

## **Model for success**

### **How Vermont towns can contribute to the state's renewable energy portfolio**

**By Jamison Ervin**

The towns of Waterbury and Duxbury are one rooftop away from achieving the goal they established last April: to double residential solar capacity. The increase to 338 residential kilowatts has moved Waterbury and Duxbury into fifth and second place, respectively, for residential solar per capita across all Vermont towns. At the same time, business solar installations have increased nearly 80 percent, to 363 kilowatts.

This means that Waterbury and Duxbury now rank among the top ten towns statewide for total per capita solar production.

What has driven this progress? As predicted by the Vermont Comprehensive Energy Plan, four factors are critical — public outreach, technological advances, innovative financing options, and favorable public policies.

To educate the public, Waterbury LEAP (Local Energy Action Partnership), the energy committee serving both towns, holds an energy fair that draws more than 600 people every April. This year, dubbed the Waterbury/Duxbury Solar Year, we ramped up these efforts to include a summer solar fest with free music, pizza and ice cream; radio ads and newspaper articles; brochures, flyers and posters; window displays; farmers' market booths; open houses; and direct outreach to businesses, select boards, school boards and schools.

You name it, we tried it.

We are not certain that we can claim credit for any of this year's installations. But we do know that most residents in our town have heard about the benefits of installing solar panels — increased savings on electricity, decreased carbon emissions, more local jobs and greater energy independence.

The second critical factor is the improvement in technology. The efficiency of solar panels has increased dramatically. Some of today's panels can generate twice as many watts compared to those of only a few years ago and the price of solar panels has decreased by half. Solar installation companies and their customers both have benefitted from this improved technology.

The availability of innovative finance options is also a key factor driving the growth of solar capacity. For example, the Vermont State Employee Credit Union has a new low-interest solar loan allowing homeowners to finance the cost of solar at reasonable rates. And SunCommon, a

new solar installer in Waterbury responsible for 23 of the 30 new installations, has a lease model wherein homeowners install solar panels with no money down, at monthly costs equivalent to or less than their electric bills.

Green Lantern, a Waterbury-based green investment company, has created a solar tax-equity fund that allowed the owners of Cold Hollow Cider Mill to install a 149-kilowatt array — saving them more than \$2,000 annually in electric bills, without any up-front costs.

The fourth factor is a favorable policy environment. Virtually everyone who installed solar panels in 2012 took advantage, either directly or indirectly, of the 30 percent federal tax credit. Most businesses were also able to depreciate their solar investment over 5 years instead of 30, leading to a much faster payback period.

On top of this, most customers who installed solar panels received a state rebate of .55 cents per watt, as well as a sales tax exemption.

In addition, all Vermont electric companies are required to purchase up to 100 percent of the solar-generated power produced by their customers at .20 cents per kilowatt hour — even if they sell electricity at a lower rate, which most do.

How does this fit into the broader context of local and state energy consumption and production? Since Waterbury consumes some 58,000 megawatt hours annually, the town's 589 kilowatts of solar power provide less than 1 percent of Waterbury's total electricity needs.

The state's goal, as articulated in the Vermont Comprehensive Energy Plan, is for Vermont to switch from its current use of 23 percent renewables to 90 percent by 2050.

Even with electricity companies adding renewable energy to their portfolio, towns will have to shoulder some of the burden of contributing to this goal. That means we must radically increase the number of residential, municipal and business solar installations statewide.

Four policy changes could make this happen. First, allow homeowners and businesses to sell back excess energy to the grid at wholesale rates, above and beyond their own electricity consumption. This step, which allowed Germany to become the global solar leader, encourages homeowners and businesses to add extra panels to their arrays because they are virtually guaranteed a modest but reliable return on investment.

Second, help subsidize the cost of upgrading outdated electric lines. South-facing roofs and open fields are in limited supply. Investors in large arrays of 150 kilowatts or more should not have to bear the burden of upgrading electricity lines, simply by accident of geography. Renewable energy should be considered a public good, and we should subsidize the full cost accordingly.

Third, simplify and streamline current permitting processes. Raise the residential permitting threshold of 10kw to allow larger residential arrays. Streamline the Section 248 process, which is triggered by arrays of 150kw and larger. Allow arrays of larger than 500kw to sell their excess energy back to the grid. And raise the cap of 4 percent for companies to purchase solar energy from their customers. These changes would help bring larger and more systems online faster.

Finally, towns should be proactive in identifying potential sites for large solar installations in their town plans, and should encourage municipal, business, residential and school solar installations.

With these modest policy changes, Vermont's role as a national leader in renewable energy would be secured — and we might even achieve our ambitious energy goals.

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