

# Unique Inverter Technology Mitigates Energy Losses for 10kW Canadian Rooftop

The Ontario MicroFIT program encourages the installation of solar energy systems up to 10 kWp by granting them a favorable Feed-in tariff. Within these limits, system owners seek to produce the maximum amount of energy possible in order to accelerate their return on investment. When Mr. Bekendam, owner of a moving company, approached Paul Belanger of Green Planet Solar, a leading Ontario based installer, requesting a PV installation for the rooftop of his storage facility, Paul immediately recognized the added benefits that a SolarEdge system would have for this installation.

## Maximizing Energy Yield

The trees east of the storage facility would certainly cast a shadow on some of the modules during the morning hours. Therefore, installing a traditional system would lead to disproportional losses of energy since shaded modules would bring down the performance of unshaded modules in the same string. This is why Mr. Belanger decided to install a SolarEdge system using SolarEdge Power Optimizers and SolarEdge inverters. Power Optimizers are connected to each module and provide Maximum Power Point Tracking at the module-level. Consequently, modules operate at their peak power point regardless of the performance of other modules in the string. With the effects of the shading on the energy production minimized, the system can produce at maximum energy.

”Maintaining the system is easy, it takes only 30 seconds to look at the entire system using my smartphone and the online SolarEdge Monitoring Portal. I can immediately locate a problem and see if anything needs work.”

*Paul Belanger, President, Green Planet Solar*



## Installation at a Glance

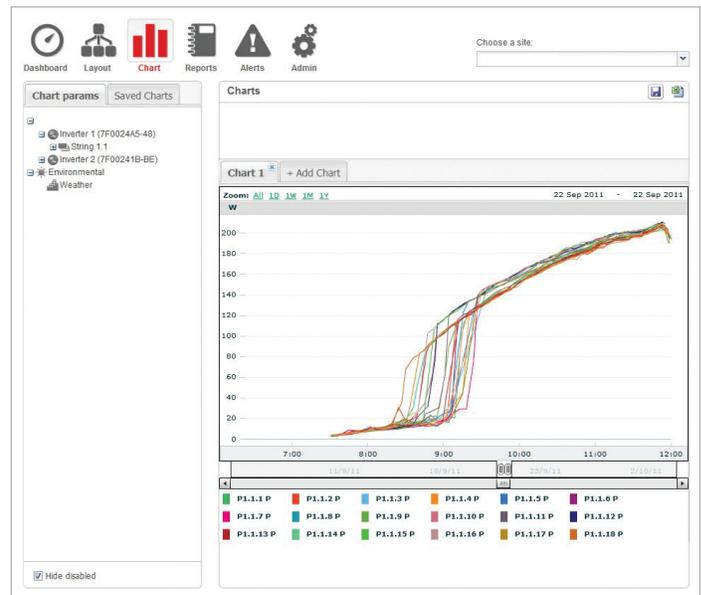
- Special focus: Energy yield & effective maintenance
- Installer: Green Planet Solar
- Installation date: July 17, 2011
- Location: Brantford, Ontario, Canada
- Average irradiance: 1486kWh/m<sup>2</sup>/yr
- Installed capacity: 10 kWp
- Modules: Eclipsal 250W
- Inverters: 2 X SolarEdge SE5000US
- String design: 1 String, 22 Panels

The large tree in the photo casts a morning shadow on the installation. Traditional PV systems suffer from dramatic energy losses from shading such as this one. SolarEdge's Power Optimizer technology reduces these losses to a minimum.

## Effective Maintenance

The SolarEdge system provides performance data about every module, while traditional systems monitor only the inverter output. Mr. Belanger logs into the SolarEdge Monitoring Portal on a regular basis to check how the modules are performing and if any maintenance is required. In the portal, underperforming modules are easily located on the site layout map where they are visually distinguishable by a darker shade of blue. In the case of this 10kW installation, the portal confirms that all modules are performing at their maximum output, despite some being shaded by the trees.

In summary, the SolarEdge system mitigates shadows cast by surrounding trees and module-level monitoring allows Paul to offer proactive and effective maintenance service.



Screenshot: The chart taken from the Monitoring Portal, shows how individual panels are effected by the shadow during the morning hours, between 8 and 10.

## About SolarEdge

SolarEdge is a global leader in smart energy, delivering innovative commercial and residential solutions that power our lives and drive future progress. Leveraging world-class engineering and a relentless focus on innovation, SolarEdge developed a ground-breaking intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. Today SolarEdge is the world's #1 solar inverter company in revenue with more than 2.3 million SolarEdge intelligent inverters and more than 54 million power optimizers installed in 133 countries. SolarEdge addresses a broad range of smart energy market segments through its PV, storage, EV charging, batteries, UPS, and grid service solutions.

[www.solaredge.com](http://www.solaredge.com)