in partnership with a consortium led by Abu Dhabi Future Energy Company (Masdar) and EDF Group. This project is the first in the Middle East and North Africa to use single-axis solar tracking to increase energy generation. This Phase installed over three million solar panels and included more than 15 million working hours.

4th Phase (950MW of CSP and PV)

On 16 September 2017, HH Sheikh Mohammed bin Rashid Al Maktoum announced the 4th Phase of the Solar Park. Based on the IPP model, it is the largest single-site Concentrated Solar Power (CSP) project in the world. The project was awarded to a consortium comprising Saudi Arabia's ACWA Power, The Silk Road Fund, and China's Shanghai Electric as the main contractor. On 3 November 2018, DEWA signed an amendment to the Power Purchase Agreement (PPA) to add 250MW of photovoltaic solar panels, increasing the total capacity from 700MW to 950MW.

The 4th Phase uses three technologies to produce clean energy: 600MW from a parabolic basin complex, 100MW from a concentrated solar tower 262.44 metres high, and 250MW from photovoltaic panels. So far,

517 MW have been connected to the grid from this Phase, which is the largest solar energy storage project in the world for a period of 15 hours, allowing for the availability of solar energy 24 hours a day. So far, this Phase has over 790,000 photovoltaic solar panels installed and more than 62 million working hours. The 4th Phase is scheduled to be completed in Q1 of 2024.

5th Phase (900MW using PV)

On 18 June 2023, HH Sheikh Mohammed bin Rashid Al Maktoum inaugurated the 900MW 5th Phase of the Solar Park, using photovoltaic solar panels. It provides clean energy to around 270,000 residences in Dubai, reducing 1.18 million tonnes of carbon emissions annually. The AED2 billion project, based on the IPP model, was implemented by Shuaa Energy 3 through a partnership between DEWA and a consortium led by ACWA Power and Gulf Investment Corporation. DEWA achieved a world record by receiving the lowest bid of \$1.6953 cents per kilowatt hour (kWh) for the fifth phase. This phase installed over 2.2 million photovoltaic solar panels and included more than 7 million working hours.

6th Phase (1800 MW using PV)

DEWA received two bids from ACWA Power and Masdar. Masdar submitted the lowest bid of USD 1.62154 cents per kilowatt hour (kWh) for the 1,800MW 6th phase of the Mohammed bin Rashid Al Maktoum Solar Park using photovoltaic solar panels, based on the IPP model. This phase will become operational in stages starting from Q4 of 2024.

Localising Knowledge

DEWA aims to transform Dubai into a centre of excellence in renewable and clean energy. It focuses on localising knowledge in this field through research, development, and innovation. The solar park houses facilities that support DEWA's efforts in this regard, most notably the Research and Development (R&D) Centre and the Innovation Centre.

R&D Centre

DEWA's R&D Centre at the solar park aims to become a global platform to develop and deploy innovative solutions in the energy of the future and water systems. It supports DEWA's efforts through its research areas which include solar power, water, smart grid integration, and energy efficiency. These core areas of the R&D are supported by three enablers: The Fourth Industrial Revolution (including AI, IoT, Robotics & Drones, 3D Printing & Advanced Materials), Energy System Analyses, and Space. Through Space-D, the Centre develops several niche use-cases for grid and water networks. The R&D Centre also includes the Green Hydrogen project, which was implemented by DEWA in cooperation with Expo 2020 Dubai and Siemens Energy. It is the first project in the MENA region to produce hydrogen using solar power. Since its launch, the Centre has registered eight

patents and published 157 research papers at international conferences and peer-reviewed journals and publications.

The Innovation Centre

The Innovation Centre at the solar park is a global incubator for innovation in the energy and water sectors. It provides a unique learning environment by hosting events and building partnerships for cooperation in the fields of innovation and exchange of knowledge and experiences. The Innovation Centre provides visitors with the opportunity to explore the latest innovations in clean energy technologies, watch innovative displays using UAVs and holograms, as well as try many interactive experiences, such as self-driving electric buses. Using metaverse technology, the Centre provides visitors with a unique experience that takes them on a virtual journey around the solar park.

International Awards

The solar park has won many international certificates and awards, including:

- The Guinness World Records title for the first 3D-printed laboratory in the world. The record was awarded for DEWA's Robotics & Drone lab at DEWA's R&D Centre at the Solar Park.
- The largest green data centre in the world, according to the Guinness World Records. The centre at the solar park is 100% solar-powered.
- The Hydrogen Project of the Year 2023 Award for the green hydrogen project during the 'Connecting Green Hydrogen MENA' (CGHM2023) conference in Dubai.
- Utility Scale Project of the Year award at the Middle East Solar Industry Association (MESIA) Awards 2023 for the 4th phase of the solar park.
- 'MENA Renewable Deal of the Year' at IJ Global Awards and the '2020 Middle East and Africa Renewable Deal of the Year' by Project Finance International, organised by Thomson Reuters Foundation.
- The 'Sustainability Initiative of the Year' in the 2018 Sustainability Awards by the American Business Intelligence Group.
- The '2017 Middle East and Africa Renewables Deal of the Year' by Project Finance International (PFI) magazine for the 3rd Phase of the solar park.
- Distinguished Technical Project at the 18th Dubai Government Excellence Programme Awards (DGEP)
- Shuaa Energy 1, founded by DEWA in cooperation with the consortium led by ACWA Power and TSK, won three awards for the second Phase of the solar park:
 - Solar Project Deal of the Year from the IGI Global Journal.
 - MESIA Utility-Scale Solar Project of the Year from the Middle East Solar Industry Association.
 - Private Finance Deal of the Year at the Bonds, Loans & Sukuk Middle East Awards 2015.
- Best Sustainable Project of the Year in the UAE at the 2014 MEED Quality Awards.



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