

# My Story



## Journey Towards Sustainability

### Energy Efficiency at Presque Isle S.P

Matthew Greene, Park Operations Manager

*"Both projects were made possible by the Keystone Fund and will allow the Center to operate more efficiently and sustainably for many years into the future."*



With the completion of the Tom Ridge Environmental Center at Presque Isle State Park in 2006, the park began its journey into better sustainable building systems with the center gaining a Silver LEED certification. The park quickly learned that not all energy efficient systems are created equal. Many of the systems have worked extremely well over time, while others have struggled to live up to their full potential.

Two such systems that never fully realized their maximum potential were the building's alternative energy-generating wind turbine and ultra-high efficiency boilers. Both systems had their good points, but ultimately failed to meet the buildings needs due to factors such as environmental site conditions, overly complex internals, or early model design flaws that prohibited them from working out long term.



**Keystone Fund Investment:** \$92,750  
**Total Public/Private Investment:** \$92,750

In 2016, the park was able to replace both building systems with Keystone Recreation, Park, and Conservation Fund money.

The first project initiated was to replace the building's alternative energy generation system. The previous wind

turbine had failed due to ice buildup and cracking of the blades in the harsh climate of Erie County each winter. The new system would take into account these site conditions and move to a more simple approach, while being able to display to the visiting public a very real option for them to explore in their own homes. The park chose a 10kW solar array to replace the turbine due to its lack of moving parts and minimal annual maintenance. The total cost of the project was \$29,000 and is estimated to be

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paid for in energy savings in approximately eight years, making this attractive and affordable for homeowners as well as businesses.

One of the unforeseen benefits with this project is how it has engaged the staff in making energy

consumption reductions throughout the building. The staff started calculating the energy demands of specific areas of the building and started targeting energy-efficient lighting upgrades to those areas. This story was publicized in the local news and the park was contacted by a local electrical retailer who wanted to get involved in our efforts to reduce consumption in the building. As it turned out in the end, the local retailer donated another \$20,000 in LED lighting upgrades to the building, which will not only lower our total electrical needs over time, but ultimately reduce man-hours in maintenance with the longer lifespan of new LED bulbs.

The other project undertaken in 2016 was the replacement of our two ultra-efficient boilers used to heat the building. The model of boilers used initially in 2006 was a near 95% thermal efficient boiler that we, as well as others, have had issues with over the years. The manufacturer has since removed this model from production and replaced it with an 87% efficient boiler that has a great track record of maintenance-free operation. The total cost of this project was \$63,750. While this new set of boilers may be 8% less efficient thermally, the cost savings we estimate in parts and labor over the years in addition to the longer anticipated



lifespan will more than offset that difference over its years of service.

Both projects were made possible by the Keystone Recreation, Park, and Conservation Fund and will allow the Tom Ridge Environmental Center at Presque Isle State Park to

operate more efficiently and sustainably for many years into the future.

**[Learn more at KeystoneFund.org.](http://KeystoneFund.org)**