



S-5! Partners with Canadian Charity to Bring Sustainable Electricity & Internet to Remote Villages in Peru

Case Study — Light Up The World - Peru

PVKIT® | Protea™ Bracket | CorruBracket™ 500T



S-5! Products Donated:

Phase I:

- 120 Protea™ Bracket
- 120 PVKIT®
- 50 ground lugs
- 100 PV module clips

Phase II:

- 280 PVKIT®
- 180 CorruBracket™ 500T
- 100 module clips
- 50 ground lugs



The Project

Access to electricity is something many of us take for granted. Yet in remote regions around the world, it's a luxury they simply do not have. That's where Light Up The World (LUTW), a Canadian-based charity, is making a difference. By providing photovoltaic (PV) systems and hands-on renewable energy training to off-grid communities, LUTW is improving daily life and empowering communities to build a more reliable and sustainable future.

While attending a small solar event in Calgary, Aaron Cohen, Executive Director of LUTW, was on a mission to find better solutions for his solar projects located in some of the most remote parts of Peru. As he spoke to the S-5! team, he believed that their technology finally addressed the logistical challenges his team had long faced. It was a breakthrough moment—offering new possibilities for delivering renewable energy to communities once considered unreachable.

Phase I – Huarcaya, Peru

The off-grid school in Huarcaya, a remote province in the Peruvian Andes, serves nearly 150 students and more than 15 teachers. It lacked access to sustainable electricity and internet connectivity, making it difficult to support digital learning—especially after dark or during overcast days. Reliable power and connectivity were essential to improve the quality of education and overall community development.

Phase I included the installation of 18 solar panels donated by

Silfab Solar® 370 Wp (6.66 kWp), 15 kWh of lithium battery storage, 9 kW three-phase power and the solar mounting system donated by S-5!

Student volunteers from the study-abroad programs at Northern Alberta Institute of Technology (NAIT) and Southern Alberta Institute of Technology (SAIT), as well as LUTW volunteers worked alongside S-5! technicians to complete the installation. This marked the first time the students received direct training from a brand representative, an incredibly valuable hands-on experience.

The Challenge

Remote communities present complex logistical challenges because they are typically difficult to access. In Peru, reaching them often requires driving on poorly maintained roads from the nearest city or even taking a small boat along a river.

“Due to extreme weather, it took over 20 hours to reach the village,” said Juan Carlos Fuentes, International Business Director at S-5! “We drove on narrow, icy dirt roads, unable to see the edge of the cliff beside us. Visibility was poor, wild animals roamed the area, and every mile felt more remote than the last. With only a short window each day due to freezing temperatures, snow and limited hours of sunlight, we had to work quickly and efficiently. At 14,000 feet, just 10 minutes of work felt like two hours.”

Due to the weak structure of the school's metal roof, with purlins spaced about four feet apart, a lightweight solution was essential.

The Solution

“For many reasons, S-5! made sense for this project,” Fuentes added. “Our lightweight, easy-to-transport mounting system helped overcome logistical barriers and made this project possible.”

Cohen added, “It was our first time using S-5!, and it was a huge relief not having to dig holes for a ground mount system. The setup

was easy to assemble, and we installed it quickly. Normally, we use galvanized metal structures, which are heavy, bulky and expensive to transport. But with just one box from S-5!, we had everything we needed.”

“It was also the students’ first time installing a PV system, but within just 30 to 60 minutes, they had it figured out,” he continued. “The setup was intuitive, and they picked it up quickly, making it the fastest installations we’ve ever completed.”

With limited information available about the roof profile, the team utilized the **Protea™ Bracket**—since the brackets could be adjusted to fit any trapezoidal metal roof profile—and the **PVKIT®** rail-less solar mounting system. Compared to a traditional rail system, this approach reduced the roof load by 85%, which was critical given the limited structural support beneath the roof.

The solar installation not only generated light for the school, but it also powered essential equipment, including computers and other electronics, which had been previously donated. Students can now study after sunset, and teachers can enhance lessons with internet-based resources.



Phase II - Alto Mishahua, Peruvian Amazon

In Phase II, the project extended deep in the Peruvian Amazon, where electricity is not just limited, it’s nearly impossible to access—no power lines, no roads. Every piece of equipment had to travel by boat along a tributary of the Amazon River. S-5!’s simple, lightweight rail-less system made transport and installation far more feasible.

Students from the Latin American Observatory of Geopolitics of Energy (UNILA) raised funds for the project with LUTW leading the project execution to electrify 40 homes. Each home received one 370 Wp solar module, one lithium-ion battery, one charger controller, one inverter and an electrical cabinet—impacting more than 250 residents. The team utilized the **CorruBracket™ 500T** and **PVKIT** for the specific corrugated metal roof profile.

Rail-less Solar Mounting = Maximum Efficiency

The solar installation process was made more efficient utilizing a rail-less mounting method. This innovative approach allowed for significant reductions in both transportation costs and installation time. By eliminating the need for preassembly of the attachments, the rail-less method cut installation time by an impressive 50%, allowing the solar installation to be completed quickly and efficiently.

The DirectAttach™ system benefited the structural soundness of the school, and similarly the homes in Alto Mishahua. By eliminating rails, this reduced the load of the mounting system, and the overall weight placed on the substructure, minimizing stress on the building itself.

With one of LUTW’s goals being to empower local technicians to install and maintain the solar PV systems, this method simplified the project. Plus, the ease of installing the PVKIT means future installations in the surrounding area can be installed by community members.

“The number one impact is simply having light at night. When the sun sets at 6 p.m., these communities go completely dark. Now, they have a reliable energy system that will serve them for the next 20 to 25 years—supporting education, health and productivity. Students and teachers shared how wonderful it was to finally have light in the evening—and how transformative the internet access has been. They can now communicate with nearby cities and loved ones. Many told us they were ‘without words.’ They’re confident this will greatly improve education and strengthen the entire community.”

—Aaron Cohen, Executive Director of LUTW



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