

Apartment Association in India Cuts Annual Electricity Costs by About 90% with Solar

The Challenge

With the hike in the price of electricity, coupled with the increasing energy consumption in their properties, resident welfare associations and property committees in India are looking to hedge against rising utility bills. A good example is Brigade Petunia, a premium residence complex located in South Bangalore.

In a bid to generate long-term savings by bringing down the community's expenses, the Owners Association decided to install a solar system on the building's rooftop.

After thorough research of the industry, and at the suggestion of EPC and project developers, the association selected SolarEdge's intelligent DC optimised solar solution for an improved return on investment due to higher energy yield and long warranties.

The Solution

The installation consists of SolarEdge commercial inverters, power optimisers, and a free for 25 years (system lifetime) panel-level, online monitoring platform. With optimised power generation, the Brigade Petunia Apartment's installation managed to reduce the communal electricity costs that include the common-area's lighting, lifts, clubhouse, and sewage and water treatment systems.

/ "Looking to make a smart investment in capital expenditure, we decided to install a SolarEdge system because it allowed us to put more power on the roof," explained Nikhil Grover, Association Member, Brigade Petunia Owners Association. "With our SolarEdge solar system performing 10% better than expected, we have already managed to reduce the building's annual community electricity bills by approximately 90%."



Installation at a Glance:

- Location: Brigade Petunia Apartment, Bangalore
- System Owner: Brigade Petunia Owners Association
- System Capacity: 96 kWp
- Installation Date: November 2018
- Power Optimisers: P700 x 148 units
- Inverters: SE17K x 4 & SE27.6K x 1
- Solar Panels: 325W Vikram x 296 solar panels

Maximum Power with SolarEdge...in All Kinds of Weather

One of the ways that SolarEdge's DC optimised inverter solution delivers more energy is by allowing each panel on the apartment's rooftop to produce at its highest peak, enabling the entire system to produce more power. This is important because with traditional inverter systems, the weakest performing panels drag down the production of the other panels in the array.

What's more, because SolarEdge system optimises energy production at the panel-level, the solution is suited to the aggressive climate conditions typically associated with India, where dust storms, heavy rain and humidity can contribute to further energy loss from panel mismatch. SolarEdge's solution is designed to withstand a variety of harsh environmental conditions and to operate at humidity levels of up to 95% (non-condensing). In addition, SolarEdge's power optimisers are rated as "dust tight."

Design Flexibility

The Brigade Petunia Apartment complex has multiple roofs over an area of 9600 sq. ft. While some sections of the roof are limited in space, others are partially shaded by exterior walls during certain hours of the day. Due to these design limitations, a traditional PV system would suffer from energy loss due to panel-level mismatch and would not be able to utilise the available roof space in the partially shaded areas. Since SolarEdge technology overcomes energy loss due to panel-level mismatch, it can be installed on partially shaded or multi-faceted roofs. This means more panels can be installed and more power can be generated from the system.

Remote Monitoring Saves Time and Money

The SolarEdge advanced monitoring platform identifies any underperforming panels – eliminating the time and trouble required to detect faulty panels on a rooftop. Compare this with traditional string inverters which only offer limited information such as underperformance of the array at the string or system-level, typically requiring skilled technicians to perform costly and time-consuming on-site troubleshooting.

Using SolarEdge's built-in panel-level monitoring, Brigade Petunia is able to perform fast and efficient remote troubleshooting to minimise onsite visits, operation and maintenance costs.

The Bottom Line

With a population of more than one billion and staggering energy needs, the importance of efficient, clean solar energy in India cannot be overestimated. The SolarEdge smart energy system enabled the Brigade Petunia Apartment Association to dramatically reduce its dependence on its local electricity grid, slashing its electricity costs while contributing to the government's goal of achieving 175 GW of renewable capacity by 2022. Also, SolarEdge's global reach and financial stability, combined with its cutting-edge technology, allows it to offer warranties which are amongst the longest in the industry, including 25 years for SolarEdge power optimisers and 12 years for inverters (extendable to 20 years). Since the field-proven installation is built for lasting performance, the Brigade Petunia Apartment Association can further reduce operation and maintenance costs over the system's lifetime.

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.

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