



Grid-Tied Renewable Energy Systems in Canada Selling Power back to the Utility

Is your power bill costing you too much?

Would you like to reduce your environmental impact?

Will a Renewable Energy power system on your home solve these problems?

These are some really common questions we hear more and more as Climate Change becomes a more common topic of concern in our lives. If you would like to produce your own power, there are a few things you should consider first.

All of Canada, except Ontario, uses a grid connection system called Net Metering. That means the utility will offset your power usage (kWh) by how much power your Renewable Energy (RE) system has produced and then charge you for the balance. Essentially, they are paying you the same price for the power you produce as you are paying for the power you consume. The problem with this system is that the power utilities across Canada are highly subsidized by the government and RE is not. That makes it really difficult to compare the costs of one with the other. For example, with a coal fired power plant, the coal is usually subsidized by tax exemptions, the plants themselves often have further tax exemptions, the environmental cost of cleaning up a coal mine and the health cost of the pollution created from burning the fuel is not accounted for at all, etc. When you purchase an RE system there are no associated indirect environmental or health costs and there are no government subsidies to offset the capital cost of the system. The only break the government offers is no PST on the associated equipment with an RE system except for the batteries (which are an essential part of many types of systems). Also, if you decide to upgrade the power equipment in an existing system, but there are no generating sources on the invoice (solar module, wind turbine, or microhydro turbine), then you get no tax break at all. The price you pay for an RE system is the actual cost of the power produced.

For Example: An entry-level grid-tie direct solar system (no batteries) will cost about \$15,000 to install and give you a 1kW solar array on your home (about 100sqft). In most of Canada you will receive the equivalent of 1000-1300hrs of noon-time-intensity solar radiation. That means this 1kW solar array will produce 1000-1300kWh of power per year and the utility will buy this power back at the same price you are paying for power. In BC, they will buy the power at about 7¢ per kWh or about \$80/year. In Ontario, the utility will pay 42¢ per kWh or about \$500/year.

Renewable Energy power systems are happening in an economically and/or environmentally feasible fashion in countries all around the world. For Canada to catch up to the rest of the world in terms of its commitment to the development of RE power generation, we need our government to do three main things:

1. Regulate the utilities to create a Standard Offer Contract (SOC) program.
This means the power utility buys RE power from you for more than what you pay for conventional power. This shows the higher value of RE power.
2. Reduce subsidies to the utilities and use the money instead to support the SOC program. This will create a revenue-neutral program to promote more use of RE power systems on residential homes.
3. Reduce subsidies to producers of fossil fuels and fossil fuel power plants to create subsidies to reduce the capital costs of an RE power system. This can also be done in a revenue-neutral way at no extra cost to the taxpayer.

The overall result of these government initiatives will increase the cost of power to the consumer, especially in areas where most of the power is produced from fossil fuel sources. This increase in cost will motivate consumers to install the less expensive RE systems and reduce their own consumption by becoming more aware of the true costs of using electricity. These initiatives can be combined with a program to install easy-to-use, interactive power meters, called “Smart Meters”, in residential homes that allow people to see in real-time how much power they are consuming and adjust their consumption accordingly (BC Hydro plans to do this by 2012). This can also be combined with time-of-day savings to reduce the power consumption during peak periods, which will reduce our need to build new power generation facilities just to meet the peak demand. In short, the best thing you can do to make RE power systems a reality in Canada is to talk to your MLA and your MP and join a local advocacy group like the BC Sustainable Energy Association to ensure your views are heard by our government.