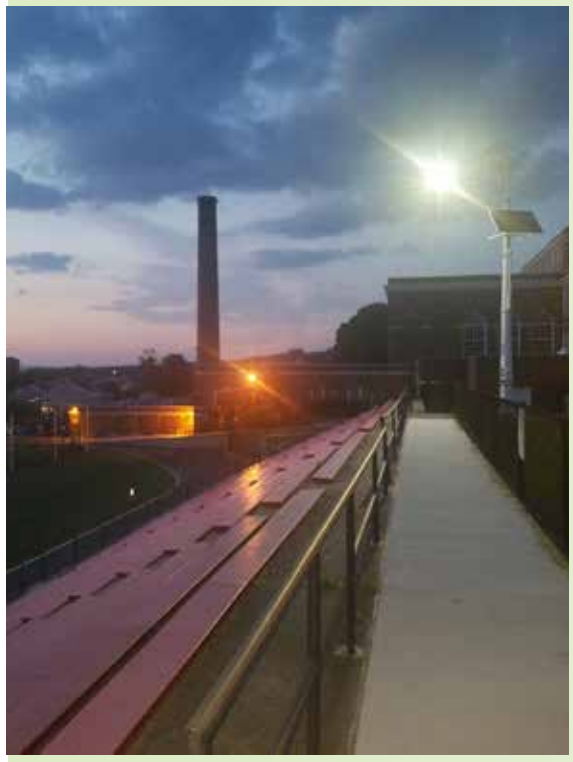
Public Schools of the Tarrytowns Embrace Renewable and Resilient Energy

By Dan Connor



Nightfall at the Washington Irving school – lighting from renewable off-grid power. Photos: Aris Wind..

The Public Schools of the Tarrytowns, located about 25 miles north of Manhattan, maintain five campus sites to provide education to over 2,700 students.

The school district's sustainable goals include installing rooftop solar photovoltaic systems at two of its campuses. Beyond that, they installed two hybrid wind/solar powered streetlights to provide additional campus lighting that are both renewable and resilient. This lighting solution selected was the Renewable Power Unit (RPU) from Aris Wind of Mt. Vernon, NY.

The RPU contains a solar panel, a small duct augmented wind turbine, a LED light, large battery and a control system, a system that can generate enough energy to provide reliable and renewable lighting, as well as auxiliary power applications such as a self-powered internet connection and USB charging station.

RPU offers a complete lighting solution

Peter Quartironi, Director of Facilities at Tarrytown Schools District, first learned of the RPU and its potential when considering the installation of additional security lighting at its Washington Irving School facility's grounds. He commented: "Children's safety is of utmost importance to us, particularly when they are within the school grounds – a solution to enhance the lighting within the grounds was imperative."

The first RPU unit was installed at the Washington Irving School in December 2015, followed by an RPU installation at the Peabody Field site, an athletic field with no lighting at its entrance or in its park.

The installation of both units was faultless, according to Quartironi. "At our Washington Irving School, the building of a new walkway was already scheduled to take place, so when it came to installing the hybrid power unit, it was easily integrated into the building process of the walkway. At the Peabody Field site, the installation was stand-alone; a hole had to be dug, and the RPU was able to seamlessly drop in and the technology utilized almost immediately. Both installations went smoothly and, importantly, disruption to the school environment was minimal."

Reliable, secure lighting

At Washington Irving School and Peabody Field, the power generated is completely free from any external power source. Quartironi commented, "The RPU solution reduces the school district's reliance on the grid. Should there be a grid blackout, the RPU's will remain lit, increasing safety, security and reliability at all times. The RPU eliminated trenching and pulling electrical wires; an expensive, time-consuming and inconvenient process. With this solution, clean energy is generated to illuminate additional parts of the school grounds, without increasing the school's energy bills or carbon footprint." The RPU can also be specifically adapted to the location in which it is being installed. At a school such as Washington Irving, there is the ability to use the unit's functionality and remote data monitoring capabilities as a teaching tool to provide additional learning for pupils. Quartironi explains: "At our Washington Irving School we have a Science, Technology, Engineering and Math (STEM) program, and the installation of this renewable streetlight is providing valuable energy and lighting data to teach children about the benefits of renewable power."

An additional benefit of the RPU is that it will often generate more than enough energy to provide effective lighting, allowing any excess energy to be utilized. Quartironi commented: "At Peabody Field, excess energy can be used to power our public address system during events. At the Washington Irving site, USB/Ethernet charging ports were added to the unit, allowing the public service of charging mobile phones and laptops."

"A school has many people that it must please; the students, the parents, the teachers, the wider community – and importantly, the installation of the two RPU's have largely gone unnoticed, thanks to its swift installation and its aesthetically pleasing appearance. This is a solution which I would certainly recommend to my facility management peers," added Quartironi.

Aris Wind (www.ariswind.com) is working with their technology partner Airsynergy (www.airsynergy.ie) to utilize the RPU's ability to power internet connected devices, such as security cameras and sensors, to resiliently power tomorrow's "Smart Cities".

Dan Connors is co-founder and Chief Operating Officer at Aris Wind, LLC.

Solar power generation coupled with an advanced wind turbine trickle charge batteries day and night to reliably power lighting and auxiliary power loads.

A NEW SCHOOL FOR STUDENTS WITH DISABILITIES WILL BENEFIT FROM SOLAR ENERGY

Rendering of the Monarch School of New England. Image from DeStefano Architects.

The school with the solar arrays on the roofs, installed by Revision Energy of Brentwood, NH. Photo: Revision Energy.

With the installation of a rooftop solar array this month, a regional high school and vocational center under construction in Rochester has reached another milestone. The Monarch School of New England broke ground on the new school last summer. Monarch currently operates two campuses in Rochester, New Hampshire. The new school will replace a leased Gonic location and is expected to open in the summer of 2017. A gala event and grand opening will be held on September 7, 2017.

The day school serves students with significant physical, medical, developmental, behavioral and emotional disabilities. The new facility will allow the school to enhance its career and technical education for young adults by providing the necessary equipment and space to educate and train students for a wide variety of work options in the agriculture, hospitality, technology and service sectors.

ReVision Energy installed the 47.4-kilowatt solar array. The solar energy company owns the system through a Power Purchase Agreement (PPA), which allows the school to benefit from lower electric costs with no upfront installation cost. The PPA also includes a future option for the school to purchase the array at a significant discount.

The construction of the school is being funded by community support, a generous pool of corporate donors and a loan from the Bank of New Hampshire. An ongoing capital campaign seeks to raise $1.3M. Interested donors may contribute at: monarchschoolne.org.

Jewett Construction serves as the general contractor on the project, which was designed by DeStefano Architects. The 11,860 square foot facility will house a large, multipurpose room, a computer lab, a woodworking shop area, art and music room, a greenhouse, a kitchen for preparing student lunches and numerous classrooms and administrative offices. The exterior will include cementitious siding, an asphalt shingle roof and multiple cupolas. Plans also include a half-court basketball court for students.

The new facility is located at 13 Monarch Way in Rochester, NH.