

12 - panel solar energy system to
 produce their own electricity

Friday » January
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Harnessing the power of the sun Family

Journal News
 Burnaby Now installs

Saturday, December 15, 2007

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When Laura Iwan and Brian Gulayets turn on the LED Christmas lights this season, they are relying on a little help from the sun.

But the first and only Burnaby family to go solar-powered is finding out it's not easy, or cheap, being green.

Iwan and Gulayets had photovoltaic panels installed on their roof this fall, but they will likely be long gone before the system pays off. But the two aren't waiting for financial incentives to protect the planet or be more self-reliant.

"We think it's worth it to spend extra money for the environment. If you don't have clean air, clean water, natural resources, what do you have?" Iwan says. "Everyone's talking about global warming and climate change, but if you're going to talk the talk, you've got to walk the walk."



CREDIT: Larry Wright/BURNABY NOW

Solar-powered family: Brian Gulayets and Laura Iwan with children Carson, 11, and Niklas, 3, outside their Burnaby home. The family uses a 12-panel solar energy system to

generate electricity for their home.

Walking the walk meant shelling out \$30,000 for the 12 panels installed in mid-September. At current rates, Iwan estimates it would take close to 100 years for the panels to pay for themselves.

Despite investing in clean energy, the couple get no kickbacks from the city or B.C. Hydro. The only perk is there was no PST charged on the solar panel purchase.

On a sunny day, Iwan and Gulayets' system would produce about 15 kilowatt hours of energy - but production depends on the weather, time of day and season. The family's daily usage varies from about 15 to 22 kWh. The solar panel power is used to cancel out a portion of what the family has consumed, Iwan explains.

"For example, if we use 500 kWh of electricity from B.C. Hydro in a month, and our solar panels export 200 kWh of electricity to B.C. Hydro in a month, then we are billed for 300 kWh of electricity," she says, adding excess electricity can be sold back to B.C. Hydro.

"Unless we somehow drastically reduce our electricity use, we will never make more electricity than we use on an annual basis."

Selling power back to the grid is called net metering; B.C. Hydro charges 6.15 cents per kWh but buys homemade power for 5.4 cents per kWh. The two will have to produce more than they consume to make a profit.

Iwan hasn't got her first "modified" bill yet, but based on her own calculations, the panels have generated about 20 per cent of household electricity consumed since mid-September.

"That's not bad for the mostly rainy, cloudy days that we've had since then," she says. "However, in the months of May through August, we will likely generate 80 to 100 per cent of our electricity needs."

The couple went to Vancouver Renewable Energy Cooperative, which sells and installs solar panels. Iwan and Gulayets wanted locally sourced components, so the panels came from Day4 Energy in South Burnaby and the inverter, another major piece that converts direct current to alternating current, came from Burnaby-based Xantrex Technology Inc.

Farmand Ghafari, the City of Burnaby's supervisor of electrical inspections, confirmed Iwan and Gulayets are the only residents in Burnaby producing their own electricity.

Ghafari took two other inspectors to see Iwan and Gulayets' system since he's expecting more Burnaby residents will go solar in the future.

People installing solar panels need to hire an electrical contractor licensed in Burnaby, who then obtains an electrical permit. Gulayets and Iwan's permit cost about \$1,000. The city's electrical inspectors check out the system and then advise B.C. Hydro that it's OK to connect the system to the grid.

"And then they just hope for the sun," Ghafari says. "I think the initial cost is quite high, but if people are willing to make that investment, it's fantastic."

The couple, who both work as engineers, say their children were another inspiration for going green.

"It's really neat to see our three-year-old talking about solar panels," Gulayets says, adding that he now makes pretend solar panels out of couch cushions. "He can say 'photovoltaic' now."

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