

POWERPACK

AL MAFRAQ SOLAR PARK

“The new power plant’s purpose is to enhance the grid by power peak shaving and power shifting to increase the stability of the grid and support the grid at peak load hours. Additionally, it will also enhance the availability of energy during daytime hours and the remaining Energy to support the grid during nighttime Hours.”

Philadelphia Solar

OPPORTUNITY

The 23 MWp/12.6 MWh facility is near Mafraq, in northern Jordan. The plant was built in two phases, with the first 12 MWp section operating since October 2015 and a second, 11 MWp phase – which has now been grid connected – launched in May after a power purchase agreement was signed with the Irbid District Electricity Company.

The second phase consisted of around 34,350 polycrystalline, 320 W panels; single axis tracking system the PS-1P-Tracker, provided by Philadelphia Solar; and a 12.6 MWh lithium ion energy storage system.

SOLUTION

Tesla was selected to provide a 3MW/12.6MWh Powerpack system to be paired with the 11MWp second phase of the in AlMafraq.

Powerpack will perform multiple functions including renewable firming, ramp rate control, avoiding curtailment and proven Peak Load Hours support.

RESULTS

Powerpack system will further transform Jordan’s movement towards renewable energy and see an advancement of a resilient, modern and economically-efficient grid.

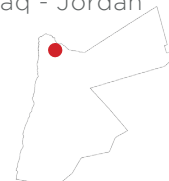
The BESS project at the Al-Manara Solar Park will enable Philadelphia to evaluate the technical and economic capabilities and characteristics of this technology when integrated with photovoltaic arrays, and see how it will increase network flexibility. Once the integrated system is operational, the solar farm will produce around 42 million kWh of electricity per year, whilst preventing the emission of approx. 23,750 tonnes of CO2.

Customer

Philadelphia Solar
Company L.L.C.

Location

Mafraq - Jordan



Solar size

11 MWp

Powerpack size

3000 kW | 12600 kWh

Applications

Renewable integration
PV firming and shaving
Capacity protection
Ramp rate control
Avoiding curtailment
Energy shifting

Commissioned

February 2019