

Photovoltaic pv systems solomon islands

Aside from the citizens of Honiara on Guadalcanal, where electricity is supplied by a diesel-powered grid, 90% of the country's population lives in small, isolated villages in which the only source of lighting is that produced by a smoky kerosene lamp.

Dr. Oberli discussed the idea of doing a solar project with one of his younger colleagues, Dr. Silent Tovosia, a native of the Solomon Islands who had received medical training in New Zealand and who was being groomed to eventually head up the orthopedic section of the central hospital. Silent suggested that his childhood village of Sukiki, on the southeast coast of Guadalcanal, would be a good place in which to implement a pilot project.

As a next step, Drs. Oberli and Tovosia then proceeded to register a local NGO, the Guadalcanal Rural Electrification Agency (GREA), to serve as an in-country partner to SELF. In addition, they arranged for the Premier of Guadalcanal Province to send a formal letter to SELF requesting its support for a pilot solar rural electrification project.

In April 1997, a total of 50 solar home systems were installed in Sukiki, each consisting of a 40 Wp Solarex PV module and mounting bracket, a Momingstar 6A charge controller, a BP Solar 75 AH lead-acid battery, three 11-watt compact fluorescent lights, and associated wiring and switches. In addition, a 93 Wp PV system was installed in the village church. The systems were designed to provide several hours of lighting and radio each evening. (At present, there is no broadcast television in the Solomons.)

Prior to the installation of solar home systems, SELF carried out a one-week photovoltaic training course, led by Johnny Weiss of Solar Energy International (SEI), in Carbondale, Colorado. Village technicians as well as other students from the College of Higher Education, the Ministry of Energy, Mines & Minerals, and the Solomon Islands Electricity Authority (SEIA) were trained in basic PV design, installation, and maintenance in order to provide ongoing technical support for the project.

The credit scheme set up for the project called for a \$50 down payment by the participating families, followed by monthly installments of \$15 over four years. Money repaid into the credit fund will be used to provide financing for additional families who wish to purchase solar home systems. In the year since this project was launched, there has been no record of payment default.

Indeed, as this article goes to press, another 50 solar home systems are about to be installed in a nearby village on Guadalcanal, thanks to a grant from the United Nations. SELF and GREA are hopeful that these initial efforts will lead to an expanded program of photovoltaic rural electrification in the Solomon Islands.

When I talk to people in the United States about this PV project in the Solomon Islands or in other developing



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countries in which SELF has worked, the response is often something like, "Hey, that's really cool, but what about here? When will solar energy become viable for folks in this country?"

That is not an easy question to answer, although it is encouraging to learn about the growing number of U.S. families who are harnessing photovoltaic power for their off-grid energy needs. In the meantime, approximately 400,000 families in the developing world have installed solar home systems, and the number keeps growing. And yet, the surface has barely been scratched in terms of PV's potential for improving the quality of rural life in the third world.

As a low-lying archipelago in the South Pacific, the Solomon Islands is faced with the real possibility that a sizable portion of its territory will be submerged underwater in the next 50 to 100 years if global warming raises ocean levels as projected by climate scientists. It is not surprising, therefore, that the government and the people of the Solomon Islands are delighted with the success of Sukiki and hope that the continued use of photovoltaics for rural electrification will serve as a beacon of hope, not just for the Solomons but for the rest of the world as well.

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