

The technology

Solar Photovoltaic (PV) panels:

- Convert sunlight directly into clean electricity
- Create small scale, decentralized power stations to improve grid reliability
- Do not produce greenhouse gas emissions
- Have performance warranties of 20-30 years
- Do **NOT** require frequent maintenance
- Generate predictable amount of electricity over a year
- Converts sunlight into DC current
- An **inverter** converts the DC current into AC current (grid electricity)
- A **System Monitor** shows how much electricity your array is producing
- AC current is sold to the grid through the **Utility Meter** at 80.2 cents/kW-hr (for ≤ 10 kW systems)
- One panel of 200 W represents roughly an area between 1-2 square metres
- A separate system provides power to your home at standard electrical rates

Why is Ontario paying above market rates to buy power from solar energy? The government is jump-starting our renewable energy industry. To get these higher rates, you must use a substantial percentage of Ontario content for your materials and labour. Already companies are moving to or starting up in Ontario. With global warming and peak oil threatening us, renewable energy will be a vital economic sector for Ontario in the 21st century.

Resources in Eastern Ontario

Ontario Power Authority (OPA FIT program)

fit.powerauthority.on.ca 1-800-797-9604

Kingston Hydro (Grid connection in Kingston area)

www.kingstonhydro.com 613-546-1181 ext 2285

Hydro One (Grid connection outside the Kingston Hydro territory)

www.hydroone.com/Generators/FITmicroFIT 1-888-664-9376

Canadian Niagara Power (Grid connection in Gananoque area)

www.fortisontario.com/services_cnp.asp 1-800-278-5394

Veridian Corporation (Grid connection in Belleville area)

www.veridian.on.ca 1-866-579-6819

List of local contractors

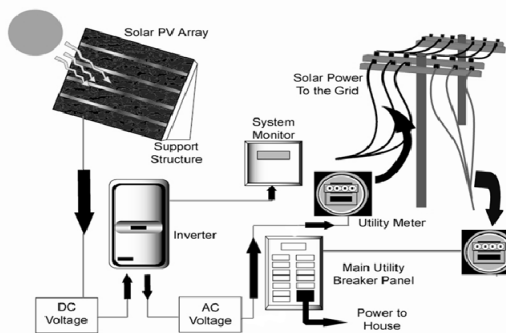
www.switchontario.ca/microfitvendors.php

Frequently Asked PV Questions

www.switchontario.ca/microfit.php

www.switchontario.ca/wiki/doku.php (sections on insurance, calculating your return, choosing an installer, etc.)

www.appropedia.org/PV-FAQ



Parallel metering grid tied PV system



SWITCH

The Sustainable Energy People

Solar Photovoltaics for the Ontario Home



SWITCH—The Sustainable Energy People

info@switchontario.ca 613-547-6700
(ext. 129, 130)

Please send us your feedback on this document to info@switchontario.ca

Une version française de cette brochure est disponible à:
http://switchkingston.ca/files/brochure_microfit_french.pdf

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How much will it cost?

The cost of a photovoltaic (PV) system varies depending on its size and market prices, thus the installed cost could vary between \$8,000 - \$15,000 per kilowatt.

The return on investment could range from 3 to 10%.

In Kingston, 1 kW of panels facing south, angled at 45 degrees makes about 1200 kWh per year of electricity.

Certified dealers and installers can provide a design that will optimize your space, maximize returns and look good on your house.

The income generated is taxable as business income. Consult your accountant to take advantage of depreciation allowances.

This qualifies for the Home Renovation Tax Credit from the Federal Government valued at up to \$1,350 until Feb 1, 2010.

What is the Feed-In-Tariff ?

On May 14th, 2009 the Ontario Government passed The Green Energy Act. This Act directed the Ontario Power Authority (OPA) to establish a feed-in-tariff (FIT) to purchase energy from renewable energy generators.

- The OPA agrees to buy the power from your PV system at 80.2 cents/kW-hr for 20 years (for 10 kW systems and under)
- Streamlined application and approval process for microFIT
- Ontario has the most generous FIT program in the world!

OPA documentation: fit.powerauthority.on.ca

Solar PV as an investment

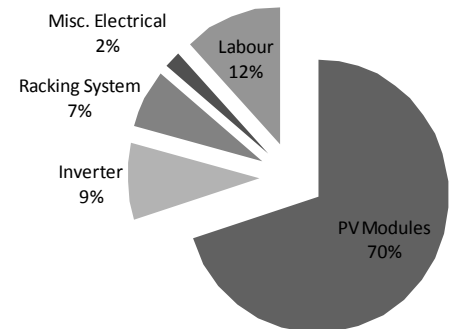
- After degradation, depreciation and tax, PV panels may provide you with a 3 - 10% return after tax for 20 years. Canada "real return" bonds currently yield about 1.6%, and long term bonds yield about 3.5 - 4% before tax.
- The panels usually have a 20+ year warranty
- You can use depreciation to reduce your *taxable* income from the panels.
- If you take out a loan to pay for the panels, the interest payments are tax deductible, and will help you to write off the income generated by the panels
- Those close to retirement should consider solar as a means of generating retirement income. Talk to your financial planner about how solar can play a role in your investment portfolio!

I want PV! What's the process?

- Have a site survey completed by an installer to determine your PV potential
- You or your installer should apply to the OPA for a FIT Reference Number
- You or your installer should contact your utility provider and tell them you intend to connect to the grid. They will provide you with a connection agreement.
- Obtain financing (if necessary)
- Purchase and have panels installed by licensed professionals to ensure optimal panel performance; be sure they obtain a municipal building permit if needed
- Distribution company will connect you to the grid when provided with payment, a connection agreement and Electrical Safety Authority certificate

What are my financing options?

Various groups are currently negotiating with financial institutions in order to arrange financing that respects the unique low-risk profile of solar microFIT installations. Details will be posted at www.switchontario.ca/financing.html as soon they become available.



Cost breakdown of PV System adapted from www.homepower.com

What happens if I move?

- You could sell the panels to the new homeowner, and transfer the FIT contract to them
- You could retain ownership of the panels and your FIT contract and rent roof space from the new homeowners

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