
What is Agrosolar?

"Agrosolar" or "Solar sharing" is an installation of an agricultural-friendly photovoltaic power generation system, positioned on an elevated structure. Its main advantage is that it allows for continuous farming, so in addition to revenues from the sales of crops, there are also revenues from generated PV power.

What type of photovoltaic system is the most suitable for agrosolar?

PV systems for farming need to be elevated above the ground, so that while solar power is produced above, people can easily continue farming underneath the PV structure.

SolarEdge's DC-optimized solar inverter solutions include the following unique features that help to effectively and safely manage agrosolar systems:



- // Small and lightweight solar inverters
- // Remote monitoring at module level
- // High resistance to weathering
- // Unparalleled DC safety function

Japan's Largest Agrosolar Site

Koden Energy Bank Co. (Saitama Prefecture) has developed a total of 18 agrosolar sites all located in the agricultural region of northwestern Saitama Prefecture.

The solar modules are constructed on a slant, two meters above the ground at their lowest point, and three meters above the ground at their highest point. To utilize this space, sasaki plants are cultivated below the structure.

To ensure safety and to eliminate any obstruction of the farming area, the solar inverters are installed at the upper part of the structure. SolarEdge Three-phase inverter is small and lightweight, it's easily installed on these elevated installations, and it reduces the load on the structure as compared to string inverters.



As mentioned, the solar modules in agrosolar are located too high for people to see, and thus cannot be inspected visually. The SolarEdge solution enables module-level monitoring through a power optimizer installed on every two modules. This makes it possible to remotely check the health of the power plant in detail, which greatly improves the maintenance process. Remote monitoring also enables asset management at a lower cost and more efficiently.

Since the power optimizers have IP68 certification and the solar inverters have IP65 certification, there is no problem watering crops under the solar inverter, or in the event of rain. Notably, the solar inverters and sprinklers can be installed anywhere. In addition, both the power optimizers and the inverters are resistant to ammonia, so there is no problem fertilizing in nearby areas.



At solar-sharing sites, where people work under a PV array, the issue of safety is critical. That's where SolarEdge's DC safety feature SafeDC™ comes in. If grounding or disconnection problems occur either in the AC or DC circuits, or in the event that the PV system must be shut down, each power optimizer's output will be reduced to the safe voltage of 1V. Consequently, the voltage of the string is reduced to around 20-25V, keeping farmers and maintenance crews safe, in compliance with the highest protective measures.



Location: Saitama Prefecture, Japan
System Size: 6.705MWdc / 4.861MWac
Panel: LONGI Solar 300W x 22,532 panels
Solar inverter: SE33.3K-JP x 146 inverters
Power Optimizer: P600 x 11,266 power optimizers

About SolarEdge

A global leader in smart energy technology, SolarEdge is a NASDAQ-traded company that has installed more than 2 million solar PV systems in over 133 countries. SolarEdge relentlessly innovates to deliver robust, efficient and best-in-class smart energy products for a wide range of industries. Continuing to advance smart energy adoption, SolarEdge addresses a broad range of enterprise applications through its PV, storage, and UPS solutions.