

# Jordan

Solar Tracking Boosts Commercial and Industrial (C&I) Applications in Middle East

## Project Overview

In the effort to meet the Middle East's growing electricity needs, utility-scale solar power systems are increasingly being commissioned in the MENA region (Middle East North Africa), in nations such as Jordan, Saudi Arabia, Oman, Turkey, and the UAE. Jordan — with its ancient treasures and beautiful resorts — is a nation highly reliant on tourism. Generating affordable reliable, clean electricity is crucial; it's anticipated that over 10 GW of solar energy projects will be deployed in 2020; and 82% will be for single-axis tracking ground mount solar projects.<sup>1</sup>

Nextracker was selected by developer Mustakbal Clean Tech to deploy seven megawatts of its award-winning NX Horizon™ tracker in Jordan, for the Kempinski Hotel and Al Khalidi Medical Center (KMC). These two distributed generation (DG) solar power plants are located in the Jordanian desert – 200 miles from Kempinski, and 60 miles from KMC, respectively. Both the hotel and hospital (project off-takers) own property in the Jordanian desert suitable for deploying solar-parcels with good proximity to transmission lines. The project developer, Mustakbal Clean Tech, in collaboration with Kempinski and KMC chose to deploy photovoltaics in the Jordanian desert to generate significant (21,000 MWh annually) solar-generated electricity, paving the way for high energy yield in the region and harnessing Nextracker's local manufacturing capability and expertise in desert environments.

Name of Project	Mustakbal
Location	Jordan
Size	7 MW at two sites: Kempinski Ishtar Hotel (5 MW) and Khalidi Medical Center (2.1 MW)
Developer	Mustakbal Clean Tech
EPC	Enerparc
Offtaker	NV Energy
Self-powered Tracker Rows	200 rows (5 MW system), and 90 rows (2.1 MW system)
Modules	6,700 modules (KMC); 15,800 modules (Kempinski Hotel)
Piers	1,020 piers (KMC); 2,340 piers (Kempinski Hotel)

<sup>1</sup> Greentech Media, "The Global Solar Demand Monitor: Q2 2018," August 2018.

## Challenge: Securing Reliable Electricity in Locations with Variable Climate and Rough Terrain

Historically, Jordan has had to import approximately 97% of its energy needs, at a cost of close to 18% of GDP. Fortunately, the Middle East is a geographic region blessed with plentiful sun; Jordan enjoys approximately 330 days of sunshine a year. Its treasures, notably the Dead Sea and Petra, draw thousands of tourists from around the world each year. Yet Jordan's climate is variable: extremely hot in the summer and cold during the winter. There are high winds, sandstorms and snow storms. In addition to these weather challenges, there are construction constraints presented by the hilly terrain and typography (soil, sand, rocks). These constraints can be problematic when it comes to project construction.

## Solution: NX Horizon Easy to Install, Offering Slope Tolerance Benefits

NX Horizon self-powered tracker is delivering substantial cost savings for Jordanian customers. The solar energy generated and stored by Nextracker's independent self-powered rows provides clean, renewable, and reliable electricity. Due to the high energy yield delivered by NX Horizon smart solar tracker, these two new projects offset a substantial percentage of the users' energy use. Along with the energy boost provided by NX Horizon's rotational tracking range, Nextracker's advanced solution is fully sealed against sand and dust ingress for superior structural durability and includes battery backup back up and storage to deal with intermittency issues. Joining the growing number of solar arrays in the Middle East, these two new Jordan solar projects are shining examples for other nations in the region, illustrating how countries new to photovoltaics can benefit — both from an economic and environmental standpoint — from the further deployment of renewable energy.

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Nextracker's outstanding solar tracking solutions are enabling us to optimize our commercial solar deployments for critical commercial projects in Jordan. The technology is ideal for the desert environments so common in the Middle East. We look forward to extending our partnership with Nextracker, as their tracking solutions are superior — and their experience and customer service is unparalleled.

— Dr. Ala Qubain, CEO,  
Mustakbal Clean Tech

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clean tech



Aerial shot of the site: Kempinski Ishtar Hotel (5 MW) and Khalidi Medical Center (2.1 MW).