

# NYSERDA's PV AWNING



## THE BACKGROUND

Solar-electric power is generated from the conversion of sunlight into electricity through a photovoltaic (PV) or solar cell. Photovoltaics provide Power Naturally<sup>SM</sup> and reliably. While the initial system cost can be considerable, NYSERDA has introduced an innovative program to make PV systems

**more affordable**

and to encourage new PV installations through qualified system installers.

## THE STORY

**Solar Energy Systems, Inc., a PV system integrator located in Brooklyn, in partnership with Ronald Evitts Architect, and James Bing, PE, of New Energy Options, Inc., designed and installed a two-tiered, photovoltaic awning that will help power NYSERDA's Albany-based headquarters.** The design and installation team were selected through a competitive solicitation. The 3.6 kilowatt (direct current) building-integrated solar electric awning system generates enough electricity to meet about half of the electrical needs of an average home. The awning system is both active and passive, meaning it will generate electricity while also providing shade to the building's lobby and second floor meeting room, reducing cooling requirements for those areas. The system was designed to allow testing of new inverters manufactured by New York companies working in NYSERDA's R&D program. The inverter is the device which converts direct current produced by the solar modules into alternating current used in homes and businesses. In addition, the system includes a data acquisition system that displays real-time weather and system performance data in the lobby of the NYSERDA building. It is anticipated that other commercial facilities throughout New York State can replicate this innovative application of PV technology.

**"NYSERDA's programs help educate consumers about renewable energy and are targeted at building New York State's market infrastructure necessary to design, build, install, and service reliable PV systems.**

**We help finance PV installations for consumers and businesses, and assist PV businesses throughout New York State. As of July 1, 2006, funding for 678 PV systems has been approved, totaling more than 4,665 kW (DC), and with NYSERDA providing approximately \$20 million to help offset installation costs. Nearly 75% of the approved systems, or about 3,000 kW, have been installed.**

**Our incentives and promotion are helping PV businesses develop and grow in New York State, creating jobs for fellow New Yorkers. In 2003, there were less than 20 installers or companies participating in our programs; today, there are 65 eligible with 24 being nationally certified through the North American Board of Certified Energy Practitioners.**

**With the installation of this new PV system at NYSERDA we are practicing what we preach!"**

**-- Peter R. Smith, NYSERDA President and CEO**

**For more information call 1-866-NYSERDA  
or log on to [www.PowerNaturally.org](http://www.PowerNaturally.org)**

**"NYSERDA is a leader and extremely critical component for the success of clean energy business in New York State. Being a part of this highly visible, educational demonstration of solar technology is proud moment for Solar Energy Systems, Inc."**

**--David Buckner  
President, Solar Energy Systems**

## THE TEAM

- **NYSERDA:** funding and project management of this demonstration project through NYSERDA's Energy Resources R&D program. [www.PowerNaturally.org](http://www.PowerNaturally.org)
- **Solar Energy Systems, Inc.:** a NABCEP certified PV installer competitively selected to design, install, commission, and maintain NYSERDA's PV awnings. [solaresystems.com](http://solaresystems.com)
- **The North American Board of Certified Energy Practitioners (NABCEP):** a volunteer board of renewable energy representatives who support and work with the renewable energy and energy efficiency industries to develop quality credentialing and certification programs. [www.NABCEP.org](http://www.NABCEP.org)

## THE SYSTEM

The PV Awning consists of 45 Kyocera 80 watt solar modules (total capacity of 3.6 kilowatts DC) connected to an inverter manufactured by U.S.A. based PV Powered. The system supplies enough AC electricity to meet one-half of NYSERDA's computer-driven power load. As the inverter is the heart of any PV system, whether commercial or residential, it was important that the awning's electrical design allow for the testing of new inverters developed by NYSERDA R&D manufacturing partners. Ultimately the PV awning reduces cooling requirements for the building as it provides much needed shade for NYSERDA's lobby and second floor meeting room.



## THE SAVINGS

**NYSERDA's PV awning  
will generate approximately**

**3,000  
KiloWatt hours**

**of electricity annually.**

**Emissions of CO2 will be**

**reduced by over  
3,200 pounds  
annually.**

