

No entry to Bescom in 30-flat bldg

By Niranjan Kaggere, Bangalore Mirror Bureau | Apr 18, 2015, 04.00 PM IST



From lighting the common area to all electrical appliances, everything runs on solar power 24x7

Indian summers bring along enough and more sunlight. It's a wonder that companies and builders go for mirrored windows and then balance these with ACs and indoor lighting. In a novel experiment, a builder in Basavangudi quietly installed solar power panels to overcome traditional Bescom dependency. Running completely on solar power, this complex, located near Netkallappa Circle, is being hailed as the city's first apartment complex that runs entirely on solar power, by the builders. Housing about 30 units of two and three BHKs, the apartment is to be run by solar power. From lighting the common area of the complex to individual flats and varied electrical appliances, everything runs on solar power 24x7.

About 300 solar panels on the rooftop of the building constantly provide solar energy, thanks to which water pumps, lifts, washing machines and even AC systems operate.

The setup means no more diesel generators since there is no scope for power cuts. Even though the system has been designed to suit grid connection, it will work totally in an off-grid mode. "Our objective was to switch over to green energy completely. Excess sunlight during the day is stored in batteries and this can be consumed in the night," explained Dinesh Pagaria, builder and developer of the apartment complex.

Giving technical details of the project, Sreenivasa of Go Green Solutions in Bengaluru which has

implemented the project said, "Considering various aspects and requirements of the occupants of the building which has a cellar, ground and five floors, we have assumed that the energy requirement of the apartment complex will be about 360 units per day. Each house is likely to use about 12 units per day. Even if the duty factor is 80 per cent, the apartment complex in total will be consuming about 288 units per day. While the building has an off grid load handling capacity of 48 kW, the on-grid capacity is estimated to be 30 kW."

According to engineers, the entire rooftop of the building (excluding the central portion for natural light) will be covered with solar panels for generation of power. "We have planned to install a total of 300 solar panels, each capable of generating about 290 to 300 watts of power. In the first phase, enabling first occupants, we have set up 70 panels and are installing inverters underneath the solar panels," Sreenivasa explained. Helping reduce consumption, the common area spaces on the 11,000 sq ft building have been fitted with LEDs. Separate systems have been created to cater to the requirements of other services like the lift which consumes about 4 kw per day (three hours of continuous operation), common area lighting 18 units per day and water pumping 10 units per day.

Another electrical engineer working on the site said, "Every house is expected to share a bit of off-grid and on-grid power during morning. In the afternoon, when the demand is less, the on-grid inverter will power the load along with charging batteries through hybrid inverters. We have urged residents to run water pumps between 11-4 in the day." The panels installed at 90 feet from the ground-level hardly require any maintenance. The inverters and batteries are maintenance free for 10 years. The only major task is that residents need to be educated about the right way of energy utilisation. "Just because it's free of cost, it does not mean that it should be wasted or over used," Sreenivasa said.

'BEST THING FOR CITY'

It is the best thing to happen for a city like Bengaluru which is increasingly guzzling power. Considering the need for more power while safeguarding the environment around us, roof-top solar generation is the best option and our experiments over the years have proved that it is indeed a viable option. The only worry is that the maintenance of the unit and batteries.

As long as people are ready to maintain these solar panels, there will not be any problem. Keeping in mind the damage to environment, I would bat for a grid-connected solar system. Maintenance of batteries is not only difficult but poses considerable problem to environment too. Hence, we must reduce the dependency on batteries and instead go for grid connection. When you do not use it, you pump into the grid and later in the day you draw from the grid. By doing so, people can even make profits! As apartments, particularly small units, must focus on having their own solar units rather than depending too much on the grid.

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