

SolarEdge Powers a 1 MW Wastewater Treatment Plant

Yalova Atıksu ve Kanalizasyon Alt Yapı Tesislerini İşletme Birliği (YASKİ), one of Turkey's largest wastewater treatment companies, installed a 1 MW solar energy system powered by SolarEdge. Operating a wastewater treatment requires a lot of electricity, hence this massive installation solved the company's greatest energy dilemmas by reducing electricity costs, and overcoming the constraints of a complicated PV installation area.

“Our biggest aim is to reduce our high energy needs within the scope of unlicensed energy production in Turkey. With the SolarEdge system, we have been able to generate the highest possible output of solar energy and have experienced a dramatic reduction in our electricity bills.”

Yasin BIYIKLI, Director at YASKİ



Installation Details:

- EPC: YP Enerji A.Ş
- System Owner: T.C. YASKİ Birlik Başkanlığı
- Installation above water pond: PV system installed on construction located over the pools of a wastewater treatment plant
- Capacity: 1,008kWp
- Power optimizers: P600 x 1680 units
- Inverters: SE82.8K x 12 units
- Modules: 60-cell 300W x 3360 modules

YASKİ Installs the SolarEdge Solution

YASKİ hired YP Enerji to plan, manage, and execute this challenging task. To ensure maximum power output and efficiency, reduce BOS costs and save future O&M expenses, YASKİ selected the SolarEdge DC optimized inverter solution. The system is comprised of inverters, power optimizers, and a module-level, real-time monitoring system.

As the site consists of wastewater ponds, a custom-built construction was required to cover the ponds on which the solar energy system would be installed. The installation location brought two primary challenges.

The first challenge: hundreds of birds regularly congregate at the pond, causing excessive bird waste that could negatively impact solar energy production over the system lifetime. The SolarEdge solution is designed to eliminate mismatch-related power losses such as bird waste by ensuring each individual solar panel works at its maximum power point for maximum energy output.

The second challenge: difficult to access the site when needed. Due to the challenging accessibility of the site, the installation required a monitoring system that makes it possible for installers to quickly and remotely troubleshoot the PV system when needed. With the SolarEdge module-level, cloud-based monitoring platform, installers benefit from, real-time troubleshooting with pinpointed automatic system alerts. They are able to identify problems from the comfort of their office, and can arrive onsite with solutions already in hand for reduced O&M costs and increased system up-time.

Maximum Design Flexibility for Decreased BOS

The SolarEdge system also gives superior design flexibility through significantly longer strings. While typical string inverters in the industry are confined to a limited string length, SolarEdge inverters support between 27 to 60 modules per string and 15.3 kW maximum power per string.

This allowed YASKI to increase their string length by up to 50% and decrease the number of strings by 33%, allowing them to save approximately 70% on the BOS costs.



About SolarEdge

SolarEdge is a global leader in smart energy, delivering innovative commercial and residential solutions that power our lives and drive future progress. Leveraging world-class engineering and worldwide experience, SolarEdge developed a ground-breaking intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. As a result of this and other innovations, today SolarEdge is the world's #1 solar inverter company in revenue with millions of systems installed in 133 countries. SolarEdge addresses a broad range of smart energy market segments through its PV, storage, EV charging, battery, UPS, and grid service solutions.