

More Than Ever, New York Libraries Are Going Green

Public libraries across New York State are increasingly investing in photovoltaic solar technology and geothermal heating and cooling systems for their continuing energy needs. A number of these libraries have taken advantage of the State Aid for Library Construction Program by submitting applications for matching awards up to 75% of project costs while also getting rebates through the NYS Energy Research and Development Authority (NYSERDA) for the remaining installation costs. Since 2007-08, \$3,246,941 has been awarded to public libraries by the Library Construction Program to install such products as photovoltaic solar panels and geothermal HVAC systems.

"I am thrilled that the New York State Library, working in partnership with the public library systems, was able to award four 2015/2016 projects totaling \$417,829 to assist three libraries and one library system to install alternative energy resources in the form of solar panels on or near their buildings," said Bernard A. Margolis, State Librarian and Assistant Commissioner for Libraries. "The State Library has funded 50 such projects over the past ten years. A number of our libraries are benefitting long-term from cost-saving energy efficiency projects initiated with these critically important State matching funds. I encourage more libraries to consider projects that will improve their facilities and lower energy costs."

Libraries See Significant Cost Savings from Solar Projects

Generally, solar panels are installed on rooftops. In the case of **Oxford Memorial Library** (Chenango County), a building located and listed in the Oxford Village Historic District, the panels will be ground-mounted at the back of the parking lot to not mar the historic structure. The library's utility bills have been significant and increases threatened an already limited budget. The library expects a savings of at least 50% in electrical costs with the panels.

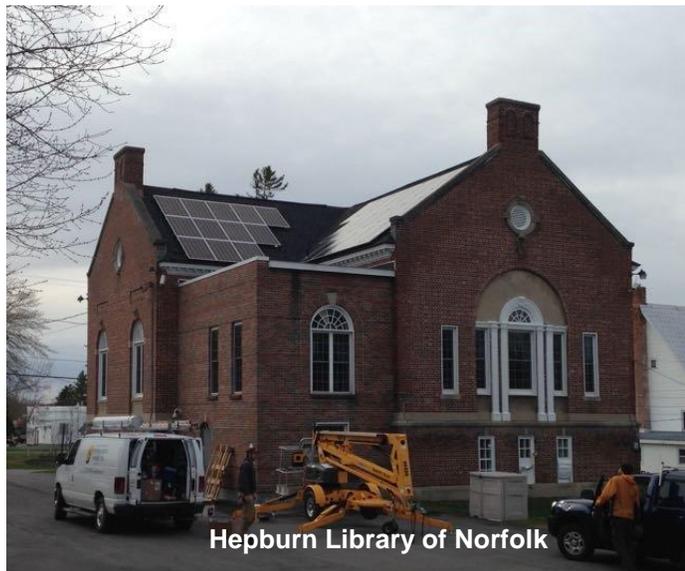
The **North Country Library System** (Watertown, Jefferson County) expects to see 85% to 100% of the electricity needs of their building met by their new solar array. This will greatly reduce utility costs as well as produce income potential as any unused "stored" energy is fed back into the public network. They estimate that their pay-back period could be as short as four to six years with the projected cost savings.



The **Ulysses Philomathic Library's** (Trumansburg, Tompkins County) sustainable vision includes energy independence. The public library in Trumansburg installed solar modules, inverters and tracking for roof-mounted panels. The solar panels are expected to generate almost 100% of the library's electricity, which amounts to between \$4000 and \$6000 per

year, says Annette Birdsall, the UPL's director. The solar energy will be dedicated to electricity production. Winter months will see less production due to cloud cover, possible snow on the panels, and lower angles of the sun. The library's needs that can't be produced by the panels in these months will be supplemented by the grid. In sunnier months electricity produced by the panels will go first to the library, with surplus power entering the grid and credited to the library. The result is in an estimated net electric bill of 0 dollars over the course of a year.

The **Hepburn Library of Norfolk's** (St. Lawrence County) Solar Energy Project has improved the existing infrastructure of the library by conserving energy and lowering costs. Energy use has been increasing with the addition of more PCs and other electronics that are in demand. The community room has also seen an increase in use by community members. Their solar electric system is fairly straight forward. On the library's east and south facing roof surfaces, racks hold thirty solar panels. The only exterior alteration to the building is the placement of the panels several inches off and parallel to the roof. The improvement to the library will be the estimated forty percent reduction in electrical energy usage from the grid. The Library expects the cost savings of this solar project to help defray their costs and eliminate the need to pass any costs of increased library use on to the patrons of their community.



Other libraries that have benefited from Construction Awards used to increase energy independence report similar stories.

The south-side roof on the **Hoag Library** (Albion, Orleans County) is now covered in solar panels. State funding, including a library construction award and other rebates through the NYS Energy Research and Development Authority covered half of their \$256,000 total costs. The anticipated electricity savings should pay off the library's share of the project within 18 years, perhaps sooner, said Kevin Doherty, president of the library's board. The library was approved for state funds for the project when the new building was constructed in 2011-12, but Doherty said the board held off on the project until the cost of solar came down and the efficiency went up.

Thirty 265W photovoltaic modules have been installed on the south-facing portion of the **Livingston Manor Library** (Sullivan County) roof. In total they will produce 8,000 kWh/year, or most of the electricity used in the library.

In May 2015, the **Haverstraw King's Daughters Public Library** (Rockland County) hosted a ceremony to celebrate the installation of a 65 kilowatt solar panel system at its main library. Library administrators sought external funding for over 82% of the project including State Aid for Library Construction and a rebate from NYSERDA. The system is expected to produce over 76,000 kilowatt hours per year, saving the Library approximately \$13,000 per year, with a total savings of \$325,000 over the 25-year life expectancy of the solar panels.



Library Director Claudia Depkin said, "This is another opportunity for the Haverstraw King's Daughters Public Library to demonstrate to our community the exceptional return on investment we provide. For an initial outlay of \$39,209, we will reap savings in the hundreds of thousands over 25 years. We'll break even in only 3 years, and set the standard for fiscal responsibility and environmental sustainability in public buildings here in Haverstraw and Rockland County."

At the end of September of 2012 a first-of-its-kind integrated thin film solar power system was installed as part of the **Port Washington Public Library's** (Nassau County) new SBS Roofing system and started generating clean, green renewable power. This video vignette on the project shows the thin film solar cells adhered to the library roof's cap sheet layer. The Port Washington Public Library is the only building in Nassau and Suffolk counties to generate power this way.

New Video: Port Washington Public Library Goes Solar: <https://archive.org/details/bliptv-20131031-041238-3BLMedia-NewVideoPortWashingtonPublicLibraryGoesSolar350>

It seemed like a terrible tragedy at first when the circa-1860 **Phoenicia Library** (Ulster County) went up in flames in March of 2011, destroying its collections and interior. The community quickly went into a fund-raising frenzy, doing everything from holding bake sales to applying for state funding to raise the necessary \$800,000 to rebuild. In January 2015, the library reopened at its original spot, having expanded from 1,895 to 3,235 square feet.

The new space allows for more space for collections, their first-ever children's room, and a community room. But there's more: It is the first Passive Solar Design library in America — meaning that its airtight building envelope, triple-glazed windows, and computer-calibrated ventilation system cut energy costs to a bare minimum. "Our entire cost for all our utilities was \$1,200 in our first year,

including the brutal 2015 winter,” says Library Director Liz Potter. “This compares to oil and electric bills that were edging up towards \$8,000 a year for a far smaller building. We heat the entire 3,200-square-foot building with two electric heaters — each of which was designed to heat a single room.”

For some time, the **Franklin Square Public Library** (Nassau County) had been using florescent lights, turning off computers at night and generally trying to respond to a Long Island Power Authority (LIPA) energy audit, but then it took a step further. Now the library can actually generate energy via solar panels that were installed on the building’s roof. The library also installed a monitoring station, which allows patrons to see how much energy is being generated by the solar panels in real-time reporting. With the help of a State Library funding and a pre-approved LIPA rebate of \$18,095, the library has brought the project in under the amount approved by taxpayers.

The **Roeliff Jansen Community Library** (Hillsdale, Columbia County) is a very environmentally friendly building. Thanks to the “go green” attitude of the current board, a number of green building additions were included in the original design for the new building. Examples include using as much natural light as possible in the building and a geothermal heating and cooling system. The highly efficient geothermal HVAC system in the new Library heats and cools the new building for only a little more than it cost to heat the old building, even though the new building is five times larger. Geothermal wells are located in the basement of the building and capture excess heating below 42 degrees. The building is Leadership in Energy and Environmental Design-certified (LEED), meaning every aspect of its construction was done with energy savings, water efficiency and stewardship of resources in mind.



Marc Horowitz, Director of the **North Babylon Public Library** in Suffolk County on Long Island, is a firm believer in the power of alternative energy resources. Estimating that the library saved, on average, between \$500 and \$1,500 a month on energy costs during the first six months after installing a solar photovoltaic system, he stressed what he considers to be the bottom line. “Installing a PV system was the right thing to do! Not only will the library benefit this year, but every year forward. We’ve taken an unused portion of the building (the roof) and taken advantage of the sun. Becoming “green” was not difficult and

the savings will become significant over the life of the system. In addition, we reduce our reliance on fossil fuels and our footprint. Everyone benefits.”

\$19 Million Now Available in State Aid for Library Construction Funds

The New York State Legislature allocated \$19 million in capital funds for the State Aid for Library Construction Program in the FY 2016/2017 State budget. Public libraries and public library systems may use these matching State funds for the improvement of their facilities, including such activities as renovation and rehabilitation projects, new construction, and the installation of broadband services infrastructure, as well as projects to increase energy efficiency.

For more information about the State Aid for Library Construction Program, including program guidelines, application procedures and deadlines, please visit the New York State Library website at: <http://www.nysl.nysed.gov/libdev/construc/index.html> .

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