



School energy storage papua new guinea

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Aptech Africa has successfully designed, supplied, and installed three off-grid and three hybrid solar systems in the Vanimo and Wewak provinces of Papua New Guinea, significantly enhancing access to electricity in rural areas. This initiative aims to improve health and educational services in regions where grid-connected power is limited or non-existent.

With only 18% of Papua New Guinea's population having access to electricity, primarily in urban centers, this project targets the 80% living in rural areas without grid access. Many sites in these provinces have relied on non-functional generators, necessitating the installation of off-grid systems. Hybrid systems were introduced in areas with functioning generators to mitigate the high fuel costs.

For off-grid sites, Pylontech batteries with Deye inverters were utilized, while hybrid sites employed Alpha ESS AC Coupled integrated systems of batteries and inverters. All systems are equipped with remote monitoring capabilities via Alpha Cloud and Solar Man applications, enabling real-time monitoring of battery state of charge, PV-generated power, supplied power, and fault detection. This feature facilitates early problem-solving and prevents potential damage to the installed equipment.

The project is expected to benefit over 5,000 people, including students, teachers, and community members, by providing reliable electricity to schools and health centers. At the schools, the solar systems fully power existing loads, including computers and printers. Health centers will experience improved services, such as decreased maternity death rates, as they will have an uninterrupted power supply around the clock.

Beyond immediate benefits, these solar systems contribute to sustainable development by reducing carbon emissions that would otherwise result from diesel generators. This initiative represents a significant step toward promoting renewable energy and ensuring a greener future for Papua New Guinea.

"We are proud to support these rural communities by providing reliable and sustainable energy solutions," said a spokesperson for Aptech Africa. "This project not only enhances educational and health services but also aligns with global goals for sustainable development and environmental preservation."

Aptech Africa's efforts demonstrate a commitment to addressing energy challenges in remote areas, fostering community development, and promoting environmental sustainability in Papua New Guinea.

In PNG alone, 6.3 million people live without electricity access. The effects of energy poverty on PNG women and girls compound the existing injustices they face every day. Women's literacy, education and employment rates are lower than those of males. Violence against women is reported to be one of the highest in the world.



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The SolarBuddy solution is simple and effective. We tackle the root cause of issues that perpetuate inequality and unfulfilled futures. Innovative solar lighting, lasting 10+ years, will be provided free to students and teachers throughout the communities in the Gulf Province. No longer will communities rely on toxic, costly sources of lighting (e.g. kerosene).

Access to solar is vital in assisting students' learning and teachers' ability to mark work and continue professional development after dusk. By providing light for life, we want to inspire teachers, particularly female teachers, to stay in their roles and engage in professional development opportunities. Many also rely on additional micro business income.

Access to sustainable electricity is crucial in closing the gender gap, reducing poverty, increasing opportunity and productivity, improving health and well being, creating greater living standards and building resilient communities.

This project will allow students, teachers and the wider community access to safe, sustainable electricity, increasing their educational outcomes, health, safety and well being. It will allow women to participate in the workforce, grow business acumen, and gain economic freedom. It will provide access to activities such as business, reading, schoolwork, and household chores. It also increases safety and security risks for families as darkness provides an easy cover for crime during the night.

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