

## Canadian charity chooses Wind & Sun for off-grid equipment supply

Earlier this year Wind & Sun supplied inverters and advice to a Canadian charity for a new teaching hospital in Myanmar (Burma). <http://www.windandsun.co.uk/>

Global Neighbors Canada Inc. ([www.gnci.ca](http://www.gnci.ca)) is a humanitarian organisation working primarily in western Thailand and eastern Myanmar (Burma) amongst the Karen people group. Their main focus over the past 12 years has been to provide infrastructure for partner organizations. They have built orphanages, schools, medical facilities and Safe Houses, giving people a chance at a better future through permanent buildings, where they can live and learn in a secure environment.



Karen State has over 1.5 million people. Thousands of villagers don't have access to medical treatment. This will be the first modern Teaching Hospital in Karen State, Myanmar. Medical personnel will be trained to provide medical services throughout the remote regions of Karen State. This 24 bed hospital started operating in late 2016 with training starting in 2017.

The hospital is located about 15km from the town of Kawkareik, Myanmar. The area is remote and very rural with agriculture being the main industry. It is surrounded by several villages within a 15km radius that is home to about 40,000 people. Global Neighbors has built many buildings in more urban areas that have had access to electricity. This hospital is the first major project without utility power nearby. This is also Global Neighbor's first foray into solar power so a lot of learning was needed.

Glenn Lett from Global Neighbors describes how they solved this:



"In North America, solar power is not as widespread as many parts of Europe and Asia. We desired to build the system in Myanmar with as much locally available hardware as possible and built to local electrical guidelines. A group in Pennsylvania who have had some experience building solar hybrid power plants for jungle medical clinics was helpful to get us started. We then had the good fortune of connecting with Wind & Sun Ltd. in Leominster and they were able to answer many of our questions and help us specify equipment for this project. We also found suppliers in China for a diesel generator, batteries, and solar panels complete with racks.

We want to see as much load provided by the solar panels as possible. Most of the hospital and residences loads are wired via distribution panels to the Load terminals of the Multicluster. An additional feed is taken from the diesel generator output to a power panel in the hospital for loads that are powered only when the diesel is running. This may include x-ray machines, autoclave, maintenance shop, or other high power loads that are not continuous.

The Sunny Island has been programmed to run the generator when the batteries drop to 65% charge during the hours of 15:00 – 21:00. This later in the day standard time period is to allow the solar panels to supply as much charging current as possible. If the solar panels can't keep up then the diesel is called to run to top up the batteries for night. The loads at night are anticipated to be small and we hope the batteries can carry the load without requiring the diesel to run at night. The Sunny Island will let the batteries discharge down to 40% capacity at the other hours of the day before starting the generator.



So far the system has performed flawlessly and the solar panels and batteries have supplied all construction and worker loads. The hospital is opening in a few months and that is when the real test begins. The diesel is programmed to run a few minutes each week for standby purposes. An X-ray machine has been installed.”

Glenn Lett has recently shared the following information about the remote monitoring solution provided by Davis Controls Ltd. This particular model uses 3G cellular communication to provide vital equipment with internet access. It also provides a secure incoming connection for remote monitoring, configuring and troubleshooting:



*“I got home last night from Myanmar (Burma). The solar power plant and diesel generation for the new 24 bed hospital are both being monitored by the Secomea SiteManager. Two way communication with the SiteManager is working perfectly. I am very impressed with the product and also with your support and assistance. Thank you for all your help and advice. I will be recommending this product to others. Thanks again!*”

*Glenn Lett  
c/o Global Neighbors Canada Inc.*

[Here](#) is a link to a YouTube video of the installation.

<http://www.gnci.ca/2016/05/kawkareik-teaching-hospital-solar-electric-unit/>