



Matrix Energy Inc.

Mission Statement:

To provide practical, environmentally-friendly and cost effective solutions that address the needs of our clients.

Fast Facts

- Photovoltaic (PV) modules recover 100% of their environmental and recycling costs within 18 months of their use.
- Over its lifetime a 50 W solar module operating in a temperate climate will produce more than 5 MW of power.
- A 1 kWp PV system will prevent 136 kgs of CO₂ from entering the atmosphere each month.
- Wind power is the world's fastest growing energy source with sustained growth rates in excess of 30% per year. At the beginning of 2002, world-wide wind-generated capacity exceeded 24,000 megawatts.
- Today's cost ranges:
 - Photovoltaics from about 25 ¢ per kilowatt-hour for stand alone sites
 - Wind from about 8 ¢ per kilowatt-hour for wind at a site with winds averaging 8 m/s (29 km/hr)

Typical applications

- ★ **53% of renewable power is “grid connected”**
 - Back up power; rooftop power projects; wind farms
- ★ **47% is “off-grid”**
 - Recreational Buildings
 - Telecommunications & telemetry
 - Rural electrification
 - Traffic signals
 - Agricultural (water pumping)

Matrix Energy Inc.

Corporate Overview

- In operation since 1985
- Head Office – Montreal, Quebec

☀ Areas of Specialization

- *Autonomous Power Systems*
 - Solar, wind and hybrid electrical power
 - Back-up (inverter-based) systems
- *Solar Thermal Systems*
 - Solarwall solar air heating for production or industrial air ventilation

Some examples of our work...



Canada



Peru



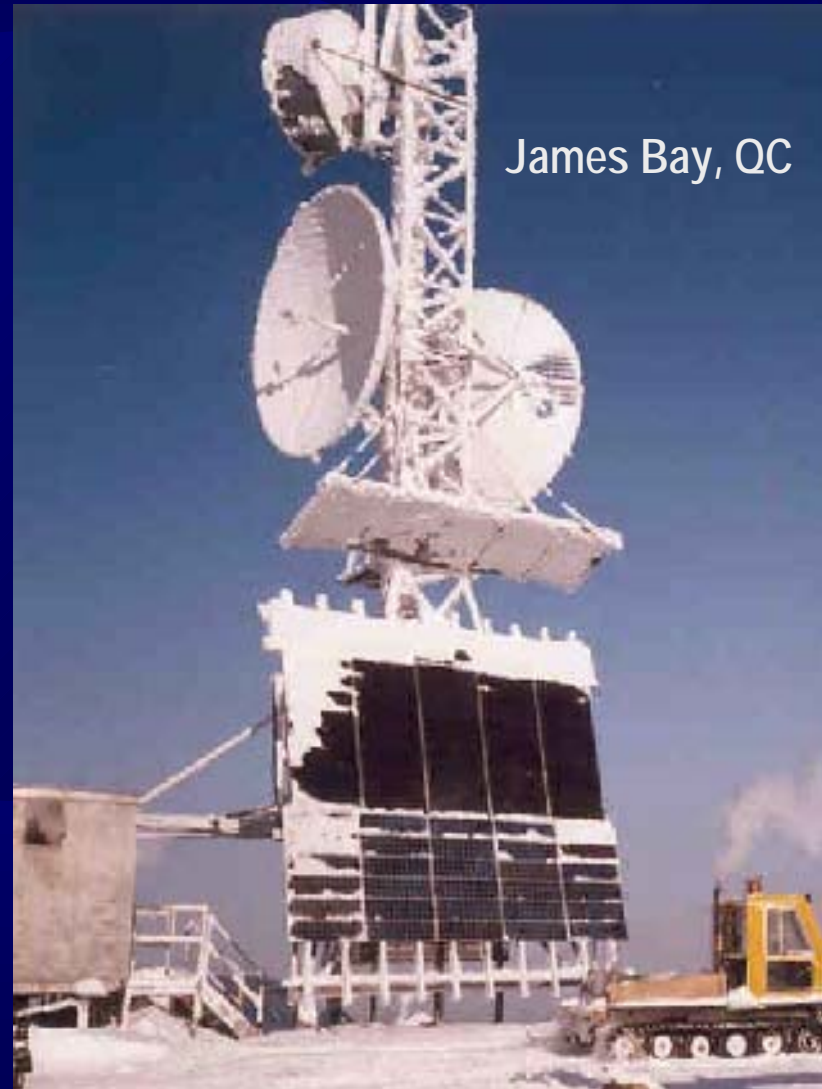
North America

Example: Remote Buildings...

SEPAQ, Quebec



Example: Generator/PV Systems...



James Bay, QC

Example: Railway Signalling...



Canada



North-central United States

Example: Solar Process Air...



Manure drying, Quebec



Coffee, Panama



Marigold flowers, India

Example: Solar Air Heating...

World's largest solar air heater



Renovation



New construction

What is our role?

- ★ **Provide cost effective solutions that address the needs of our clients.**
 - **Establish our client's specific needs**
 - **Design & Quote the system**
 - **Provide quality Canadian and international equipment & services**
 - **Ship materials on time and on budget**

Establish client's needs

☀ Identify Objective

- ☀ Determine the project's desired outcome

☀ Identify project parameters

- Physical and logistics considerations
- Financial considerations - CIDA project?
- Logistics

☀ Timing

- Time sensitive?
- Impact of weather on installation

☀ Partners

- Local or international

Design & Quote the system

- ✦ **Ascertain load profile and local weather data**
 - Liaise with client to confirm loads and to discuss equipment options
- ✦ **Preliminary System and Cost analysis**
 - Based upon preliminary data
- ✦ **Refine load profile and power equipment**
 - Revised in accordance with the client
- ✦ **Prepare Final System and Cost Proposals**
 - Scope of work
 - Quotation

Provide quality equipment

- ☀ **Photovoltaic and Solar Thermal products**
 - Shell Solar (SIEMENS), Kyocera, Photowatt; Solarwall
- ☀ **Wind Turbines**
 - Southwest, Bergey
- ☀ **Controls**
 - Matrix, Morningstar, Pulse
- ☀ **Batteries**
 - UNIGY, BAE, DEKA, Sonnenschein, GNB
- ☀ **Balance of system components**
 - Support structures, anti-theft hardware – Matrix
 - Inverters – Xantrex
 - Water Pumps - CAP, Shurflo, Dankoff
 - Lighting – Matrix, ThinLite

Ship on time and on budget

☀ “Shipping” may include:

- Physical transport of materials
- Turnkey installation
- Installation supervision
- Training of the users and system maintenance staff

Summary

Since 1985 Matrix has provided reliable, environmentally-sound and cost conscious solutions for a multitude of applications.

- ***Autonomous Power Systems for***
 - Rural electrification, grid-intertie, lighting, water pumping, telemetry and telecommunications
- ***Solar Thermal Systems for***
 - Solar air heating for crop drying and industrial air ventilation