

# Microgrid Knowledge names Greater Good Award winners at Microgrid 2022

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The 2022 winners of the Microgrid Knowledge Greater Good Awards provide for night time studying, streetlights and entertainment in India, resilience during natural disasters and public safety power shut offs (PSPS) at a college in California, vaccinations and power for critical medical equipment at a medical facility in the Himalayas and significant energy savings and carbon reductions at a medical center in Pennsylvania.

The awards were announced today at Microgrid 2022, a conference hosted by Microgrid Knowledge that drew more ethan 550 microgrid leaders, developers, supporters and users to Philadelphia. Microgrid Knowledge launched the award program four years ago to highlight the humanitarian and societal benefits of microgrids. The winners are chosen by a panel of independent judges.



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## Kudagaon Village Microgrid

The highest recognition prize went to the Kudagaon Village Microgrid, (SunMoksha Power Private Limited, Athmallik Tehsil, Angul District, Odisha, India) located on an island in the Mahanadi River, Odisha, India. The island is cut off from the mainland for energy and other infrastructure. The electricity from the microgrid eliminates grid dependency and makes residents more self-sufficient, yielding light for studying, electricity for fans and air conditioning, streetlights for safety, more socializing and evening entertainment, according to the project's application. Many parents have now set evening study hours for their children; residents now can play cards, visit family and friends for longer periods of time. New businesses are cropping up–including a rice and flour mill–and grocery stores are operating later in the evening, yielding additional income for business owners.

"What I particularly noted in Kudagaon was how the project worked so well with the self reliant and self sustaining nature of the community," said Patrice Calise, one of the Microgrid Greater Good Award judges and associate copy editor at S&P Global Market Intelligence. "They have been able to maintain the grid themselves, and it has given them the opportunity to act on their best ideas for building the community and their personal lives."

Said Peter Kelly-Detwiler, another judge and co-founder, NorthBridge Energy Partners, "I really liked Kudagaon because it addresses the issue of energy poverty head on....The project here highlighted (United Nations) sustainability goals, has a significant potential for replicability and literally lights the way for a better quality of life for our fellow humans."

#### Santa Rosa Jr. College

Santa Rosa Junior College Microgrid (Worley, Pacific Gas and Electric, PXiSE, Center for Sustainable Energy, California Energy Commission, Go Electric) earned the award for a grid-connected microgrid. The behind-the-meter microgrid on the 100-acre campus, which received funding from the California Energy Commission Electric Program Investment Charge (EPIC) program, provides resilience in a region prone to outages due to wildfires and PSPS.

The microgrid also demonstrates the economic benefits of optimizing distributed energy resource (DER) assets to reduce total energy costs, according to a case study from PXISE, which provided controls for the project. The project includes a power management system that can operate critical facilities when the grid is down.

The project includes an organizational continuance plan, which prioritizes critical facilities and services, including public safety, student support space, financial aid and payroll, said the PXISE case study.

In addition, the plan categorizes secondary services, including classrooms where activities could more easily shift from in-person to online. The plan also prioritizes buildings that serve the most students year-round.

The project is seen as a model for other campuses that aim to adopt more onsite renewable power and storage, said the PXISE case study.

"The project shows the full potential of microgrids: improved resilience, reduced use of fossil fuels, ratcheted-up use of renewables ( with a mid-term goal of 100% use of renewables) and lower operating costs," said Housley Carr, an awards judge and longtime energy journalist.

#### Sato Medical Health

The award for a remote microgrid went to Sato Medical Health Centre Microgrid, (Global Himalayan Expedition (GHE)) Village Sato, Durbuk, Ladakh, India, a project that improves the quality of life of local residents.

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The project, a partnership between GHE and Bajaj Electricals, electrifies the Medical Subcentre of Satao, a remote village in the Changthang area of Ladakh, with a solar microgrid. It serves a medical center located 14,200 feet above sea level that experiences below-freezing temperatures in winter.

The Sato Medical Health Centre Microgrid allows for patient care at night and refrigeration of medical supplies such as vaccines.

"The majority of the population in remote rural areas still depends on medical sub-centres for primary healthcare. This project is in line with GHE's vision to strengthen the first point of contact in the existing health systems and infrastructure to make rural communities more resilient," said GHE in its application.

As a result of the microgrid, in March 2021 the center was able to vaccinate villagers because the vaccines were able to be refrigerated.

Calise said she was particularly impressed by how far-reaching the changes in the medical center are likely to be.

"It is life-changing to have electricity, certainly. But this microgrid has brought refrigeration and the ability to have essential medical equipment for the first time to multiple remote communities. It's not just life-changing; it's quality-of-life changing for so many people," she said.

#### Milton S. Hershey Medical Center

The Penn State Health Milton S. Hershey Medical Center Microgrid, (Pennsylvania State University, Cogen Power Technologies, CHA Generation and Energy Management, RMF

Engineering) Hershey, Pennsylvania, which generates significant savings and carbon reduction, garnered the award for the state that hosted the Microgrid 2022 conference. The medical center is the state's only locally based teaching and research hospital and the only hospital in the state that's a Level 1 trauma center for both adults and children, said the application for the award.

Much of the Hershey Medical Center Microgrid's distribution system are underground distribution lines, which hardens the facility against floods and winter storms. The microgrid seamlessly islands with an onsite load management system, said the application.

The 22-MW microgrid includes combined heat and power and energy storage. As a result of the project, overall fuel use efficiency increased from 51% to 75%. The project has produced an annual cost savings of \$3.8 million and has reduced CO2 emissions by 22 kilo tons annually, said the application for the award.

Carr described the project as featuring "a comprehensive, step-by-step approach that will enable the medical center to continue learning about its energy use and production and continue making improvements."

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