



August 2010

Energy Independence with Distributed Energy?

Lately, as the country has an eye on energy independence, the topic of “distributed energy” has been finding its way into more and more of my conversations with friends and co-workers. Our discussions have shown me how much distributed energy isn’t broadly known or understood. In regard to energy independence, an array of solar panels or a single wind turbine on a building roof may seem insignificant; however, these small-scale energy sources have great potential if more communities were to integrate them into their systems.

To clarify, distributed energy is small-scale generation of energy very near to where the output of electricity is being used. The power generated directly supports the energy needs of the nearby communities, institutions, businesses, and homes. Large wind or solar farms with many wind turbines and solar arrays are considered “utility-scale” renewable energy generation. The power produced is fed directly into the transmission grid and then distributed to many locations.

Though utility-scale generation produces more power than small-scale generation, distributed energy is still an integral part of our country’s plan to achieve energy independence. A rooftop solar array is not transmitting energy long distances, so as we integrate more systems on more rooftops, there is a potential to reduce the size, number, and cost of power lines that need to be built. During peak energy demand, utilities benefit from distributed energy reducing strain on the grid, while increasing the aggregate supply at potentially lower costs than other sources. Customers benefit from renewable energy incentives, lower electric costs, and the satisfaction that goes with their contribution to energy independence.



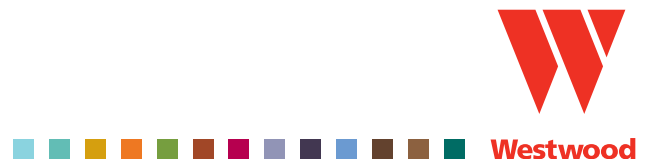
Saint John’s Abbey and University in Collegeville, Minnesota, recently took their own small step toward energy independence by installing a PV solar array on campus (Saint John’s Solar Farm). The array will offset about 20% of the university’s peak energy needs during the summer months and approximately 4% of their overall energy needs on an annual basis. With the array situated on college property, it required very little infrastructure to connect to the campus’ transmission system. Any excess energy generated from the system is sold to Xcel Energy.

How can we get more utilities and end users to work together to find similar solutions? I believe that the answer is multifaceted and rooted in building awareness of distributed energy and its benefits. To do that, we will need to:

1. Gain government support. Help government leaders to recognize that distributed energy is a key component in our nation's energy independence.
2. Generate interest. Educate communities, businesses, and other organizations on the benefits of integrating distributed energy into their systems. Develop a national campaign that communicates the benefits of distributed energy for the country.
3. Create the building blocks. Encourage utilities to promote and help offset the cost of installing small-scale facilities.

As we focus on the small things that we can do as a consumer to conserve energy and huge strides we can make with utility-scale renewable energy development, let's complete the trifecta with distributed energy. If we gain support, generate interest, and establish the foundation for small-scale renewables, I think we will be well on our way to energy independence.

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