

## Matrix Energy partners in 10.0 kW hybrid solar project

Montreal QC -September 2013 - Matrix Energy Inc is pleased to have participated in the incentive program that provides financial support for solar thermal and photovoltaic (PV) installations (PAIESO), with the design and commissioning of a commercial 10 kW solar photovoltaic PV system in Abitibi -Témiscamingue , Quebec , Canada.

The solar photovoltaic system will reduce the oil consumption from 6,750 liters to 264 liters. A total of 6,486 liters of furnace oil will be saved annually which represents a reduction in operating costs of about \$ 8,800 / year. This translates into a reduction of GHG emissions by approximately 21 tons per year. The client will have significant cost savings on an annual basis by reducing the running time of the 12.5 kW diesel powered generator, cost of maintenance, repair, operation and accessories of the generator.

According to Jason, the manager of the lodge, "Given that our lodge is only accessible by air, the generator accounted for over 60 % of our costs. It's been a while since we wanted to find a solution that not only could reduce our operating costs, but also be more environmentally friendly because our mission is to offer our customers a unique experience of 5-stars resort while being mindful of the environment that we offer them. From the moment we made a decision, Matrix Energy was essential in terms of experience and professionalism. We are very pleased to have worked with Matrix Energy Inc. in this project". St-Cyr Royal Lodge is an all-inclusive 5 star hotel which is accessible by air to the east of Senneterre .



The system is operational from May through October of each year. The main work loads from 15 May to mid -September. The lodge consumes very little load before and after the season. The lodge is not open in winter.

According to the counter available on the site, the 2011 data allow us to observe that the burden of daily consumption varies between 38 kWh and 45 kWh depending on the equipment used. The largest consumption already observed is 49 kWh in a summer day (the lodge was full all day).

The lodge has a 90 gallons pressurized water tank to reduce the operating time of the pump during the day and night, instant water heater, dryer and stove that runs on propane.



The submersible deep well pump is 3/4 hp 220 volts. All the lights in the lodge are very energy efficient compact fluorescent bulbs running on 120 volts.

The lodge also includes other charges in the case of refrigerators, Energy Star freezers, a telecommunications system, sound systems, etc.

The batteries will be stored in the winter in a warm place. The rest of the system is shut down during the winter.

|                                |                   |
|--------------------------------|-------------------|
| PV array:                      | 10 kW             |
| MPPT charge controller:        | 180 Amps          |
| Field orientation:             | South / tilt 35 ° |
| Mounting system:               | Ground mount pole |
| UPS capacity:                  | 8.0 kW            |
| Rated voltage DC battery (V) : | 48V               |
| Battery :                      | 2 days            |
| Depth of discharge:            | 70%               |
| Battery capacity (Ah) :        | 2490 Ah           |



Glenn , the Lagden Facilities and Services Ltd. Manager and Electrical Contractor who performed the installation, says " it was a great pleasure to do the installation with Matrix Energy technical and engineering support. Since implementing the PV system, the lodge has been powered only by solar photovoltaic for more than a week without the support of the generator that ran continuously for 24/24 h before. "



About Matrix Energy:

Since 1985 Matrix Energy ([www.matrixenergy.ca](http://www.matrixenergy.ca)) continues to offer a variety of Value-Added Services for complete Stand Alone (Autonomous) Power Systems to supply DC and/or AC loads for telemetry, solar LED lighting, road and rail traffic signaling, telecommunications, remote homes & cottages and other applications requiring electrical power where conventional utility power is unavailable or cost prohibitive.

Matrix Energy is committed to delivering high quality products from industry leading domestic manufacturers and services to suit client needs while making solid contributions to reducing Greenhouse Gas emissions. All products and systems provided are environmentally friendly and energy efficient.

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