

CANADA'S SCIENCE SOURCE SINCE 1970

# EfstonScience

*The Solar & Wind Power SuperStore*

# **eSolar** **Innovations**

*EfstonScience eSolar solutions  
combine turnkey integration and  
state-of-the-art technology with  
40 years of customer service.*



3350 Dufferin Street, Toronto

| 888-777-5255

| [eSolar.ca](http://eSolar.ca)

# There has never been a better time to invest in renewable energy!

In late 2009 Ontario introduced the **Green Energy Act**, with major incentives to help supplement the provincial energy supply with clean, renewable energy. The Ontario Power Authority's new Feed-In-Tariffs (FIT and microFIT) have created an unprecedented opportunity to generate profit by selling your solar power to the grid.

**EfstonScience offers complete Solar Energy Systems** that meet the stringent Ontario content requirements for FIT & microFIT eligibility. Our experienced team looks after everything from system design, permits and applications, to installation and support — so you can start earning solar income sooner.

## What Solar Energy System is right for me?

Everybody's situation is unique, so EfstonScience custom-designs every system to optimize your R.O.I.

**3kW**



*earns*  
**\$2,735**  
*per year*

Partially shaded roofs use state-of-the-art micro-inverters to maximize output and profit..

12 × 250W panels (3 kW)	220 ft <sup>2</sup>
Avg. output 3411 kWh/year <sup>1</sup> × 80.2¢	\$2,735
Total microFIT income over 20 years:	\$53,509
<b>Total installed cost:</b>	<b>\$18,500</b>
<b>Net profit after 20 years:</b>	<b>\$35,009</b>
Lifetime carbon reduction:	>12,000 kg

**5kW**



*earns*  
**\$4,558**  
*per year*

A solar energy system turns an unused garage or boathouse roof into a profit centre.

20 × 250W panels (5 kW)	365 ft <sup>2</sup>
Avg. output 5684 kWh/year <sup>1</sup> × 80.2¢	\$4,558
Total microFIT income over 20 years:	\$89,975
<b>Total installed cost:</b>	<b>\$27,900</b>
<b>Net profit after 20 years:</b>	<b>\$62,075</b>
Lifetime carbon reduction:	>20,000 kg

## Getting paid for solar: OPA, FIT & microFIT

As part of the *Green Energy Act*, the Ontario Power Authority (OPA) introduced FIT (Feed-In-Tariff) and microFIT programs. The FIT program is geared towards larger, commercial applications over 10kW. microFIT, covering systems under 10kW, is aimed at home-owners and small businesses, and offers premium rates and a streamlined application process.

**microFIT will pay you 80.2¢ per kWh for the solar electricity you generate, guaranteed for 20 years.**

Since power is sent directly to the grid, FIT and microFIT systems need no batteries and do not affect your existing Hydro meter usage or billing.

An EfstonScience Solar Energy System is a sound investment that adds value to your home. A typical system will pay for itself within 1–11 years and the 20-year microFIT contract is transferrable if you sell your property. Our solar modules are warranted for 25 years, with an expected lifespan of over 40 years — after the FIT contract expires the electricity you generate is yours to use or sell.

### EfstonScience makes it easy

**Our team looks after every step of the microFit application and installation process, to put you on the shortest path to the highest returns.**

Ontario Power Authority Feed-In-Tariff Programs

### microFIT

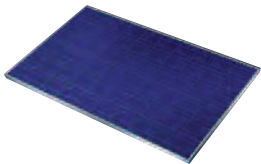
vs

### FIT

**Systems less than 10kW**  
**64.2–80.2¢ per kWh**  
Streamlined application process with guaranteed approval  
No application fee  
2–3 months approval process

**Systems more than 10kW**  
**44.3–71.3¢ per kWh**  
Engineering and electrical impact assessments required  
\$500–\$5000 + fees  
6–12 months approval process

## Components of a FIT/microFIT-ready Solar Energy System



### Solar Panels

**Crystalline silicon cells convert sunlight into electricity**

EfstonScience uses only trusted brand-name photo-voltaic (PV) panels, with a 25-yr power rating warranty.

Many sizes, outputs wattages and trims available.



### Mounting System

**Supports the panels; optional trackers follow the sun to boost output**

Sloped roof, flat roof, ground and pole mounting systems available.

1 & 2-axis tracking systems can boost output by 25%+.



### Inverter

**Converts DC from the panels to grid-ready AC power**

String Inverters work with parallel strings of panels.

Micro Inverters attach to each panel to optimize output – ideal for shaded or multi-angle installations.



### Monitoring

**Web-based tools monitor system performance**

Systems can be monitored remotely from any web browser.

Monitors track system status, power output, income generated, carbon offset, weather data and more.



### Hydro Meter

**Connects your system to the grid**

FIT/microFIT systems use a dedicated meter installed by your local power distribution company, who pay you for the power you generate.

# 10kW systems offer maximum ROI with all the benefits of microFIT

These scenarios illustrate different possible 10kW microFIT system configurations. Based on current pricing as of Feb. 2011, subject to change. Taxes extra.

10kW



earns  
**\$10,485**  
per year

## Sloped Roof

South-facing sloped roofs are ideal candidates for a solar energy system.

46 x 250W panels (@35° pitch)	838 ft <sup>2</sup>
Avg. output 13,073 kWh/year <sup>1</sup> × 80.2¢	\$10,485
<b>Total microFIT income:</b>	<b>\$208,499</b>
Equipment	\$45,000
Engineering	\$2,500
Installation	\$10,500
<b>Total installed cost:</b>	<b>\$58,000</b>
<b>Net profit after 20 years:</b>	<b>\$150,499</b>

A system like this would pay for itself in: **7.25 years**



## Quick Mount PV

This aluminum roof shingle is an all-in-one watertight flashing and mount that quickly and easily installs on shingled, sloped roofs with no cutaway required.

## The 10kW Sweet Spot

10kW systems take full advantage of the microFIT program's fast-track application, minimal engineering requirements, and offers the highest possible rates for your power.

EfstonScience offers components and turnkey solutions for any size FIT & microFIT system. Every installation is customized to the unique requirements of the site and structure to maximize your rate of return.

10kW



earns  
**\$10,403**  
per year

## Flat roof with ballasted fixed mounts

South-facing, non-penetrating ballast mounts are pitched and spaced to avoid shading.

46 x 250W panels (@25°) after spacing:	2400 ft <sup>2</sup>
Avg. output 12,972 kWh/year <sup>1</sup> × 80.2¢	\$10,403
<b>Total microFIT income:</b>	<b>\$206,879</b>
Equipment	\$50,000
Engineering	\$5,000
Installation	\$15,000
<b>Total installed cost:</b>	<b>\$70,000</b>
<b>Net profit after 20 years:</b>	<b>\$136,879</b>

A system like this would pay for itself in: **9 years**



## Ballasted mounts

Ballasted mounts don't penetrate roof membranes, are quick to install and easy to move.

Ideal for newer roofs that meet structural engineering requirements.

10kW



earns  
**\$9,599**  
per year

## Ground-mounted with 1-axis tracking

Self-contained PowerTrac system installs quickly and maximizes sun exposure.

40 x 295W panels (@30° pitch)	
Avg. output 14,952 kWh/year <sup>1</sup> × 64.2¢*	\$9,599
<b>Total microFIT income:</b>	<b>\$191,979</b>
Equipment	\$68,000
Engineering	\$2,000
Installation	\$10,000
<b>Total installed cost:</b>	<b>\$80,000</b>
<b>Net profit after 20 years:</b>	<b>\$111,979</b>

A system like this would pay for itself in: **9 years**



## PowerTrac 1-axis system

1-axis azimuth tracker tracks the Sun from East to West over the course of the day.

Boosts output by up to 25%

Helical Anchors make installation fast & simple.

Sturdy, rust-proof aluminum I-beam construction

Rugged, chain-driven motor drive.

10kW



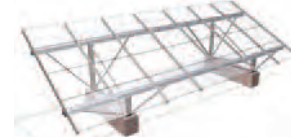
earns  
**\$8,220**  
per year

## Fixed ground-mounted

Versatile and robust mounts make installation easy.

48 x 235W panels (@30° pitch)	
Avg. output 12,805 kWh/year <sup>1</sup> × 64.2¢*	\$8,220
<b>Total microFIT income:</b>	<b>\$163,216</b>
Equipment	\$55,000
Engineering	\$2,000
Installation	\$13,000
<b>Total installed cost:</b>	<b>\$70,000</b>
<b>Net profit after 20 years:</b>	<b>\$93,216</b>

A system like this would pay for itself in: **10.75 years**



## SolarGiant III fixed system

High-strength slide-in module rails provide a rugged PV mounting system that makes assembly and module installation exceptionally simple and fast.

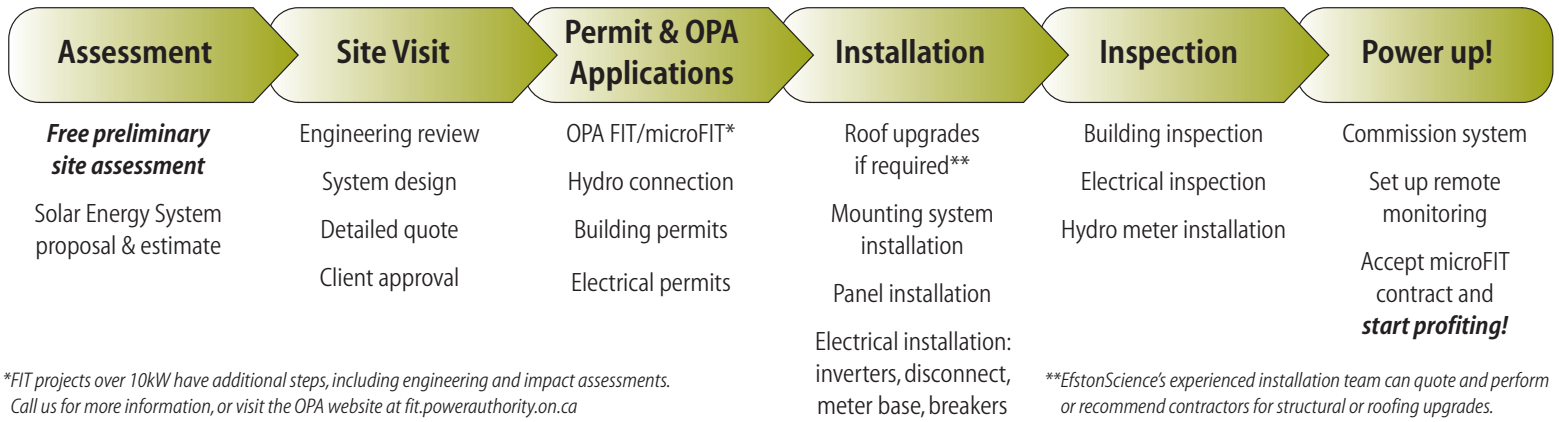
Simple mounting footer design can be used on the most difficult sites and soil conditions with minimal site-preparation.

## Clean, zero-emission power

Over 20 years, a 10kW solar system will offset more than 58 tonnes of CO<sub>2</sub>

<sup>1</sup> Est. average output in Southern Ontario as calculated by Natural Resources Canada RETScreen ([www.retscreen.net](http://www.retscreen.net)). Output estimates are averaged over the 20 years of the microFIT contract

# The EfstonScience Turnkey microFIT Installation Process



\*FIT projects over 10kW have additional steps, including engineering and impact assessments. Call us for more information, or visit the OPA website at [fit.powerauthority.on.ca](http://fit.powerauthority.on.ca)

\*\*EfstonScience's experienced installation team can quote and perform or recommend contractors for structural or roofing upgrades.



## Did You Know?

### Locally-generated solar power is twice as nice!

At peak times, Ontario must import electricity from Quebec and the USA. Much of this power gets lost in transmission, making it expensive, inefficient and increasing its carbon footprint. Since locally-generated solar power is used immediately by the grid, there is virtually no transmission loss, making it cleaner and more efficient — a double benefit for a Ontario.

## The EfstonScience Advantage

**Simplicity.** EfstonScience's turnkey Solar Energy Systems include everything from site analysis and system design to engineering, installation and support. Our team of qualified installers and electricians will look after all technical and administrative details, permits and applications.

**Reliability.** We only sell solar panels that come with a 25-year manufacturer guarantee, and our EfstonScience Service Commitment means lifetime technical support on your system. With more than 40 years in business, you know EfstonScience will be there for you down the road.

**Selection.** As Canada's largest science retailer, we have access to the full range of solar products on the market. In addition to FIT & microFIT systems that meet the OPA's strict made-in-Ontario guidelines, EfstonScience offers off-grid, wind power and hybrid wind+solar solutions.

**Experience.** Our passive-solar heated SuperStore is home to the *eSolar Resource Centre*, with functioning solar and wind power systems on display, as well as LED lighting, educational kits, green reference books and innovative eco products. Come in and see it for yourself!

### Financing available

EfstonScience offers a range of **financing solutions** for residential and commercial solar power projects. Call and find out how you can start earning solar profits with as little as \$0 down.

### Referral rewards

EfstonScience offers an exciting **incentive reward program** to our satisfied solar customers for any renewable energy clients referred to us — ask our staff for more details.

## Are you ready to profit from solar power?

Visit [www.eSolar.ca](http://www.eSolar.ca) to find out more about how solar energy can earn you a guaranteed income for 20 years. Fill out our simple online *eSolar Inquiry Form* and we will get back to you with a free preliminary assessment of your project.

You can also **visit the EfstonScience SuperStore** to check out the hands-on solar and wind power displays in our *eSolar Resource Centre* and talk with one of our knowledgeable solar energy specialists.

Of course, you can just **call**, or email [solarSales@eSolar.ca](mailto:solarSales@eSolar.ca); we are happy to answer any questions you might have. That's just good, old-fashioned customer service — the kind we've been delivering for over 40 years!

**Visit [eSolar.ca](http://eSolar.ca) to request your FREE site assessment**



**EfstonScience**  
The Solar & Wind Power SuperStore

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