

Substation to deliver clean energy in the UAE

ABB GIS substation will increase grid reliability at the MBR Solar Park in Dubai

The global capacity of solar photovoltaic systems is growing fast. According to the International Energy Agency, it rose by 34 percent to 137 gigawatts (GW) in 2013 and is set to expand to 403 GW in 2020.

The United Arab Emirates is leading the deployment of solar power in the Middle East. The Mohammed bin Rashid Al Maktoum (MBR) solar park located in Dubai is one of the biggest renewable energy projects in the Middle East and North Africa. It is expected to cover an area of more than 40 square kilometers and produce 1,000 MW of clean energy when completed in 2030. It will support the Dubai Integrated Energy Strategy 2030, adopted by the Dubai Supreme Council of Energy to diversify the energy mix, under which natural gas is expected to contribute 71 percent of electricity, followed by nuclear (12 percent), clean coal (12 percent) and solar (5 percent).

This utility scale solar photovoltaic plant, which covers 4.5 square kilometers, will produce enough electricity to power more than 30,000 homes serving 130,000 people. Its addition to the UAE system displaces the need for power from fossil fuels that would have produced about 250,000 tons of carbon emissions annually.

“We are working to achieve the goals of UAE Vision 2021 and Dubai Plan 2021 to support Dubai’s economic growth, through diverse and secure Energy supply and Efficient Energy use, while meeting environmental and sustainability objectives. DEWA is also committed to achieving the Dubai Integrated Energy Strategy 2030 to generate 7 percent of Dubai’s total power output from renewable energy by 2020 and 15% by 2030,” said HE Saeed Mohammed Al Tayer, MD & CEO of DEWA.

Increase transmission capacity

ABB’s gas-insulated switchgear (GIS) substation will enhance transmission

capacity, boost power supplies and strengthen the reliability of the grid for the Middle East’s state-of-the-art solar park.

“ABB is proud to be part of UAE’s milestone project by bringing ‘Clean power from the Desert’ to this fast growing nation power. This substation will help UAE’s aim to deliver clean solar power and increase the use of renewable energy” said Novak Stevanovic, Head of Power Systems UAE, Saudi Arabia and Gulf.

ABB is responsible for the design, installation, commissioning and start-up of the plant. Key products to be supplied include eleven bays of 400 kilovolt (kV) and twenty one bays of 132 kV GIS, power transformers, as well as the protection system, automation and control system, surveillance and communication. The substation will also be IEC 61850 enabled to support open communications automation and protection.



Dubai is aiming at 7% renewable power contribution to its total power output by 2020.