A Solar Powered Long Island?

BY CHRISTINE DIANA GIORDANO

As the temperature soars and utility companies warn of rolling power outages, the large-scale PMI project has *Networking®* magazine asking if Long Island has the capability of fueling all of its suburban power needs with clean, solar energy.

What solar most needs is unshaded rooftop space with direct sunlight for most of the day. New York City, with its vertical columns of skyscrapers would not be as ideal for solar panels as Long Island, with its sprawling, horizontal, commercial box stores and offices. "It's the most bang for your buck," said EmPower's chief operating officer Gregory Sachs, about the flat, commercial rooftops. "You think about how solar is truly going to have a real impact on the local region, you think of the number of square miles we have with this type of roof."

A recent MIT graduate, Sachs theorized that if Long Island were to dedicate solar panels to about 60 square miles of its total 1,400 square miles, the island's needs of 20 million megawatt hours could be sunpowered. "This is exactly the type of installation we want to see on Long Island. These are perfect opportunities to have direct impact right away, very substantially," said Sachs.

Renewable Energy Long Island (RELI), a not-for-profit membership organization that promotes clean and sustainable energy technologies, is considering a study to determine rooftop space, and whether Long Island could be independently powered by the sun. Executive director Gordian Raacke calls photovoltaic solar energy a "perfect match for peak demand of energy." He said that it's "very important" for commercial businesses to climb on board with solar energy.

"When you think of large commercial building on Long Island, you typically have single story buildings with tens of thousands of square feet of unshaded roof surface. That presents a tremendous potential of clean electricity generation on Long Island," said Gordian Raacke. "The beauty, of course, is that you're generating right at the point where the customer will need it, and you generate

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–Michael R. Sumersille, president, PMI

that energy during times of peak demand - in the summer and afternoon."

There are two other large scale solar projects in the planning phases. Suffolk County and EnXco solar will install solar parking lot roof covers for the Ronkonkoma commuter parking lot, which will supply about 18 megawatts of power, and BP Solar has plans to install solar panels for 37 megawatts at Brookhaven National Lab. The 50 megawatts supplied through both projects will be enough to supply clean energy to about 6,370 households.

"Two things are going on right now," explained Raake. "While once, the solar panel was designed for the space program with a pricetag just as lofty, now, the efficiency of the solar panel has increased while the price has decreased. Locally, LIPA is offering incentives in the form of rebates. For the Piece Management project, LIPA supplied $237,000. Nationally, some states are experimenting with feed-in tariffs that increase return on investment."

Although California still leads in the number of installations for 2009, New York ranked 7th on the list. Last year, the number of U.S. solar installations soared to 35,000, almost doubling the 18,000 in 2008.

America's solar enthusiasm is attracting investors from abroad. Germany, which only gets as much sun as Alaska, is currently leading the world with the most solar panel installations. Yet, some Germans fully expect America to become the installation market leader within a few years, and companies are trying to establish businesses in the U.S. market.

"That's why they're coming over here and establishing offices here and reaching out to American business partners and opening up what they think is going to be a rapidly expanding market," said Raacke, who has been asked to moderate a photovoltaic conference for the German-American Chamber of Commerce. "It's just the beginning of what I think is going to be tremendously successful clean energy market."

Perhaps, after seeing PMI's example of what can be done, Long Island is ready to tap the clean energy available to it. Said PMI's president and visionary Michael R. Sumersille, "If you get half a dozen, a thousand, two million people to change, it could be a beginning of something." ■

GREEN CALENDAR

August

20 **Friday**
Celebration of our Bays. Hosted by Mrs. Peter Salm at her home. 2277 North Sea Road, Southampton. 6 pm. $125, $500 includes tour of the home. R.S.V.P. August 17. 631-653-4804.

September

21 **Tuesday**
Rouge Tomate, member of the Green Restaurant Association, dedicated to addressing social and environmental issues. Rouge Tomate NYC, 5th Ave at 60th St. 212-655-4505 x 223.

25 **Saturday**
Residential energy efficiency presentation. How to get free energy audit, how to enroll in installation courses and more. 6:30 pm. Riverhead Public Library. 631-689-1568.

November

8 & 9 **Monday & Tuesday**
Advanced Energy 2010. New York Hilton. www.aertc.org/conference2010.

GETTING POWER

Up on the Roof

BY KARL GROSSMAN

Amid the record-breaking heat of this summer, the energy answer was up on the roof—for me and any person wanting to take advantage of the power of the sun.

This was the first summer we've had the main part of our house—a 125-year-old saltbox in Noyac—air conditioned. And it's very clever technology, a "split" design with the condenser unit outside the house and inside only a narrow, horizontal fixture from which cold air is silently emitted. Made by the Japanese company Fujitsu (and installed by Affordable Air Conditioning of Hampton Bays), it's very powerful. A touch of the remote starts it and five minutes later our living room and kitchen are cool. It's most efficient, too, bearing an Energy Star rating.

So while it reached 100 degrees this summer, we were able to function in cool comfort and without the noise of a conventional air conditioner.

But even nicer—while I was listening to reports from LIPA and Con Edison of record electric usage and black-outs as a result—our new air conditioner wasn't taxing the grid.

That's because of another addition to our house: solar panels on the roof as described in an earlier article for *Networking®*. It has been amazing to this year see our LIPA meter going backwards signifying that the photovoltaic panels have been supplying all the electricity we've been using and sending the excess back to LIPA. It's been a pleasure receiving monthly LIPA bills for $5.87—the minimum charge for the LIPA meter reader to come. And this will be wiped out by the check LIPA is to send at year's end for extra electricity generated.

But, I wondered, what about the summer when the big, new air conditioner got going?

During the brutal days of heat, I ventured out with some regularity to look at the meter to check on this. It was still going backward. The solar panels, with an excellent sunlight-to-electricity conversion rate, had no trouble meeting the house's electric load including the new air conditioning system, and they were still sending excess electricity back to LIPA. (They're manufactured by another Japanese company, Sanyo—is there a pattern here?—and were installed by Majestic Son and Sons of Patchogue).

With federal and state tax credits and a LIPA rebate, the final price for solar photovoltaic panels is just 30 percent of your cost of purchase and installation.

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What a bargain! And what a good energy deal for society. With people widely harvesting solar energy from their rooftops, it's an obvious alternative to constructing and operating expensive and polluting conventional power plants.

Recently I received a mass e-mail from environmental author Bill McKibben launching a campaign called "Put Solar On It." It's an initiative to get government leaders from around the world to install solar panels on their rooftops thus sending "a message about what the future demands." Information on the campaign is at http://putsolaron.it

The energy coming from the sun, captured ever more efficiently, is not only enough to power homes and businesses, it can also play a big role in our moving around.

Another new item we've gotten is the latest model of the Toyota Prius hybrid auto. What a delight to have a car that gets 53 miles per gallon. Sometimes there are two or three weeks between visits to a gas station. And the future will likely be full of all-electric cars—receiving their charge from solar panels. How nice it would be to have the panels on our roof not only providing all the electricity our house needs but enough to energize a car, too. All from a safe, forever source of power in the sky.

Also installed on our roof are two panels which heat water. During the winter, the thermometer on the tank into which this water flows was showing it coming down on freezing days at 100 to 120 degrees. (Grant Heating & Cooling of East Hampton installed the tank.) This summer, the water was often coming down from the roof at 180 degrees. How unnecessary it is to use oil, gas or electricity to heat water when the sun so easily does the job. And you can also get a large part of the cost of rooftop thermal panels reimbursed through the incentives that have been wisely set up to encourage the use of solar energy. ■

Karl Grossman, professor of journalism at the State University of New York/College at Old Westbury, is the host of the nationally-aired TV program Enviro Close-Up (www.envirovideo.com) and author of books on environmental and energy issues.