



SEPI Project Profile: Almaty, Kazakhstan



December 2008

Project Overview

In 2006, [SunEnergy Power International](#) conducted a training in partnership with [Solar Energy International](#) and the USAID EcoLinks Program in Almaty, Kazakhstan, which was organized by John McGill, Jerry Gold and Nurlan Zhangarin of EcoLinks.

The initial stage of the training, held as part of an EcoLinks workshop on Renewable Energy Market Development in Central Asia, reviewed policies that could be adopted by the governments of the 5 Central Asian countries – Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, and Tajikistan – to further promote the development of renewable energy in the region. The second phase was a Training of Trainers for representatives from these five countries.



As a result of this training, a new company, ND & Company, was formed in Kazakhstan by Nurlan Jiyenbayev, one of the students in 2006. His goal is to promote the use of solar energy in rural Kazakhstan for the people who do not now have access to electricity.

This project in December of 2008, was a combined hands-on training for the installation of a large solar system in the Almaty region, which aims to demonstrate

the potential applications of Solar Photovoltaic systems to Kazakhstan's government and business community. From this project, ND & Co. will develop their business plan as to how best work with the more remote areas and those in need of electricity throughout the countryside, and neighboring Central Asian countries.

In October of 2008, Nurlan Jiyenbayev traveled to the United States and attended a week-long Grid Tied PV technical training class for solar installation business in Santa Barbara and visited several installation sites on the West Coast accompanied by John McGill, serving as his US representative.

Project Information:

Location: Almaty, Kazakhstan

Partners: SunEnergy Power International, and the new ND & Company group based in Almaty to do solar power in Central Asia.

Scope of Project: Demonstration off-grid project designed to show various groups and government representatives what can be accomplished with state of the art solar power equipment, that can be deployed in the remote areas of Central Asia.

System description: 10KWp solar array consisting of (80) 125 W Mitsubishi Panels; (3) Outback FX Inverter / Chargers, (3) Outback FM80 charge controllers, and (6) strings of 210 Ah, BM-Solar batteries (locally manufactured.)

Project Execution:

The project site is about 20 km from Almaty in a new economic zone designated by the government as a future Information Technology development site. The site consists of several large buildings with a very good infrastructure to attract IT development companies from around the world, to base their Central Asia Headquarters here.



This project started in the middle of 2007 when our former trainee Nurlan Jiyenbayev was contacted by the Innovation Fund of Kazakhstan to install a Solar PV demonstration project at the IT center. Nurlan and John McGill worked together to make this happen, and obtained support and advice from Nurlan Zhangarin, of the Foreign Commercial Service at US Embassy in Almaty.

Everyone's efforts resulted in the purchase of the equipment to complete a 10KWp solar array, with all of the associated charge control and inverter / charger equipment. Even though this system is located on the area fed by a good grid, it is constructed as an off-grid system to demonstrate how remote systems would be constructed.

Prior to our arrival in December, Nurlan and Co. completed the physical installation of the 80 – 125W solar panels, the Outback Inverter / Charger equipment, the charge controllers, and the batteries.

After we arrived, we all worked together as a team to

conduct a very hands-on training to install and connect all of the wiring between the panels, as well as within the equipment and to the batteries. The class also included complete programming of the Outback Power System and start – up of the system.



Part of the installation includes new monitoring equipment that will allow ND & Co. to see, on a daily basis, where the current flow is going to and coming from. They will be downloading daily records of this information to better understand the detailed working of the system, and to apply this learning to the next project.

From here, we hope to support ND & Co in their quest to serve the remote areas of Kazakhstan, as well as address the needs in the neighboring Central Asian countries.

Please visit www.sunepi.org for video clips and more information regarding this project!

