

Ripton Elementary School Solar Project



In November of 2013, the Ripton Elementary School brought a 50 kW solar array on line to provide 75 percent of the school's energy through the year. 198 panels sit on a new, standing-seam metal roof, gathering sunlight and serving as a model for future projects. This clean, renewable system is expected to begin paying for itself by the third year of operation, producing 54.1MWh of power in 2014 even under below average sun exposure.

How it Worked

In 2013 the Ripton Energy Committee encouraged the Ripton Elementary School board to look into installing a solar array either on the school grounds or on the school roof. Coincidentally, reroofing was under consideration at the time as well. The committee encouraged several solar firms to make in-person presentations to the school board. At the time the state offered significant incentives for sustainable energy projects by schools and other organizations that were unable to take advantage of accelerated depreciation and tax incentives. The state incentives meant that ownership by the school and town was more advantageous than an outside power purchase arrangement

Addison Renewable Energy (ARE) LLC's proposal for a 50 kW system with microinverters mounted on a new roof was the school board's first choice. The project qualified for a \$77,000 state incentive subsidy and a 25-year \$200,000 bond provided by a local bank. Avoided energy costs were projected to cover annual payments of bond capital and interest by year two. Supporters of the project – including School Board head Carol Ford, contractor Roger Wallace, and knowledgeable community member Jeremy Grip -- put in many hours discussing the project's benefits with local townspeople. In addition, the solar panel and roofing contractors answered questions for an hour just prior to town meeting. The town voted in favor of the standing-seam roof and the solar array at 2013 town meeting by a very comfortable margin. A very cooperative Supervisory Union business manager enabled the proposal for the incentive funds to reach the state in record time. The incentive funds

were reserved on the last day that sufficient funds remained in the state's coffers for this program. The state incentive program, unfortunately, is no longer available.

Installation was delayed past the July completion date because of changes in fire safety requirements and questions about roof standards and replacement of the clips to tie the panels to the standing seams. The panels passed state inspection (the project was actually used by the state as a model for such projects) and they came on line in November 2013. After one year the array produced 54.1 MWh of energy, comparing quite favorably with the 55 MWh projected by ARE in their proposal considering that insolation (sun exposure) for the period was significantly lower than normal.

Keys to Success

- A motivated energy committee with members devoting significant time to project research and discussion with the community.
- Pre-existing plans to renovate the school roof, which allowed developers to incorporate their plan with the roofing effort and “bundle” the two projects together.
- Strong incentives from the State of Vermont, and knowledgeable personnel to help Ripton take full advantage of the offerings.
- Effective project financing – the energy savings from the array will begin to pay off the cost by as soon as year three.

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