

VALLEY NEWS

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The Challenges Of Alternate Energy Sources

By Sarwar A. Kashmeri

For the Valley News

The Vermont Council on Rural Development organized an informative conference last August to explore opportunities for in-state fuel development and power generation using energy other than fossil fuels.

More than 350 participants from around Vermont attended, an indication of the enormous interest in exploring alternatives to non-fossil fuels.

The group was divided into working panels that explored each energy source. I was assigned to the solar panel, and the experience reinforced my feeling that, even though the sun and wind are “free” sources of “clean” power, the road between the cliches and actually using their energy to switch on a light bulb is difficult and expensive.

Jeffery D. Wolfe, CEO of White River Junction-based groSolar (a subsidiary of GRO, formerly known as Global Resource Options Inc.), was the main speaker at our panel. Wolfe's company distributes and installs solar energy systems. A typical Upper Valley house with some attention to conservation uses about 400 kilowatt hours of electricity a month, Wolfe told me, and a solar generation system to power this house would cost about \$36,000 to install.

If you live in Vermont, the state offers a 20 percent rebate on the installation cost. New Hampshire citizens are out of luck -- they do not get any rebate. The federal government gives a \$2,000 credit against federal taxes, which means the actual cost of the typical system in Vermont becomes \$25,000.

Sound like a lot of money? “Many people spend upwards of \$30,000 on a new kitchen,” Wolfe said. “Spread the cost out over 30 years, the length of a typical house mortgage, and the benefits are obvious -- no more utility bills.”

Germany and Japan are the largest users of solar power because their governments provide large subsidies to encourage the use of non-fossil fuels. (Interestingly, Vermont and New Hampshire get 30 percent more sunlight than either of those two

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countries, a fact I was unaware of before attending the conference.) But switching to “cleaner” and more sustainable forms of energy is not the only motivation for subsidizing solar power. Creation of jobs is another.

When it passed in January, the California Solar Initiative Bill, with its \$3.2 billion in state subsidies, put that state in a leadership position to encourage widespread use of solar power. The legislation is expected to generate 3,000 megawatts of solar energy (sufficient to power 2.7 million homes) by 2016, and 40,000 operations and maintenance jobs.

But life in the alternate energy world is never that simple, as Californians may soon discover.

The supply of the basic material used to convert the sun's rays into electricity -- polycrystalline silicon -- is now expected to be in short supply through 2013. The shortage of this key ingredient used to make silicon chips and photo-voltaic or solar cells, is so critical that a Merrill Lynch report cites some recent polycrystalline silicon transactions at prices of \$200 a kilogram, which is five times higher than 2004 prices. Prices for polycrystalline silicon are expected to rise by 30 percent each year for the next three years. According to Merrill Lynch, governments will need to cough up \$24 billion in subsidies by 2009 to keep their already subsidized solar programs on track.

Wolfe is not convinced that the market is necessarily headed in this direction, and points to the number of new entrants in the silicon chip business, as well as the ongoing development of alternative technologies aimed at replacing polycrystalline silicon. Wolfe would like to see a “level playing field of subsidies” by state and federal governments.

“All I want is for the government to provide solar energy the same level of subsidies that are provided the coal and nuclear industry,” he said.

I asked Wolfe what his company's biggest concern was. “Skilled labor,” he said. “We have a four-month backlog now for new installations. Our business takes skilled personnel, purchasing and inventory experts, skilled tradesmen -- electricians, plumbers, carpenters and project managers -- and they are simply not being produced in the Upper Valley in sufficient numbers.” This trend ties into the lack of skilled workers for the area's manufacturing industry that earlier columns discussed, and ought to provide more grist for area planners.

As you can see from this small glimpse into the business aspects of just one of the alternate sources of energy, it will not be easy to dislodge coal, oil and natural gas as the primary sources for the enormous amount of power that is needed for a dynamic economy like ours. But the train is in motion and conferences such as this one make a significant contribution to moving us forward.

A note to readers: The Business Climate column, which has appeared every other week for the past two years, will switch to a new monthly format beginning with the

Jan. 28, 2007, *Sunday Valley News*. Let me take this opportunity to wish all of you a very enjoyable holiday season and a Happy New Year.

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