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HEADLINE: RESIDENTIAL SOLAR NEEDS ANOTHER LOOK

A couple of weeks ago, I wrote on wind energy and some alternatives to conventional and, often controversial, wind turbines. I got some interesting replies from readers, who were not aware that there are other options for wind generation. The Green Energy Act (GEA) by itself has caused some heated debate and the arguments are hard to ignore. Two years ago, the Frazer Institute stated, in a study on the GEA with respect to electrical costs that, "renewables are a big part of the problem: Wind and solar systems provided less than 4% of Ontario's power but accounted for 20% of the commodity cost paid by Ontarians." Yet over a year ago Premier Wynne ordered wind and solar installations to triple by 2021.

The most progressive country in the world, with respect to renewable energy, Germany, started up new coal fired generation plants, using clean air technology. This was necessary because of the decision to eliminate nuclear power and the burgeoning replacement costs of renewable energy systems. The life span of a solar panel is under half that of a coal plant and Germany intends to build seven more of these plants within the next ten years; far exceeding their current solar power production.

So where does this leave the solar panel revolution? In the southern states and along the equator where constant sun is not an issue, solar systems can be very efficient. In fact, with the dollar as it is today, Canadian solar panel manufacturers are shipping steadily to the US, as their capacity grows. Development of solar systems for a home is still very much in demand.

The US Department of Energy announced the location for the next Solar Decathlon; it's in Denver Colorado. This 2017 event will bring university teams from Switzerland and Holland. along with 14 American colleges and universities. This bi-annual contest highlights solar powered homes that represent a diverse range of designs and building technologies. These homes feature varied geographic locations, climates and regions, including urban and rural residences. This competition, for the first time, will have some funding support for each contestant, in fact $100,000.00 USD. The winning team's home will represent the best blend of aesthetics, modern convenience and maximum energy production. They will take back to their respective school the tidy sum of $300,000.00 USD.

Renewable energy seems to have lost its glow, so to speak, and one would have to wonder if solar is really advantageous, particularly for a single home or small

business, which brings me to the advantages of solar power. First and foremost, solar energy does not emit any greenhouse gases and this is certainly important as the world now recognizes that curbing emissions is a must. Beyond the initial investment and some minimal maintenance, solar energy is free. Imagine no hydro bills in the mail. As far as life span goes, most panels will last 25 years and some reach 40 years of age. Solar energy offers decentralization; size of the system and demands on the system are the only governing factor, not the closeness to a coal mine or fossil fuels to generate power.

The GEA has a program within the act that permits both large and small solar systems to "sell back" the energy they produce. For small systems it's called the MicroFIT program. When it was introduced, the KW rates paid were insane, today they are somewhat more responsible. If you look into this program, there are vast areas of the province where the grid system simply lacks the capacity to handle any new MicroFIT installations and, in some areas, they never had the capacity, making this program sound better than it really was. The promise of jobs….jobs….jobs, at least 50,000 new jobs failed miserably. It's estimated the new, permanent solar manufacturing jobs hit about 2/3's of the forecast. If you set-up a MicroFIT system, you are taxed for HST and you must setup as a business, yet another cost.

So how can any Ontario homeowner benefit from a solar system or feel they are making a contribution to the reduction of greenhouse gases? The first plus is the fact that solar equipment and specifically solar panels have dropped dramatically in price. When the MicroFIT program came out, I had a 3KW system installed on my home, it cost me nearly $30,000. Today, the same system can be bought on line for well under $20,000.

This brings me to an idea that has some merit. If you intend to stay in your home for an extended period of time, you might want to look into a Grid-Assist Solar System. This means you install a suitably sized, or whatever fits your budget system, to provide solar power to your home; you stay connected to the grid and use it in the same manner as you would a stand-by generator, allowing you to produce part or all of your electrical needs and only use the grid on a cloudy day or if the grid goes down. If you have suitable battery back-up, a generator may not be needed.

The other option is called Net Metering. In this case, you do not have any battery back-up and you size the system to your needs. If you generate more than you use your biodirectional meter base rates your consumption and it is possible to actually end up with a zero bill at the end of a year. One of the best web sites

to describe this is at: www.powerstream.ca/energy-savings/renewable-generation/net-metering-program.

Small solar systems, given the drop in panel costs, coupled with options other than the MicroFIT Program are starting to make sense. In the US, many states have tax incentives; it's time Ontario looked at the same thing.

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