CASE STUDY

REDAVIA SOLAR POWER

SHALIMAR FLOWERS FARM

Flower farm flourishes with solar energy

Shalimar Flower Farm covers 350 hectares of land, located 120 kilometers west of Nairobi in the Great Rift Valley, and employs a team of more than 200 women and men. The farm grows roses and vegetables, mainly beans, broccoli, and courgettes, which are then packed locally and exported to over 35 countries worldwide. In 1998, the East African Growers Group acquired the farm and introduced eco-friendly and organic farming practices, including organic methods of pest management, soil enhancement using its own worm hatchery, and water management using an on-site reverse osmosis plant. Beyond its environmental responsibility, the farm also takes its social responsibility seriously. It has, for example, implemented a staff program to ensure the general welfare of the workforce and obtained Fairtrade Certification for its flowers.

CHALLENGE

Combining environmental sustainability and cost efficiency

Over the years, the farm has been dependent on the national grid and its 500 kVA diesel-fueled electric generator set. As the farm gradually increased its pack-house capacity and introduced new machinery to increase throughput, the additional electricity consumption increased operational costs. The farm's management then sought a way to reduce its monthly energy cost, while building on its eco-friendly agricultural practices as part of it's corporate sustainability goal of reducing its environmental footprint.

To achieve its financial and environmental goals, the Shalimar Flower Farm decided to add solar energy to its electricity supply mix.

Financed by:

KAWI SAFI · NDF Nordic Development Fund · SIMA · alphamundi FOUNDATION · POWERING AGRICULTURE

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SOLUTION

Clean energy for flower farm

In the project's first phase, REDAVIA's on-site engineers deployed a 84 kWp solar farm at the Shalimar Flowers Farm in Naivasha. The second phase consisted of deploying a 344 kWp unit and was completed in November 2020, making it a 428 kWp solar farm. The power plant is a grid-tied system configuration, so that the solar plant reduces the usage of grid electricity. In this way, the solar plant reduces overall power costs and abates the carbon emissions associated with grid power. The solar system is also coupled with a 500 kVA generator set, in order to enable solar-hybrid operation with this power source during grid outages.

REDAVIA ensures operational reliability through 24/7 monitoring and maintenance using a digital, remote monitoring platform and highly-trained maintenance staff on site. To eliminate Shalimar Farm's upfront capital outlay and enable it to focus its financial and operational resources completely on its core business, REDAVIA provides the installation and monitoring as a fully-financed, fully-serviced offer.

minimal upfront investment

BENEFIT

Flowering with solar energy

Over the 12 year lease term of the solar plant, the plant is projected to generate 6,772.2 MWh while reducing CO_2 emissions by an estimated 1,083.6 tonnes. With these carbon savings, Shalimar farm affirms its commitment towards environmental sustainability.

Srikanth Vadakattu, Director of East African Growers, said, "We are happy with the professionalism shown by REDAVIA staff in executing the solar power plant set up at our Shalimar Farm in Naivasha and the monitoring tools put in place to check the performance of the plant. The financial terms they have extended us are very encouraging during this difficult Covid-19 period."
The win-win partnership between REDAVIA and Shalimar Flower Farm will blossom for many years to come.

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