

Renewable energy

Solar deals put empty roof space to work

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IKEA Canada is putting its rooftops to work.

By installing 3,790 solar panels on three of its Ontario stores, IKEA will generate about 960,000 kilowatt hours of "clean" energy per year, enough to power about 100 homes.

But IKEA's project won't just earn it kudos for being a good corporate citizen — the furniture retailer is also earning a new revenue stream. The company will be paid for its solar energy by the Ontario Power Authority through the province's new feed-in tariff program.

The FIT program was established in 2009 to boost the province's green energy industry. It works like this: Power producers get premium rates for generating "clean" energy, provided they use Ontario-made equipment and labour. For example, the tariff pays 44 to 80 cents per kilowatt hour for electricity from solar installations, a rate far better than the wholesale price for electricity, which is about four cents per kilowatt hour. Once a contract is approved, it's guaranteed for 20 years.

Since the FIT program came into being, dozens of solar development companies like AMP Solar Group have sprung up to take advantage of the favourable rates. "Ontario's feed-in tariff is probably the most aggressive in the world, and has truly created the hottest renewable energy market in the world," said Dave Rogers, chief executive officer of Port Credit, Ont.-based AMP.

These programs can make things too hot, however. Spain has dramatically scaled back its FIT program because of the costs involved, and if Ontario's Progressive Conservatives secure power in the fall, leader Tim Hudak promises to cancel the program.

Under Ontario's program, contracts can be handled in two ways. If the building owner provides the capital for the purchase and installation of solar panels, they also own the revenue stream from the OPA. (This was the case with the IKEA project, which cost the retailer \$4.6-million to implement.)

Alternatively, a building owner can lease roof space to a solar development company, which will raise the financing to purchase and install the panels. In this case, the development company gets the FIT revenue and the building owner gets rent payments. It's a model favoured by Windsor, Ont. company Solar Power Network.

“(Building owners) don’t have to worry about how much power we’re generating, or what kind of panels we’re using, or what our deal is with the Ontario Power Authority,” said Peter Goodman, CEO of Solar Power Network. “They’re literally getting paid to be green, because I’m renting their rooftop.” Mr. Goodman estimates a typical commercial or industrial building would receive about \$25,000 in rent per year for the use of a roof.

While steady rental income can be an appealing incentive, sometimes it’s the roofs themselves that benefit from the deal. For example, AMP, in partnership with Potentia Solar, recently won a contract to put solar panels on 450 Toronto District School Board roofs.

As part of the deal, AMP is giving the board all of its rent money upfront so the TDSB can pay for new roofs before the panels go on.

Because the FIT program is still very new, it remains to be seen whether it will be embraced by every Ontario company with a roof. Mr. Goodman said that selling the idea of a 20-year lease to building owners has been tougher than developers expected.

“Many owners are reluctant to make a 20-year lease commitment,” he said. “They want to always have access to do maintenance, and they worry about impairing future building sale potential.”

Many mid-sized and private building owner groups have embraced the program, but larger groups have been slower to make a decision, Mr. Rogers said. “But the expectation is that they intend to make up a big piece of the second wave of the program,” he said.

The Canadian Solar Industries Association announced last week that \$1.8-billion of private money has been invested in Ontario solar projects to date, with total investments expected to reach \$11.4-billion by 2018.

For its part, AMP Solar has completed 14 projects since the program began in 2009, and it has contracts for 650 more over the next few years, which will account for more than 20 million square feet of rooftop area. Solar Power Network has not yet completed any projects, but is working on 34 and has an additional 120 awaiting approval by the OPA.

But hovering over all of this potential green energy is the spectre of the upcoming provincial election. And even if the conservatives aren’t elected, the FIT program is due to be reviewed in the fall, and tariff rates are expected to drop. If the incentives disappear, so might the solar development companies. In Spain and Germany, government spending cuts put a chill on the solar industry.

“A lot of jobs have been created, a lot of investment has come into the province, especially in a province where manufacturing has declined,” said Mr. Rogers. “We want the renewable energy market to stay in the province and we’re hopeful that it will.”

How it works

Although solar-panel layouts are tailored to each rooftop, some roofs are more desirable than others, says Dave Rogers, chief executive officer of AMP Solar Group.

The idea is 40,000 to 50,000 square feet of flat surface, with little foot traffic, Mr. Rogers says. But that's only 10 per cent of what's out there. "The biggest factor is the condition of the roof and its structural capacity. We figure out where the roof is in its life, and if the roof is solar-ready, we just put solar panels on. In most cases it will require some roof work, and we'll pay for that."

Once the roof is ready to go, solar panels are installed. They are weighted by ballast to keep them in place ó the company tries to avoid making holes in the roof to prevent leaks, and this also makes the panels easily removable in case the building owner needs to make roof repairs.

The panels are then connected to a junction box, and power is fed into the city's main grid. The amount of energy produced is metered and, for the next 20 years, the panels collect energy with very little maintenance. A 17,000-square-foot building ó similar to IKEA's store in Vaughan, Ont. ó would generate about 320,000 kilowatt hours per year, or enough to power 33 homes.

Some companies are experimenting with ways to utilize smaller roofs of 10,000 square feet or less. For instance, Solar Power Network installs panels almost flat, at a 5-degree angle (traditionally panels are positioned at a 30-degree angle to capture the most sunlight). The flatter a panel is, the less ballast it requires, and so this plan is suitable for smaller buildings with more load restrictions.