

Solar & Wind Energy



WEST PENN POWER SUSTAINABLE ENERGY FUND, INC.



Waymart Wind Farm (Waymart, PA)

Solar and wind energy is perhaps the most widely recognized form of renewable energy by the general public. The West Penn Power Sustainable Energy Fund (WPPSEF) has supported the development of wind and solar projects since 2001.

Pennsylvania has established itself as a leader in the development and deployment of utility-scale wind farms in the eastern United States. The

American Wind Energy Association (AWEA) reports that Pennsylvania presently has six utility-scale wind farms that contain a total of 89 wind towers. Many of these towers utilize a 1.5 MW turbine. These wind farms have a total installed capacity of approximately 130 MW which produce enough electricity to power over 34,000 homes (1.5 MW = 400 homes). Pennsylvania has several other wind farms in the construction and planning phase which are scheduled to be operational by 2006. In addition to utility-scale wind farms, small wind systems (less than 100 kw) are becoming more numerous throughout Pennsylvania. The WPPSEF has committed funding for both utility-scale and small-scale wind projects.

Solar energy in Pennsylvania is often harnessed using technologies such as photovoltaic (PV) systems, solar hot water heating, and passive solar heating and daylighting. PV systems in Pennsylvania represent a smaller-scale form of distributed generation typically in the range of 3-10 kw systems. Solar hot water heating and passive solar heating and daylighting are more widespread in Pennsylvania than PV systems.

Solar Energy Showcase

FRIENDS SCHOOL. The Friends School in State College, PA is committed to the use and education of sustainable energy technologies. The WPPSEF worked with the school's volunteer green energy committee to install a 3.6 kw PV system which would generate enough electricity to power their community room. The PV system and monitoring station is integrated into the school's lesson plans on energy.

WASHINGTON COUNTY AIRPORT. The Washington County airport has installed a 4.0 kw PV system on their directional airport beacon and a 50 watt PV system on their non-directional homing beacon.

These PV systems were installed to defray the airport's electrical usage and to serve as an energy back-up in the event of a loss of power. The WPPSEF worked with the airport which leveraged the WPPSEF grant with monies provided by the Federal Aviation Agency to install these two small PV systems. The Fund is working with the Washington County Airport to showcase their PV systems to other small rural Pennsylvania airports.



Friends School PV System

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Wind Energy Showcase

SOMERSET WIND FARM. The Somerset wind farm is one of the most visible wind farms in Pennsylvania. The farm consists of 6 turbines that have a total installed capacity of 9 MW. The Somerset wind farm is easily viewed at the Somerset rest Plaza on the east- and west-bound lanes of the Pennsylvania Turnpike, I-76. The WPPSEF, along with the other regional sustainable energy funds in Pennsylvania made an early financial commitment to the development of this farm by committing \$3.6M in subordinated debt to the project. During the construction of the farm, the farm was purchased by FPL Energy, which enabled the SEF's to reallocate their investment monies to another Pennsylvania wind farm under development. After the Somerset wind farm was constructed, the WPPSEF worked with the Pennsylvania Turnpike Commission and the Mid-Atlantic Renewable Energy Coalition to develop educational displays for the Somerset Rest Plaza to educate travelers on adjacent wind farm.



Somerset Wind Farm

BEAR CREEK WIND FARM. The Bear Creek wind farm is scheduled for construction in 2005. This wind farm will be located 10 miles southeast of Wilkes Barre, PA. The Bear Creek wind farm will consist of 12 turbines that will have an installed capacity of 24 MW. The WPPSEF, along with the other Pennsylvania sustainable energy funds are working together to provide financial support to this project.



Donahoe Center Bergey Wind System

DONAHOE CENTER. The WPPSEF worked with the Westmoreland County Cooperative Extension Association, the Westmoreland County Commissioners, and Pennsylvania's Department of Environmental Protection to install a Bergey Wind Power 10 kw Excel-S wind system. The Donahoe Center is located in Greensburg, PA. The system was dedicated on November 21, 2004.



The WPPSEF has supported AWEA through membership since 2002. The AWEA website (www.awea.org) is an excellent resource to track utility- and small-scale wind development throughout the United States.

MORE INFORMATION

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