



Ledge Farm Installs First Endurance 50kW Turbine in New York State



KEY HIGHLIGHTS

- Sam Scarborough operates a 25,000 layer egg and cash grain farm and is enjoying reduced energy costs due to his E3120 wind turbine.
- Record Daily Production: 1,248kWh.
- Record Monthly Production: 15,383kWh.
- NYSERDA looks for turbines with a proven record for power performance, reliability, safety and acoustics.”
– Mark Mayhew, NYSERDA Project Manager, On-Site Wind Turbine Incentive Program

Ledge Farm is the first farm in New York State to install an E3120 50kW turbine, the farm is located just outside Buffalo. The 50kW E3120 wind turbine is mounted on a 140 foot lattice tower and is located on a 25,000 layer egg and cash grain farm, which produces corn predominantly. Due to the utility scale wind projects in the area, the location of Ledge Farm had optimal wind resources for the turbine. The average annual wind speed is 6.19 m/s. Sam Scarborough, the owner and sole proprietor of Ledge Farm, had his turbine installed on January 12, 2012.

Sam was interested in installing a wind turbine to eliminate his electricity bills. Since the Endurance E3120's predicted production at this site was higher than his needs at the time, installed a new electric grain dryer to match his new turbine's output and freed himself of the propane bills also. He is now saving

nearly \$1,750 (USD) a month in energy costs. He enjoys connecting to the Endurance interface to check the status of his turbine, and is able to monitor its performance on a regular basis. Sam states, **“My site has always had a lot of really great wind and after a recommendation and the opportunity to remove my energy bills, I thought installing a turbine would be a great idea.”**

The On-Site Wind Turbine Incentive Program, an initiative of the New York State Energy Research and Development Authority (NYSERDA), provided almost half of the funding for Sam's project. NYSERDA, a public benefit corporation created in 1975, aims to meet New York's energy goals and protect the environment by conserving energy, reducing energy consumption and promoting the use of renewable energy. Its efforts are in line with New York State Governor Andrew Cuomo's goal to realize a renewable energy source production rate of 30% by 2015. To meet New York's renewable energy goals, NYSERDA provides funding for large-scale renewable energy projects like wind farms and small-scale, customer-sited projects. The On-Site Wind Turbine Incentive Program was developed as part of these customer-sited programs. NYSERDA reviewed Endurance's application for the program with its 50kW turbine in 2010. According to Mark Mayhew, Project Manager of the On-Site Wind Turbine Incentive Program, prior to the Endurance application a vast majority of NYSERDA's funded-projects were for systems 10kW or smaller. Mark states, **“By moving into the mid-size turbine range, we (NYSERDA) will have the opportunity to more**



quickly reach our renewable energy generation goal in a more cost-effective way.” With respect to the Endurance E3120, Mark goes on to further state, **“NYSERDA looks for turbines with a proven record for power performance, reliability, safety and acoustics. This turbine**

met our requirements.” NYSERDA approved the Endurance E3120 for inclusion on their list of eligible turbines in September 2010, with the incentive for Sam's project receiving approval on April 4, 2011.

This install, which marked the first Endurance 50kW wind turbine installation in the state of New York, also became the first 50kW wind turbine to be installed and funded by NYSERDA. It is important to note that, NYSERDA provides project funding up to 50%, given predictive performance of a turbine and its site location (i.e. average local wind speeds). The Ledge Farm is an excellent site to receive NYSERDA funding of 48% due to excellent average wind speeds (6.19m/s).

Overall, approximately 80% of the total cost of the project was funded 48% by NYSERDA, and an additional 30% through a US Tax Grant. Sam's personal investment in the project was 22% of the total cost, and he expects the payback time on his investment to be about four years.

Since its commissioning date on February 6, 2012, the turbine's performance has been impressive generating over 69,681kWh in just the first six months. The turbine's best daily output to date is 1,248kWh. The local response to the installation of Sam's turbine has been positive, with Sam reporting that **“everyone likes it; they want me to hitch them up to it so that they can save on their electricity bills.”** In fact, after witnessing Sam's success with the turbine, one of Sam's neighbours decided to install his own Endurance E3120 50kW turbine in April 2012. Now that's green energy in action.