



Lay Tong Khu Solar Project Report



November 2009

Project Overview:

The Border Green Energy Team (BGET) works to provide appropriate technology to ethnic minorities areas on both sides of the Thai/Burma border. BGET has been working for years to provide solar electricity to medical clinics in Karen villages and Internally Displaced People (IDP) camps. This year it partnered with Green Empowerment and SunEnergy Power International to build a 650W solar system for the Lay Tong Khu clinic, big enough to power seven lights and a vaccine refrigerator.

This clinic not only serves the 1,200 people living in Lay Tong Khu, but many patients who come from Burma as well. The medics and nurses treat roughly 300 patients a month, including many with upper respiratory infections, anemia, and malaria. They are able to make diagnoses, dispense antibiotics, and provide IVs, but their capacity to provide vaccines was previously hampered by an inability to keep them cold. The solar system provided will allow them to store vaccines and do work after dark.

Project Information:

Location: Umphang district, Tak Province, Thailand

Partners: Border Green Energy Team (BGET), Green Empowerment (GE), and SunEnergy Power International (SEPI)

Donors: Friends of GE

Scope of Project: Hands on training and project implementation for an off-grid solar system and vaccine refrigerator

System description: The system included 650 watts of solar panels, split between an AC system powering six lights, and a DC system powering a vaccine refrigerator and one light. Both systems included charge controllers and the AC system included an inverter.



Project Execution:

Installing this system at Lay Thong Khu presented many logistical challenges because the village is a four-hour hike from the nearest road. This meant most of the equipment had to be delivered to the clinic a few weeks before BGET arrived for the installation and training. The vaccine refrigerator was too heavy to carry over the mountain path, so it had to be taken on a two-day tractor ride and only arrived on the last day of the project.



The clinic consists of a main building with a central reception area and in-patient facilities, a separate treatment building, a house for the head nurse, a kitchen and an outhouse.

The three-panel AC system powers six fluorescent lights for the buildings and an outlet and the two-panel DC system powers a vaccine refrigerator and a LED light.

Following the installation work, the BGET team conducted a training seminar for the medics and nurses. Providing first the basic theory behind solar power, BGET taught proper maintenance and operation of the solar system and the vaccine refrigerator.

The medical staff will be able to diagnose the most common malfunctions and will conduct weekly and monthly checks of the system to ensure proper performance.

Going Forward:

There are many similar clinics in the border area that are in equal need of electricity and refrigeration. BGET and GE hope to collaborate again in the future to replicate their efforts at Lay Thong Khu.

