Stabilizing healthcare for the last mile with Solar

At a remote location in Kothervayal Gudalur, Tamil Nadu, is situated the small tribally owned and managed Gudalur Adivasi Hospital. The hospital is a part of the 'ASHWINI' (Association for Health Welfare in the Nilgiris) group. Covering an area of approximately 30000 sq. ft., the hospital on an average caters to around 35000 outpatients every year. However, more often than not, the hospital operations have been hampered by high fluctuations in power. This has damaged the limited equipment the hospital possesses, on many occasion, putting the patients' life at risk. Imagine an operation theatre which experiences power cuts in the middle of a surgery!

This was the scenario up until a few years back. Desperate to find a way out, Shyla Nandakumar, Gudalur hospital owner, reached out to U-solar, (a solar developer in India that provides complete solar power solution for Industrial, Commercial, Institutional and Residential clients, thereby reducing their dependence on grid power) for a solution.

U-Solar guided Shyla to install solar powered panels at the hospital. Soon after, a solar plant of 7kWp, with configuration of solar + grid, was installed. This meant that it offsets most of its power using solar & switches to electric grid at night. This system was further upgraded with an advanced Indian stabilized inverter & 4 batteries of 300 aH capacity, which has helped them utilize the excess energy generated during the peak hours at night, when the solar generation is low. The system runs on two separate plants with 3 KVA inverter each, one of them is used to power the operation theatres while the second setup takes care of the ward, HVAC & lighting's electricity demand. This unconventional electric configuration has helped them to solve power fluctuations experienced at night due to the high voltage output. Recently, a full-scale transformer has been installed in Gudalur area which has brought down the voltage output to 130 V, further accelerating solar generation & mitigating power losses.

Once installations were completed, the hospital received an uninterrupted flow of services. Now, even on days when there are severe power cuts, the hospital now has sufficient energy to function.

The installation of solar panels ensured a smooth flow of electricity for computers and other sensitive equipment's like stabilizers and life support devices. In addition, it helped them cut down on the electricity bills considerably.

With timely and efficient maintenance services from U-Solar, the solar panels generate power with direct and indirect sunlight, even when the light is partially blocked by clouds. It has proven to be a reliable source to generate electricity and has enabled the organisation to function without interruption.

Patients who now come in for treatment are elated by this new development. Better treatment, ensured by the uninterrupted power supply also often makes the patients curious, leading them to enquire about the solar units installed. With this initiative, the Gudalur hospital aims to become increasingly sustainable in their approach and contribute towards reducing carbon emissions.

Addressing the needs of 20,000+ adivasis spread over 320 hamlets in the Gudalur Valley of the Nilgiri hills in South India, the initiative is an example of how energy security is critical to the healthcare industry, especially in rural India.

With transitions to renewable energies across healthcare operations such as these, efficient service delivery and improved health outcomes can be ensured for the last mile, energy deprived population.

Written by: U-SOLAR