



**PV Project:**

Sachs Harbor

**City, State, Country:**

Banks Island, NT, CANADA

**Application:**

Micro grid

**Installation Type:**

Ground Mount

**Total System Size:**

15.6KW AC

**System Activated:**

October 2015

**Installed By:**

Green Sun Rising

**Module Type / Number:**

CS6P-260P / 60

**Annual System Output:**

17,440 KWh/year

## Sachs Harbor

Sachs Harbor, a First Nations community of just over 100 people, is the northern-most civilian community in the Northwest Territories. Because of its remote location in the Canadian Arctic, Sachs Harbor is accessible only by plane and unfeasible to connect to a central grid.

**CHALLENGE**

**Cold and remote**

Electricity was available from only diesel-powered generators. Aside from the CO2 emissions, diesel fuel is so expensive and difficult to transport that it cost over USD\$6,000 annually to keep a soda machine running in the Town Hall. When the Canadian Green Energy Act expired, the act that required modules to be made in Canada, many Canada manufacturers moved or stopped producing modules altogether. Canadian Solar remained in business.

The biggest challenge, however, was regulating the body temperature of the installers. Special gear and boots would be required to prevent frostbite.

**SOLUTION**

**Special Gear and Transportation**

Green Sun Rising rented a U-Haul and drove the shipment from Windsor, Ontario to Yellowknife, Northwest Territories, which took 6 days and 6 nights. Then the team removed the seats from a large chartered airplane to get the technicians, an electrician and materials to Sachs Harbor.



*“When other manufacturers moved or stopped producing Canadian Solar, the largest and most successful manufacturer, remained in business.”*

Tony Petkovic, Green Sun Rising

Around that time of year Sachs Harbor is -15°C/5°F. The modules, however, perform very well in cold temperatures providing up to 40% higher efficiency than in warmer climates: due in part to the lack of particulate matter in the air and the high albedo of snow.

**CANADIAN SOLAR, INC.** is committed to providing high quality solar products, solar system solutions and services to customers around the world. As a leading PV project developer and manufacturer of solar modules with over 26 GW deployed around the world since 2001, Canadian Solar Inc. (NASDAQ: CSIQ) is one of the most bankable solar companies worldwide.



There are potential risks for solar installations in remote areas near the Arctic Circle. Strong winds and hail can necessitate replacement modules which are expensive to transport and require time-intensive travel for installers.

Aside from the seasonal nature of solar availability – 24 hours of sun followed by 24 hours of dark - another challenge is the lack of a fiber optic internet connection.

Monitoring the solar operation relies on a satellite internet connection which is slow.

**VALUE**

**Energy, Training and Pride**

Local labor was used to support the installation process which provided both jobs and training to the community.

The community has sense of pride to have their energy come from renewable sources and their micro grid provides a source of energy independence and community stability.



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