

CASE STUDY

Module Monitoring & Remote Maintenance for Commercial Systems

OVERVIEW

Modules: Trina Solar, TSM-PC05

Location: Beit Shemesh, Israel

Installed Capacity: 200kWp

Power optimizers: AOB 250W

Inverters: 16 x 12.5kW

Project owner: Blue Power

Blue Power, a PV investor focused primarily on commercial installations has recently completed an installation located on the roof of a factory in the Israeli city of Beit Shemesh, a setting challenging the operability of PV systems.

Beit Shemesh is located approximately 30km from Jerusalem, halfway between the Mediterranean Ocean and the Judean Desert, leaving it exposed to severe weather fluctuations, including sand and wind storms. These storms usually arrive in the spring. Sudden and strong gusts of wind carry with them tremendous quantities of sand and dust from the desert and increase temperature by as much as 20°C in two hours.

While the spike in temperature can drastically change the power output of solar modules, the most challenging aspect in this area is the sand that gathers on the modules, leading to significant module mismatch. In traditional PV systems the uneven sand cover on the modules can cause significant energy losses.

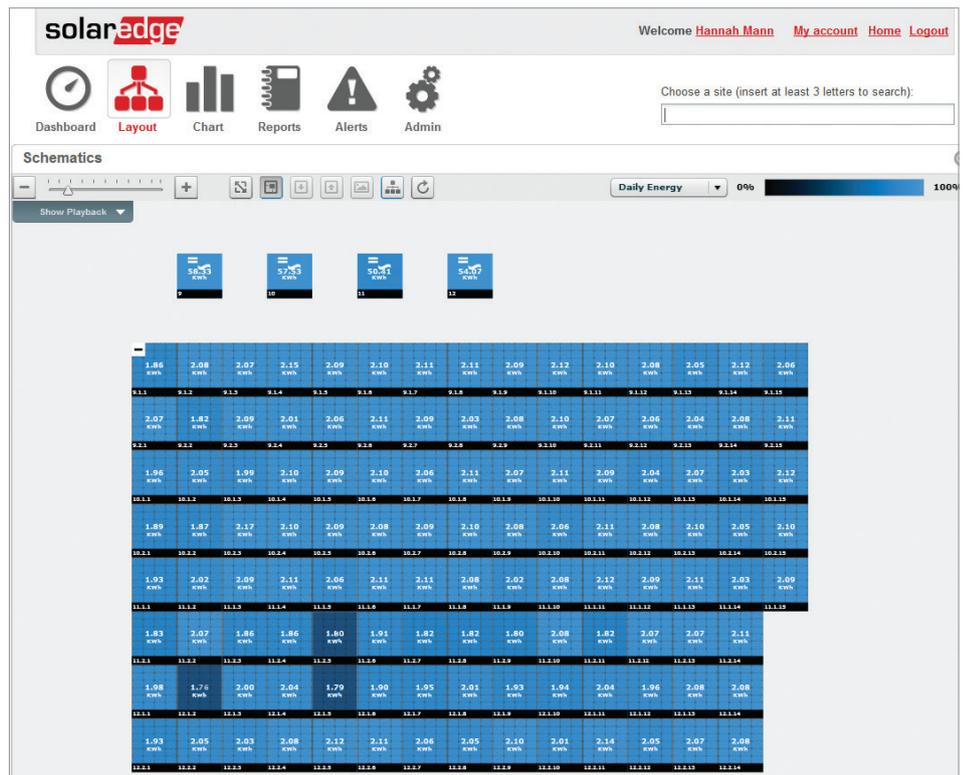
This is one of the reasons why Blue Power decided to make use of SolarEdge power optimizers. With individual Maximum Power Point Tracking, Blue Power overcomes losses related to any form of mismatch.

“We have made it a strategic company decision to include SolarEdge power optimizers in all of our installations, realizing that one of the SolarEdge benefits would be applicable to each of our installations, be it mismatch mitigation, module-monitoring or the ability to add more modules to a given area”, says Eric Gatterer, CEO of Blue Power.

Another challenge faced by Blue Power on this installation was the fact that the remote location of the installation made it more complicated to properly perform site maintenance, necessitating a remote monitoring system that provides accurate and regular system updates. In commercial size installations like this one, module-level monitoring proved to be extremely useful: power optimizers provide module performance data, informing



The screenshot from the monitoring portal shows how the output and location of every module in the system and helps maintenance staff to keep performance optimal



the maintenance staff on the exact location of modules requiring, for example, cleaning.

“Like other installations, our technical service team monitors this site on a regular basis,” said Ofer Luke, Director of Customer Support at SolarEdge Technologies. **“The remote module-level monitoring and troubleshooting features**

we offer allow us to keep an extra eye on the performance of our clients’ systems, and help us to guarantee seamless system operability.”