



Department of Energy Recovery Act State Memos

New York



For questions about DOE's Recovery Act activities, please contact the DOE Recovery Act Clearinghouse:
1-888-DOE-RCVY (888-363-7289), Monday through Friday, 9 a.m. to 7 p.m. Eastern Time
<https://recoveryclearinghouse.energy.gov/contactUs.htm>.

All numbers and projects listed as of June 1, 2010

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American Recovery and Reinvestment Act



U.S. DEPARTMENT OF ENERGY • NEW YORK RECOVERY ACT SNAPSHOT

Funding for selected DOE projects: \$1.6 billion

DOE Recovery Act projects in New York: 205

Clean energy tax credits and grants: 32

For total Recovery Act jobs numbers in New York go to www.recovery.gov

The American Recovery & Reinvestment Act (ARRA) is making a meaningful down payment on the nation's energy and environmental future. The Recovery Act investments in New York are supporting a broad range of clean energy projects from energy efficiency and the smart grid to advanced battery manufacturing, the Brookhaven National Lab in Upton, and cleanup of the state's Cold War legacy nuclear sites. Through these investments, New York's businesses, universities, national labs, non-profits, and local governments are creating quality jobs today and positioning New York to play an important role in the new energy economy of the future.

EXAMPLES OF NEW YORK FORMULA GRANTS

Program	State Energy Program	Weatherization Assistance Program	Energy Efficiency Conservation Block Grants	Energy Efficiency Appliance Rebate Program
Award (in millions)	\$123.1	\$394.7	\$175.6	\$18.7
	The New York State Energy Research and Development Authority has been granted \$123.1 million in State Energy Program funds to invest in state-level energy efficiency and renewable energy priorities.	New York State has been granted \$394.7 million in Weatherization Assistance Program funds to scale-up existing weatherization efforts in the state, creating jobs, reducing carbon emissions, and saving money for New York's low-income families. Over the course of the Recovery Act, New York expects to weatherize approximately 45,400 homes. The program also includes workforce training and education as part of the state's efforts to develop a green workforce.	Sixty communities in New York were granted a total of \$175.6 million for Energy Efficiency and Conservation Block Grants (EECBG) to develop, promote, implement, and manage local energy efficiency programs.	The New York State Energy Research and Development Authority has been granted \$18.7 million for the Energy Efficient Appliance Rebate Program, which offers consumer rebates for purchasing certain ENERGY STAR® appliances. These energy efficient appliances reduce energy use and save money for families, while helping the environment and supporting the local economy.

EXAMPLES OF NEW YORK COMPETITIVE GRANTS, TAX CREDITS AND LOANS

Award	\$136.2 million	\$80.6 million	\$62.9 million	\$43 million	\$40 million
	Consolidated Edison Company of New York, Inc. has been awarded \$136.2 million under the Smart Grid Investment Grant Program to deploy a wide range of grid-related technologies to make the electric grid work more efficiently. Consolidated Edison Company has also been awarded \$45.4 million to demonstrate a scalable smart grid prototype that promotes cyber security, reduces electric demand, increases reliability and energy efficiency, and is cost effective.	New York received twenty-seven 1603 payments for renewable energy generation totaling \$80.6 million, which include solar, wind, hydropower, and combined heat and energy projects. For example, Canandaigua Power Partners, LLC received \$52.4 million for a wind energy project.	West Valley Environmental Services, LLC , in West Valley, has been awarded \$62.9 million to reduce the cleanup footprint and accelerate decommissioning at the West Valley Demonstration Project.	The Department of Energy offered Beacon Power a conditional commitment for a \$43 million loan guarantee to support the construction of its 20 megawatt flywheel energy storage plant in Stephentown, New York.	The New York State Research and Development Authority has been awarded \$40 million under the BetterBuildings program to develop innovative energy efficiency retrofit financing options that will help to create large-scale, sustainable approaches to financing energy efficiency improvements across the state.

Funding Allocation Table (Figure 1)

Total dollar amounts in this document are accurate as of June 1, 2010. Please note that Recovery Act Programs are ongoing and the dollar amounts are subject to change. Recipient locations are based on project sites rather than recipients' headquarters locations.

Recovery Act Pillar	Flagship Program Names & Funding Type ¹	Number of Selections	Selected Amount (in millions) ²
Energy Efficiency	<i>Weatherization Assistance Program (F)</i>	1	\$394.7
	<i>State Energy Program (F)</i>	1	\$123.1
	<i>Energy Efficiency and Conservation Block Grant (F)</i>	60	\$175.6
	<i>BetterBuildings (CM)</i>	1	\$40.0
	<i>Energy Efficient Appliance Rebate (F)</i>	1	\$18.7
	<i>Building Energy Efficiency (CM)</i>	73	\$7.0
	<i>Industrial Energy Efficiency (CM)</i>	3	\$6.8
	<i>Additional Programs (CM & C)</i>	1	\$2.8
	TOTAL Energy Efficiency	141	\$768.7
Renewable Energy	<i>Solar (CM)</i>	4	\$5.8
	<i>Wind (CM)</i>	1	\$0.6
	<i>Geothermal (CM)</i>	4	\$10.9
	TOTAL Renewable Energy	9	\$17.3
Electric Grid	<i>Smart Grid Investment and Demonstrations Project (CM)³</i>	7	\$267.8
	<i>State and Local Energy Assurance and Regulatory Assistance (F)</i>	2	\$3.2
	<i>Smart Grid Workforce Training (CM)³</i>	4	\$5.0
	TOTAL Electric Grid	13	\$276.0
Transportation	<i>Advanced Battery Manufacturing (CM)</i>	1	\$27.3
	<i>Clean Cities Alternative Fuel and Vehicles Program (CM)</i>	2	\$28.3
	<i>Advanced Fuels (CM)</i>	1	\$0.01
	<i>Additional Programs (CM)</i>	3	\$9.1
	TOTAL Transportation	7	\$64.7
Carbon Capture and Storage	<i>CCS Projects (CM)</i>	1	\$2.1
	<i>Geologic Characterization Projects (CM)</i>	1	\$3.9
	<i>Research and Training (CM)</i>	3	\$0.9
	TOTAL Carbon Capture and Storage	5	\$6.9
Environmental Cleanup	<i>Environmental Management Contracts (C)</i>	4	\$176.5
	TOTAL Environmental Cleanup	4	\$176.5
Science and Innovation	<i>Energy Frontier Research Centers (CM)</i>	2	\$33.3
	<i>Small Business Research (SBIR/STTR) (CM)</i>	3	\$0.4
	<i>National Laboratory Facilities (C)</i>	14	\$209.7
	<i>Additional Programs</i>	7	\$11.4
	TOTAL Science and Innovation	26	\$254.8
TOTAL - DOE Programs⁴	205	\$1,564.9	
Tax Credits/ Payments ⁵	<i>Payments for Renewable Energy Generation in Lieu of Tax Credits (1603)</i>	27	\$80.6
	<i>Clean Energy Manufacturing Tax Credits (48C)</i>	5	\$33.3
	TOTAL Tax Incentives	32	\$113.9
TOTAL - DOE/Treasury + DOE	237	\$1,678.8	

¹F=Formula Grant, CM=Competitive Grant, C=Contract

²"Selected" indicates DOE has selected a potential funding recipient, which begins the process of negotiating an agreement. This does not necessarily indicate that a final agreement has been reached.

³Projects may cross state boundaries, signifies HQ location.

⁴Total does not include administrative funds.

⁵Jointly administered by DOE and the U.S. Department of Treasury.

ENERGY EFFICIENCY – 141 projects totaling \$768.7 million

Helping millions of American families cut utility bills by making homes and appliances more energy efficient, expanding the home efficiency industry in sales and manufacturing. For more information, visit <http://www.energy.gov/recovery/energyefficiency.htm>.

Award(s): \$394.7 million, Weatherization Assistance Program (WAP)

Location: Statewide

New York State received \$394.7 million in Weatherization Assistance Program funds to increase existing weatherization efforts in the state, create jobs, reduce carbon emissions and save money for New York's low-income families. Over the course of the Recovery Act, New York's goal is to weatherize approximately 45,400 homes. The program also includes workforce training and education as part of the state's efforts to develop a green workforce.

Award(s): \$123.1 million, State Energy Program (SEP)

Location: Statewide

The New York State Energy Research and Development Authority received \$123.1 million in State Energy Program funds to invest in state-level energy efficiency and renewable energy priorities. New York directs its Recovery Act SEP funding to programs accelerating the introduction of alternative-fuel vehicles into communities, boosting the energy efficiency of buildings across the state, increasing compliance with the state's energy codes and expanding the use of solar power. Funding also provides financial support for energy efficiency and retrofit projects in the municipal, K-12 public schools, public university, and hospital and not-for-profit sectors. An additional project aims to achieve at least 90 percent compliance in the commercial and residential sectors for a new statewide Energy Code. The state offers technical assistance and local compliance support to municipal officials, as well as those professionals who work closely with energy code buildings, such as architects, engineers and home builders. Finally, New York provides funding to encourage the installation of solar photovoltaic and solar thermal systems across the state and to provide training opportunities for installers.

Award(s): 60 totaling \$175.6 million, Energy Efficiency and Conservation Block Grant Program (EECBG)

Location: Statewide

Recipients: Albany, Amherst, Babylon, Binghamton, Brookhaven, Buffalo, Cayuga Nation of New York, Rochester, Yonkers, Clarkstown, Clay, Clifton Park, Colonie, Onondaga, Orange, Dutchess, Erie, Freeport, Greece, Greenburgh, Hamburg, Hempstead, Henrietta, Huntington, Hempstead, Irondequoit, Islip, Monroe, Mount Vernon, Nassau, New Rochelle, New York State Energy Research and Development Authority, New York City, Niagara Falls, North Hempstead, Onondaga Nation of New York Tribal, Poughkeepsie, Oneida Indian Society, Inc., Orangetown, Oyster Bay, Penfield, Perinton, Rockland, Saint Regis Mohawk Tribe, Schenectady, The Seneca Nation of Indians, Smithtown, Southampton, Suffolk, Syracuse, Tonawanda, Cheektowaga, Troy, Ulster, Utica, Webster, West Seneca, Westchester, White Plains, Yorktown

Sixty communities in New York received a total of \$175.6 million for the Energy Efficiency and Conservation Block Grants Program (EECBG) to develop, promote, implement and manage local energy efficiency programs.

This project assists states, U.S. territories, Indian tribes, counties and cities to develop, promote, implement and manage localized energy efficiency programs through individual program grants. The project funds programs which reduce fossil fuel emissions in a manner that is environmentally sustainable, maximizes cost savings, reduces the total energy use of eligible entities and improves energy efficiency in the transportation, building and other appropriate sectors. Examples of EECBGs include:

- **New York City, New York - \$80.8 million**

The City of New York received \$80.8 million for the implementation of EECBG funds in a citywide, multi-sector approach to create a strong foundation on which to achieve the goals of the Long-Term Plan and PlaNYC. This funding also helps to lead citywide energy efficiency by example and sets in motion improved energy management for the City of New York into the future. Consistent with the EECBG program, the city's implementation plan includes: investment grade technical studies on the feasibility of clean distributed generation at various sites; full building energy audits at many city facilities that will result in comprehensive energy efficiency retrofit projects; a citywide operations, maintenance and retro-commissioning initiative; comprehensive energy efficiency retrofit projects at city facilities; a financial incentive program through the Greener, Greater Building Revolving Loan Fund and technical consultant services leading to stricter enforcement and compliance with the city's energy code.

- **New York State Energy Office, New York - \$30 million**

New York State received \$30 million to direct its \$29,760,600 in Recovery Act funds towards the state's goal of fulfilling 45 percent of its electricity needs through improved energy efficiency and renewable energy by the year 2015.

- **Town of Colonie, Colonie - \$663,000**

The Town of Colonie received \$663,000 to retrofit four heating and cooling units atop the town library and a boiler at the community center. Not only do these retrofits save the town money, but the town estimates that about eleven jobs are being created during the process.

Award(s): \$18.7 million, Energy Efficient Appliance Rebate Programs

Location: Statewide

The New York State Energy Research and Development Authority received \$18.7 million for the Energy Efficient Appliance Rebate Program, which offers consumer rebates for purchasing certain ENERGY STAR® appliances. These energy efficient appliances reduce energy use and save money for families, while supporting the local economy. This funding assists state-level rebate programs by paying up to 50 percent of the administrative costs of establishing and executing these types of programs. Though states and territories determine which appliances are eligible, typically these include clothes washers, dishwashers, refrigerators, freezers, air conditioners and water heaters.

Award(s): \$40 million, BetterBuildings

Location: Albany

The New York State Energy Research and Development Authority received \$40 million in funding to leverage new and existing energy efficiency retrofit and finance programs to create large-scale, sustainable approaches to financing energy retrofits across the state. By providing financing mechanisms including credit-enhanced bank loans and on-bill recovery loans, the partnership allows consumers to select the finance method which works best for them. The program includes innovative financing programs and leverages funds from the state's existing "Green Jobs-Green New

York” program, giving residents access to innovative financing programs for energy efficiency retrofits.

Award(s): 70 totaling \$74,000, Buildings and Appliance Market Transformation

Location: Statewide

The Buildings and Appliance Market Transformation project expands building codes, accelerates the pace of Appliance Standard test procedure development and improves the efficiency of commercial buildings’ operations by training building operators and commissioning agents.

- **Star Creations, Inc., Brooklyn (48) - \$59,000**
- **Cool Running Hospitality Supply LLC, Binghamton (18) - \$13,000**
- **1 Stop Electronics Center, Inc., Brooklyn (3) - \$2,000**
- **J&R Electronics Inc., New York - \$1,000**

Award(s): \$2.8 million, Ground Source Heat Pumps

Location: Albany

The University at Albany-SUNY received \$2.8 million to install a large ground source heat pump system serving 200,000 sq. ft. of dorm and apartment housing and will leverage additional incentives from the State of New York.

Award(s): 3 totaling \$6.7 million, Improved Energy Efficiency for Information and Communication Technology

Location: New York City, Yorktown Heights

- **Trustees of Columbia University in the City of New York, New York - \$2.8 million**
The Trustees of Columbia University in the City of New York received \$2.8 million in funding to develop "on-chip" technology that makes power conversions more efficient within servers. By increasing the amount of electricity used versus lost in operating the Central Processing Unit (CPU), server energy efficiency is increased by at least ten percent. This gain represents about two trillion BTUs per year.
- **International Business Machines, Yorktown Heights - \$2.3 million**
International Business Machines in Yorktown Heights received \$2.3 million for advanced metals and liquid cooled heat sinks to carry heat out of the data center to a Dual Enclosure Liquid Cooling (DELC) system. The DELC system exchanges heat from the data center with ambient air. Expelled heat is made available for room or water heating elsewhere. The project goal is reducing cooling energy to 5 percent of total data center energy. If proliferated across the market, energy savings over conventional technology could start at 20 trillion BTUs and grow significantly from there.
- **International Business Machines, Yorktown Heights - \$1.7 million**
International Business Machines in Yorktown Heights received \$1.7 million to develop and field test a data center and telecommunication facility management tools to reduce power consumption from cooling components. Using real-time temperature, humidity, hot-spot management, air-leakage measurement and corrosion monitoring, this tool optimizes air conditioning systems and the use of outside air in computing facilities. This technology can

potentially save ten percent of average data and telecommunication center energy requirements. For Data Centers alone, this could reduce over 20 trillion BTUs per year.

Award(s): 3 totaling \$7 million, Solid State Lighting

Location: Niskayuna, Rochester

- **General Electric Company, Niskayuna - \$4 million**
General Electric Company in Niskayuna received \$4 million for the further development of an alternative OLED panel R2R pilot line at GE Global Research via small molecule solution processing.
- **General Electric Company, Niskayuna - \$1.7 million**
General Electric Company in Niskayuna received \$1.7 million to develop optimized phosphor systems and packaging for LED down-conversion. The project builds upon a succession of prior DOE-sponsored projects which have produced high efficacy with warm white and high CRI. This project aspires to raise the phosphor down-conversion efficiency from 70 percent to 90 percent. Primarily by addressing scattering loss mechanisms and thermal losses in high yield coatings, the project aims to enable steady-state LED operation.
- **University of Rochester, Rochester - \$1.2 million**
The University of Rochester in Rochester received \$1.2 million to increase the operational lifetime of white, phosphorescent organic light-emitting diodes suitable for solid-state lighting (SSL) to at least 10,000 hours.

RENEWABLE ENERGY – 41 projects totaling \$131.2 million

Developing the clean renewable resources in order to double our supply of renewable energy and boost domestic renewable manufacturing capacity. For more information, visit <http://www.energy.gov/recovery/renewableenergy.htm>.

Award(s): 27 payments totaling \$80.6 million from DOE / Treasury, 1603 Payments for Renewable Energy Generation

Location: Statewide

*For current number of 1603 awards, see the weekly update at <http://www.treas.gov/recovery/1603.shtml>

- **Canandaigua Power Partners, LLC, Cohocton (2) - \$74.7 million**
Canandaigua Power Partners, LLC, in Cohocton received two awards totaling \$74.7 million for wind projects.
- **Erie Boulevard Hydropower, LP, Queensbury (2) - \$4.1 million**
Erie Boulevard Hydropower, LP, in Queensbury received two awards totaling \$4.1 million for hydropower projects.
- **OfficePower, Inc., New York - \$416,000**
OfficePower, Inc., in New York received \$416,000 for a combined heat and power project.

- **Technology Credit Corporation, Glendale (2) - \$280,000**
Technology Credit Corporation in Glendale received two payments totaling \$280,000 for solar electricity projects.
- **City Merchandise, Inc., Brooklyn - \$157,000**
City Merchandise, Inc., in Brooklyn received \$157,000 for a solar electricity project.
- **Flat Rate Movers, Ltd., Bronx - \$147,000**
Flat Rate Movers, Ltd., in the Bronx received \$147,000 for a solar electricity project.
- **AJC Studios, Bronx - \$135,000**
AJC Studios in the Bronx received \$135,000 for a solar electricity project.
- **Excelsior Packaging Group, Yonkers - \$129,000**
Excelsior Packaging Group in Yonkers received \$129,000 for a solar electricity project.
- **Sunshine Orchards, Milton - \$108,000**
Sunshine Orchards in Milton received \$108,000 for a solar electricity project.
- **Brenner Builders & Associates, Inc., Bedford Hills - \$67,000**
Brenner Builders & Associates, Inc., in Bedford Hills received \$67,000 for a solar electricity project.
- **New York Light Energy, LLC, Latham - \$67,000**
New York Light Energy, LLC, in Latham received \$67,000 for a solar electricity project.
- **New York Light Energy, LLC, Saratoga Springs - \$65,000**
New York Light Energy, LLC, in Saratoga Springs received \$65,000 for a solar electricity project.
- **Kling Magnetics, Chatham - \$64,000**
Kling Magnetics in Chatham received \$64,000 for a solar electricity project.
- **Sound Associates, Yonkers - \$57,000**
Sound Associates in Yonkers received \$57,000 for a solar electricity project.
- **Garcia y Lada, LLC, Saugerties - \$50,000**
Garcia y Lada, LLC, in Saugerties received \$50,000 for a solar electricity project.
- **Ruder Finn, Inc., Hunter - \$34,000**
Ruder Finn, Inc., in Hunter received \$34,000 for a solar electricity project.
- **Kedi Floral, Inc., Oakdale - \$21,000**
Kedi Floral, Inc., in Oakdale received \$21,000 for a solar electricity project.

- **Professional Commercial Group, LLC, Gardiner - \$20,000**
Professional Commercial Group, LLC, in Gardiner received \$20,000 for a solar thermal project.
- **Kling Magnetics, Chatham - \$14,000**
Kling Magnetics in Chatham received \$14,000 for a solar thermal project.
- **Paumanok Vineyards, Ltd., Aquebogue - \$11,000**
Paumanok Vineyards, Ltd., in Aquebogue received \$11,000 for a solar electricity project.
- **North Star Sun Creek Building, LLC, Stone Ridge - \$11,000**
North Star Sun Creek Building, LLC, in Stone Ridge received \$11,000 for a solar electricity project.
- **Arcadia Holding Co., LLC, Yorktown Heights - \$10,000**
Arcadia Holding Company, LLC, in Yorktown Heights received \$10,000 for a solar thermal project.
- **Marbleline, Westbury - \$4,000**
Marbeline in Westbury received \$4,000 for a solar electricity project.
- **Hidden Lake Timber, LLC, Chester - \$3,000**
Hidden Lake Timber, LLC, in Chester received \$3,000 for a solar electricity project.

Award(s): 5 totaling \$33.3 million from DOE / Treasury, Clean Energy Manufacturing Tax Credit (48C)

Location: Statewide

- **GEMX Technologies, LLC, Schenectady - \$25.5 million**
GEMX Technologies, LLC, in Schenectady received \$25.5 million to re-equip an existing manufacturing facility. The facility will produce sodium metal halide batteries for various markets, including electricity grid support and regulation services to help support renewable energy penetration levels, enable remote power systems based on renewable energy sources and increase efficiency by reducing peak power demands.
- **Ramgen Power Systems, LLC, Orlean - \$4.8 million**
Ramgen Power Systems, LLC, in Orlean received \$4.8 million to produce a carbon dioxide compressor capable of converting coal plant carbon dioxide into a supercritical fluid that can be sequestered. The result is projected to be more efficient and be more cost-effective for Carbon Capture and Storage.
- **Ice Energy, Inc., Hammondsport - \$1.5 million**
Ice Energy, Inc., in Hammondsport received \$1.5 million for expanding a facility to design and manufacture energy storage modules for use with direct expansion air conditioners commonly found in commercial and small industrial applications. When deployed, the asset will enable the storage of electricity from renewable energy resources in the form of ice.
- **Ener-G-Rotors, Inc., Schenectady - \$834,000**
Ener-G-Rotors, Inc., in Schenectady received \$834,000 to install manufacturing capacity to build systems that turn low-temperature heat from industrial processes into 50kW of electricity.

- **Stirling Energy Systems, Inc., Ashville - \$642,000**
Stirling Energy Systems, Inc., in Ashville received \$642,000 to produce pedestals, hubs, facet support structures, booms and mirror facets that combine to serve as the radial solar concentrator dish structure of the SunCatcher. The resulting technologies aid the Concentrating Solar Power industry domestically.

Award(s): \$43 million from DOE / Treasury, Loan Guarantee Program

Location: Statewide

The Department of Energy offered Beacon Power a conditional commitment for a \$43 million loan guarantee to support the construction of its 20 megawatt flywheel energy storage plant in Stephentown, New York.

Award(s): 4 totaling \$10.8 million, Enhanced Geothermal Systems (EGS) Technology R&D¹

Location: Niskayuna

This project funds R&D programs to support Enhanced Geothermal Systems (EGS). EGS R&D will reduce the technical risks of creating and managing EGS reservoirs and will provide the tools to maintain high well-production rates with low thermal drawdown, which in turn encourages the private sector to exploit EGS technology for commercial-scale deployment.

- **GE Global Research, Niskayuna - \$3.4 million**
GE Global Research in Niskayuna received \$3.4 million in funding.
- **GE Global Research, Niskayuna - \$3 million**
GE Global Research in Niskayuna received \$3 million in funding.
- **General Electric Company, Niskayuna - \$2.4 million**
General Electric Company in Niskayuna received \$2.4 million in funding.
- **GE Global Research, Niskayuna - \$2.1 million**
GE Global Research in Niskayuna received \$2.1 million in funding.

Award(s): 2 totaling \$2.8 million, High-Penetration Solar Deployment

Location: Troy, New York

- **Hudson Valley Community College, Troy - \$1.8 million**
Hudson Valley Community College (HVCC) in Troy received \$1.8 million for a training facility dedicated to providing clean energy training. The college is utilizing this world-class facility to develop ISP Certified instructors across the northeast that will help transform the solar industry.
- **City of New York - \$933,000**
The City of New York received \$933,000 to develop a system to allow communication and control between the electric grid and distributed PV generation, increasing the ability of electric utility ConEdison to depend on solar as a peak generation source. The city is developing a financing structure that empowers residents to invest in solar electricity generation even if they cannot

¹ Three additional Enhanced Geothermal Systems R&D project can be located in the “Science and Innovation” section within this document.

support solar arrays on their own homes and businesses. The city is developing an online portal with a solar planning map that helps predict the interaction of loads, PV generation and grid reactivity, as well as calculates statistics such as the daily amount of solar energy produced in New York City.

Award(s): 2 totaling \$3 million, Photovoltaic (PV) Systems Development

Location: Niskayuna

- **General Electric Company, Niskayuna - \$1.8 million**
General Electric Company in Niskayuna received \$1.8 million to develop a system integrated, distributed PV architecture employing module-level DC-to-DC Maximum Power Point Tracker, rack, module and power conversion components to reduce the energy yield, reducing total life-cycle costs and improving overall reliability and availability.
- **General Electric Company, Niskayuna - \$1.2 million**
General Electric Company in Niskayuna received \$1.2 million to develop a functional thin film platform allowing for the boosting of efficiency in any solar cell using down-shifting materials.

Award(s): \$648,000, Wind Energy Technology R&D and Testing

Location: Niskayuna

General Electric Company in Niskayuna received \$648,000 to conduct wind turbine manufacturing process monitoring.

MODERNIZING THE ELECTRIC GRID – 13 projects totaling \$276 million

Harnessing clean energy sources and integrating them onto a modernized electric grid, while giving consumers better choices and more control over their energy use. For more information, visit <http://www.energy.gov/recovery/smartgrid.htm>.

Award(s): \$2 million, Enhancing State and Local Governments' Energy Assurance

Location: Albany

The New York State Energy Research & Development Authority in Albany received \$2 million for state energy assurance planning. The focus of this project is on building regional energy assurance capabilities by enhancing inter- and intra-State coordination and cooperation during energy emergencies. This project funds states to update and develop State Energy Assurance Plans that incorporate new energy portfolios such as wind, renewables, biofuels, etc. This program also funds cities updating and developing Energy Assurance Plans within local areas.

Award(s): 2 totaling \$174 million, Smart Grid Investment Grant Program (EISA 1306)

Location: New York, Rensselaer

- **Consolidated Edison Company of New York, Inc., New York - \$136.2 million**
Consolidated Edison Company of New York, Inc., in New York City received \$136.2 million for the installation of digital-ready component upgrades necessary to make the electric grid work more efficiently, as well as to effectively integrate renewable resources and energy efficient technologies.

- **New York Independent System Operator, Inc., Rensselaer- \$37.8 million**
New York Independent System Operator, Inc., in Rensselaer received \$37.8 million for the deployment of a NYCA-wide, open, flexible, inter-operable, secure and expandable Phasor Measurement Network (PMN) system which will work in concert with the existing control and monitoring systems and allow integration of new reactive power sources.

Award(s): 5 totaling \$93.8 million, Smart Grid Regional and Energy Storage Demonstration Project (EISA 1304)

Location: Statewide

- **Consolidated Edison Company of New York, Inc. - \$45.4 million**
Consolidated Edison Company of New York, Inc., in New York City received \$45.4 million to demonstrate a scalable Smart Grid prototype promoting cyber-security, reducing electric demand, increasing reliability and energy efficiency while remaining cost effective. The system will enable greater use of renewable energy, other distributed resources, electric vehicle charging and greater consumer participation in the energy mix.
- **New York State Electric & Gas Corporation, Binghamton - \$29.6 million**
New York State Electric & Gas Corporation in Binghamton received \$29.6 million to significantly improve the CAES technology by demonstrating an advanced, less costly plant design and an innovative Smart Grid control system embodying a Smart Grid security and interoperability communication system.
- **Long Island Power Authority, Uniondale - \$12.5 million**
The Long Island Power Authority in Uniondale received \$12.5 million to demonstrate the integration of a suite of Smart Grid technologies including Advanced Metering Infrastructure (AMI), substation, distribution circuit automation, distributed energy resources and vehicle charging stations from substations to the customer. The demonstration involves 800 customers.
- **Consolidated Edison Company of New York, Inc., New York City - \$5.6 million**
Consolidated Edison Company of New York, Inc., in New York City received \$5.6 million to develop and demonstrate true inter-operability between an energy delivery company and retail electric consumers. By using demand response resources, the project enhances the reliability of the distribution grid and the efficiency of its operations.
- **Power Authority of the State of New York, White Plains - \$720,000**
The Power Authority of the State of New York in White Plains received \$720,000 to demonstrate the effects that Dynamic Thermal Circuit Ratings (DTCR) technology has on areas of the New York State transmission system where there is abundant wind generation. The project will determine a correlation between increased wind generation and increased transmission capacity. This project has the potential to result in a five to fifteen percent increase in transmission line rating, allowing more wind in constrained areas, deferring millions of dollars in capital expenditures on transmission projects, prioritizing proposed major transmission projects and allowing increased situational awareness for operators.

Award(s): 4 totaling \$5 million, Smart Grid Workforce Training

Location: Statewide

- **Syracuse University, Syracuse - \$2.5 million**
Syracuse University in Syracuse received \$2.5 million for a project to create a multi-institutional, academic-industry partnership for curriculum delivery, leveraging research strengths, facilities and assets from across New York State. The project develops Smart Grid curricula across the full spectrum of higher educational certificate and degree programs allowing training and retraining of displaced manufacturing and technology workers, as well as training of the incumbent utility workforce to quickly advance Smart Grid implementation.
- **Workforce Development Institute, Inc., Albany - \$1.6 million**
Workforce Development Institute, Inc., in Albany received \$1.6 million for a project to recruit, train and employ line workers in New York to ensure adequate numbers of line workers are trained and available with the necessary skills in clean-energy Smart Grid technologies to install, maintain and support the electric power sector. The project results in the training of over 800 current line workers as well as up to 450 new apprenticeship positions.
- **General Electric Company, Schenectady - \$650,000**
General Electric Company in Schenectady received \$650,000 to develop the expertise needed to design and develop Smart Grid technology. The project supports the training of approximately 260 Engineers and Software Developers.
- **Consolidated Edison Company of New York, Inc., New York - \$237,000**
Consolidated Edison Company of New York, Inc., in New York City received \$237,000 to utilize the company's state-of-the-art training facility to employ training modules, simulations and qualification for advanced operations at each of the four control centers within the service territory: Brooklyn / Queens, Manhattan, Westchester / Bronx and Staten Island. The project focuses on personnel needed to deploy, operate, troubleshoot and maintain various types of equipment necessary as the use of Smart Grid technologies increase.

Award(s): \$1.2 million, State Assistance on Electricity Policies

Location: Albany

New York State Public Service Commission in Albany received \$1.2 million to provide for assistance for State Public Utility Commissions in addressing its Recovery Act electricity workload by hiring staff trained to facilitate the review of time-sensitive requests approving electric utility expenditures.

TRANSPORTATION – 7 projects totaling \$64.7 million

Investing in a new generation of advanced fuels and vehicles to reduce our dependence on foreign oil and revitalize domestic manufacturing. For more information, visit <http://www.energy.gov/recovery/vehicles.htm>.

Award(s): \$17 million from DOE / Treasury, Loan Guarantee Program

Location: Johnson City

AES Energy Storage was offered a conditional commitment for \$17 million to support the construction of a 20 megawatt energy storage system using advanced lithium-ion batteries. The project, located in

Johnson City, New York, will help provide a more stable and efficient electrical grid for the state's high-voltage transmission network.

Award(s): \$27.3 million, Advanced Battery Manufacturing

Location: Buffalo

Honeywell International, Inc., in Buffalo received \$27.3 million for the production of electrolyte salt for lithium-ion batteries.

Award(s): 2 totaling \$28.3 million, Clean Cities Alternative Fuel and Vehicles (AFV) Grant Program

Location: Bay Shore, Albany

- **Greater Long Island Clean Cities Coalition's, Bay Shore - \$15 million**
The Greater Long Island Clean Cities Coalition in Bay Shore received \$15 million to deploy 124 compressed natural gas (CNG) vehicles and develop five CNG fueling sites.
- **New York State Energy Research and Development Authority (NYSERDA), Albany - \$13.3 million**
New York State Energy Research and Development Authority in Albany received \$13.3 million to deploy 307 alternative fuel vehicles, develop seven alternative fueling sites and install 75 electric chargers.

Award(s): 3 totaling \$3.0 million, Enabling Fuel Cell Market Transformation

Location: Latham, Albany

- **Plug Power, Inc., Latham - \$3.4 million**
Plug Power, Inc., in Latham received \$3.4 million to develop highly efficient, 5-KW CHP fuel cells demonstrating durability and economic value.
- **MTI MicroFuel Cells, Albany - \$3 million**
MTI MicroFuel Cells in Albany received \$3 million for commercialization of one Watt micro fuel cell consumer electronics power packs.
- **Plug Power, Inc., Latham - \$2.7 million**
Plug Power, Inc., in Latham received \$2.7 million to accelerate acceptance of fuel cell backup power systems.

CARBON CAPTURE & STORAGE – 5 projects totaling \$6.9 million

Developing clean coal technologies so we can utilize America's coal resources sustainably. For more information, visit <http://www.energy.gov/recovery/ccs.htm>.

Award(s): \$3.9 million, Geologic Sequestration Site Characterization

Location: Orangetown

Sandia Technologies, LLC, in Orangetown received \$3.9 million to conduct site characterization of promising geologic formations for carbon dioxide storage, increasing the understanding of the potential for these formations to safely and permanently store carbon dioxide. The information gained furthers DOE's efforts to develop a national assessment of carbon dioxide storage capacity in deep geologic formations.

Award(s): 3 totaling \$896,000, Geologic Sequestration Training and Research Grant Program
Location: New York, Brooklyn

- **The Trustees of Columbia University, Inc., New York - \$300,000**
The Trustees of Columbia University, Inc., in New York received \$300,000 to test and quantify the theory that rapid carbon dioxide capture and storage, via mineral carbonation during alteration of peridotitic and basaltic rocks, leads to a positive feedback via reactive cracking in which cracks caused by large volume change enhance porosity, permeability and reactive surface area. The team will experimentally define carbonation rates of peridotite and basalt and study catalytic effects using differential bed reactors and autoclaves. This project supports at least two graduate students during the research effort.
- **The Trustees of Columbia University, Inc., New York - \$300,000**
The Trustees of Columbia University, Inc., in New York received \$300,000 to develop a microbial and chemical enhancement scheme for in-situ carbon mineralization in geologic formations in order to achieve long-term stability of injected carbon dioxide. By combining microbial and chemical aspects of geologic sequestration, this fundamental research will advance the United States in its position as the leader in CCS technology, while providing interdisciplinary training opportunities for graduate and undergraduate students.
- **Research Foundation of CUNY on behalf of Brooklyn College, Brooklyn - \$297,000**
The Research Foundation of CUNY on behalf of Brooklyn College in Brooklyn received \$297,000 to investigate the role of textural and compositional parameters that control the carbon dioxide sealing capacity of cap rocks. The proposed project advances our knowledge of the sealing capacity of rocks and provides a better understanding of the processes taking place in geologic reservoirs subject to carbon dioxide injection. This project supports at least two graduate students during the research effort.

Award(s): \$2.1 million, Industrial Carbon Capture and Storage Applications

Location: Ithaca

Novomer, Inc., in Ithaca received \$2.1 million to develop innovative concepts for beneficial carbon dioxide use. Novomer, Inc., is developing polycarbonates from a petrochemical, carbon dioxide and a proprietary catalyst. The system permanently stores carbon dioxide in new chemical structures which are up to 50 percent carbon dioxide by weight.

ENVIRONMENTAL CLEANUP – 4 projects totaling \$176.5 million

Creating jobs and reducing the legacy cold war footprint of the Department of Energy and clean up the polluted land and water resources in communities. For more information, visit <http://www.energy.gov/recovery/cleanup.htm>.

Award(s): \$51.8 million, SPRU Recovery Act Project

Location: Schenectady

The purpose of this project is to remove radioactively-contaminated soils from the 15-acre North Field Area, a part of the SPRU Disposition Project, located at the Knolls Atomic Power Laboratory (KAPL) in Niskayuna. The contamination in the North Field is surface soil contamination resulting from the historic storage and handling of waste drums from the original, 1950's-era SPRU project.

- **Washington Group International, Inc. (Ohio Corporation), Schenectady - \$37 million**
Washington Group International, Inc., in Schenectady received \$37 million to provide jobs and accelerate the decontamination, demolition, characterization, loading and shipping of containers for two former nuclear research facilities. These facilities were known as the Separation Process Research Unit (SPRU) and were active in the 1950's for nuclear research.
- **Accelerated Remediation Company, LLC, Schenectady - \$14.8 million**
Accelerated Remediation Company, LLC, in Schenectady received \$14.8 million to obtain services for environmental restoration of approximately fifteen acres of soil and groundwater contaminated with radioactivity and chemicals in the Separations Process Research Unit (SPRU) land areas. Completion for this work requires cleanup of radiologically and chemically contaminated soil areas in accordance with land-use criteria.

Award(s): \$62.9 million, West Valley Recovery Act Project

Location: West Valley

West Valley Environmental Services, LLC, received \$62.9 million for the West Valley Demonstration Project (WVDP) to create jobs while safely reducing the site footprint and accelerating work in support of the decommissioning of the WVDP.

SCIENCE AND INNOVATION – 26 projects totaling \$254.8 million

Renewing our commitment to science and innovation to ensure global competitiveness in the future. For more information, visit <http://www.energy.gov/recovery/innovation.htm>.

Award(s): \$102,000, Advanced Technology R&D Augmentation

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$102,000 to focus on three areas of new accelerator and detector tools. The three areas are high field superconducting magnets made from newly discovered superconductors to raise the magnetic field intensity in accelerators and MRI devices, superconducting RF accelerator cavities which use less electrical power to operate but are able to support high current operation and large area photo-detectors a sensitive area of several square feet.

Award(s): \$61.9 million, BNL Recovery Act Project

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$61.9 million to clean up the Brookhaven National Lab site. The project accelerates the radiological and hazardous waste remediation at this site by 2011. BNL remedial activities involve demolishing surplus ancillary structures associated with a nuclear research reactor, as well as removal of contaminated soil and buried pipelines for disposal of off-site, protecting the surrounding soil and groundwater.

Award(s): 2 totaling \$686,000, Computational Partnerships (SciDAC-e)

Location: New York, Ithaca

This project provides funds for a one-time stimulus of research efforts in applied mathematics and computer science to establish the computational foundation and the insight needed to advance DOE's mission across a wide range of areas including developing novel, renewable and / or ecologically friendly energy sources and developing Smart Grids.

- **The Trustees of Columbia University, Inc., New York - \$386,000**
The Trustees of Columbia University, Inc., in New York received \$386,000 to investigate the reconfiguration of power systems to minimize cascading failures.
- **Cornell University, Inc., Ithaca - \$300,000**
Cornell University, Inc., in Ithaca received \$300,000 create the case studies necessary to exercise new algorithms for optimization of the electric power grid.

Award(s): 2 totaling \$33.3 million, Energy Frontier Research Centers

Location: Ithaca, New York

- **Cornell University, Inc., Ithaca - \$17.3 million**
Cornell University, Inc., in Ithaca received \$17.3 million for research to understand and control the nature, structure and dynamics of electron reactions in fuel cells, batteries, solar photovoltaics and catalysts.
- **The Trustees Of Columbia University, Inc., New York - \$16 million**
The Trustees Of Columbia University, Inc., in New York City received \$16 million to develop the enabling science needed to realize breakthroughs in the efficient conversion of sunlight into electricity in nanometer-sized thin films.

Award(s): 4 totaling \$4.8 million, Energy Sciences Fellowships and Early Career Awards

Location: Upton, Stony Brook, Ithaca

- **Brookhaven National Laboratory, Upton - \$2.5 million**
Brookhaven National Laboratory in Upton received \$2.5 million for the investigation of the role of inhomogeneities and phase segregation on correlated electron dynamics by optical spectroscopy and nano-imaging.
- **Research Foundation of the State University of New York, Stony Brook - \$750,000**
The Research Foundation of the State University of New York in Stony Brook received \$750,000 for a first principles modeling of metal-electrolyte systems. This is a novel approach to the study of the electrochemical interface.
- **Cornell University, Ithaca - \$750,000**
Cornell University in Ithaca received \$750,000 for the directed assembly of hybrid nanostructures using optically resonant nanotweezers.
- **Cornell University, Ithaca - \$750,000**
Cornell University in Ithaca received \$750,000 for the investigation of fundamental limits to beam brightness available from photoinjectors.

Award(s): \$8 million, Enhanced AIP Funding at NP User Facilities

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$8 million for Accelerator Improvement Projects (AIP) at NP facilities which will enhance operations of the facilities and contribute to the support of scientific research and training of the next generation of nuclear scientists.

Award(s): 3 totaling \$1.3 million, Enhanced Geothermal Systems (EGS) Technology R&D

Location: Upton

The Brookhaven National Laboratory received three awards totaling \$1.3 million for R&D programs to support Enhanced Geothermal Systems (EGS). EGS R&D reduces the technical risks of creating and managing EGS reservoirs and will provide the tools to maintain high well-production rates with low thermal drawdown, which in turn encourages the private sector to exploit EGS technology for commercial-scale deployment.

Award(s): \$18.5 million, General Plant Project Funding

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$18.5 million for General Plant Project Funding. This project will help revitalize the Brookhaven National Laboratory (BNL) by accelerating funding for non-line item capital improvements to facilities and infrastructure, including electrical upgrades, roofing, fire safety, and space renovation and transformer replacements. These improvements will reduce the laboratory's backlog of general infrastructure needs, ensuring improved readiness to perform mission work.

Award(s): \$3 million, Light Source Improvements

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$3 million to fund the replacement of outdated original accelerator instruments and components in order to best realize the scientific research capabilities of SC Synchrotron Radiation Light Sources for the benefit of the scientific user community. These capital equipment resources enable Light Sources to provide new advanced capabilities to characterize complex materials and structures with broad applicability to the advancement of the energy, economic and national security of the United States.

Award(s): \$6 million, Long Baseline Neutrino Experiment

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$6 million to fund preconceptual R&D and conceptual design activities for an experiment composed of a large detector and a neutrino beamline.

Award(s): \$5.6 million, Nanoscale Science Research Centers

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$5.6 million for procurement of new equipment at the Center for Functional Nanomaterials in order to ensure the availability of state-of-the-art capabilities for scientific users and staff. These capital equipment resources enable the Center to provide capabilities to fabricate, characterize, assemble and integrate complex materials and structures with dimensions and control on the scale of nanometers.

Award(s): \$150 million, National Synchrotron Light Source II

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$150 million to advance the execution of the NSLS-II construction project in the areas of civil construction and accelerator hardware.

Award(s): \$1.8 million, Nuclear Science Workforce

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$1.8 million to support proposals for initiatives in Applications of Nuclear Science and Technology, aimed at research and development activities in nuclear science that are relevant to applications vital to the nation.

Award(s): \$967, 000, PHENIX Forward Vertex Detector MIE full funding (RHIC at BNL)

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$967,000 for the PHENIX Silicon Vertex Tracker (VTX) MIE, a joint project with the Japanese Relativistic Heavy Ion Collider (RHIC). Recovery Act funds are being spent on equipment purchases for the PHENIX VTX project, including data acquisition crates for front-end modules for strip detectors, data collection modules for data acquisition system and installation fixtures and external cooling system to remove heat from electronics.

Award(s): \$250, 000, PHENIX Silicon Vertex MIE full funding (RHIC at BNL)

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$250,000 for equipment purchases for the PHENIX VTX project, including data acquisition crates for front-end modules for strip detectors, data collection modules for data acquisition systems and installation fixtures and external cooling system to remove heat from electronics.

Award(s): \$18.7 million, Science Laboratories Infrastructure (SLI) Construction

Location: Upton

Brookhaven Science Associates, LLC, in Upton received \$18.7 million for Science Laboratories Infrastructure (SLI) to support much needed improvements in facilities infrastructure. SLI Recovery activities are a mix of line-item construction, general plant projects and operating investments which improve each laboratory's mission readiness.

Award(s): 3 totaling \$436,000, Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) Round 1

Location: Horseheads, New York, Troy

- **United Environment & Energy, LLC, Horseheads - \$150,000**
United Environment & Energy, LLC, in Horseheads received \$150,000 for development of a bio-based intelligent roof coating technology to reduce heating and cooling loads of buildings, which results in significant energy and cost savings to the end-users, while protecting the environment, improving human health and reducing the use of petroleum based fuel.
- **Weidlinger Associates, Consulting Engineers, Inc., New York - \$150,000**
Weidlinger Associates, Consulting Engineers, Inc., in the City of New York received \$150,000 to lower initial costs and inefficiencies to achieve greater market penetration for solar panels. This is done with hybrid building integrated panels as part of the building's skin, which are significantly more efficient. These less costly and more durable panels are suitable for residential and commercial projects for new construction and renovations.

- **Tetragchem, LLC, Troy - \$136,000**

Tetragchem, LLC, in Troy received \$136,000 for developing carbon nanotubes that employ a new medium which is simple to prepare, easy to remove, reusable, scalable, economical, biocompatible and tunable.

ENERGYEMPOWERS.GOV

Recovery Act Success Stories

Energy Empowers is a U.S. Department of Energy clean energy information service. Our team produces stories featuring the people and businesses that are fueling the energy transformation and economic recovery in America. For more stories from your state, go to energyempowers.gov/NewYork



Recovery Act Funds have helped create hundreds of new jobs in New York. | Photo courtesy of NYS Division of Housing and Community

Weatherization program reaches more N.Y. homes

Thanks to funds from the Recovery Act, New York expanded its network of weatherization subgrantees. The state has added nine additional subgrantees to its network of 66 community-based organizations that provide energy conservation services on a local level.

New York's Division of Housing and Community Renewal received slightly more than \$100 million for Weatherization Assistance Program in 2009, a significant increase from its previous annual allotment of approximately \$60 million. In addition to this increase in annual funding, DHCR also received \$394 million in WAP stimulus funding from the Recovery Act.

"New York's success has been built on a network of sub grantees and state employees who are very experienced, and who care passionately about what they're doing. The people working in this program are technically proficient, innovative and productive," says DHCR Commissioner Brian Lawlor.

The Association for Energy Affordability — a subgrantee located in the South Bronx — has been able to create more than 40 jobs and also expand their training center as a result of the increased funding, Executive Director David Hepinstall says.

"We've been able to hire trainers, energy auditors, planners and construction management people," David says. "We've really been able to expand our workforce development, too."

The additional funding also allows New York to take on more challenging projects, such as multi-family housing, rental and other types of affordable housing.

"We're reaching new populations that are some of the most vulnerable and most in need," said Daniel Buyer, a DHCR assistant commissioner who oversees the weatherization program.

For the Association for Energy Affordability, this brings many

new potential units to weatherize. "A very high number of people in our district have become eligible for weatherization," says the group's executive director David Hepinstall. "So many people are interested in participating in the program."

The state is planning on rolling out an incentives plan for subgrantees sometime this year, which will reward organizations that can stay on schedule.

LONG ISLAND CITY

Recovery Act opens doors for women in construction business

At the Community Environmental Center in Long Island City, N.Y. — and across the country — you don't always see a lot of women in the construction business. Locating experienced female weatherization technicians to recruit had proven difficult for CEC, but 30-year-old Tahlia Williams is the beginning of a new era in the clean energy economy.

"Construction is something I had wanted to do for a long time," Tahlia says. "I had no way of knowing how to get into this field because I always heard it was a man's world. I wanted in."

When the Recovery Act passed, providing more funding than ever to weatherize an unprecedented number of homes, CEC needed to train and hire more workers quickly without sacrificing quality. The Laborers' International Union of North America stepped in with its local chapter and offered to take on CEC's workers as members and train them last August. Of the 15 trainees in the initial LIUNA Weatherization Training Program, two women, including Tahlia, were hired afterward.

"Before I started doing weatherization work, I was struggling day-to-day to make ends meet," she says.

Now Tahlia installs windows, doors, insulation and other energy-efficiency measures in the homes of New Yorkers, and she will learn to do solar panel installation in the near future.

"I am the first female on the job, which was a little bit intimidating — but it worked out," Tahlia says. "It was a bit of a challenge getting into the industry, but I like a challenge — I have always enjoyed doing handy work."

Tahlia now has a steady job and health benefits, which help her support herself and her three-year-old son.

Officials at CEC say the center was founded on the principles of diversity and inclusion, and as it plans to hire 25 more workers with additional stimulus funds, there just might be more women weatherization workers on the way.

CEC is the largest not-for-profit organization to provide energy conservation for low- and middle-income residents in New York. LIUNA is a half-million-strong labor union for construction workers — including weatherization workers — that advocates for benefits and opportunities on behalf of its members.

COLONIE

New York town gets block grant at 'perfect' time

A couple of years ago, the town of Colonie, N.Y., was faced with high energy bills when electric and natural gas prices spiked. The upstate New York town set up a committee to explore ways to save energy. They decided it was time to perform facility upgrades, and an energy audit showed the retrofits would be budget-neutral in the long run — unfortunately, the town couldn't afford the upfront costs. Until, that is, the Recovery Act passed last year. The town has been awarded an Energy Efficiency and Conservation Block Grant for \$661,900 in stimulus funds.

In fact, the town estimates the savings will add up to \$447,547 in just 15 years.

The projects for which the money was awarded include the retrofit of four heating and cooling units atop the town library and of a boiler at the community center. Not only will these retrofits save the town — and therefore taxpayers — some money, but the town estimates that about 11 jobs will be created during the process.

“We were at the point of trying to decide what to do because we couldn't afford to pay for the upgrades upfront,” Doug says. “When the stimulus came along, these were the most promising projects we could do for our infrastructure, so the timing was perfect.”

The town plans to complete the projects sometime early this summer.

New York organization is hub for local solar industry

These days in New York, it seems whatever The Solar Energy Consortium (TSEC) touches turns to green.

The nonprofit has been building up a supply chain across the state for the last three years by helping companies bring on new, solar-related manufacturing processes and jobs.

It helped turn a decommissioned IBM plant in Fishkill, N.Y., into a solar cell plant. An old Panasonic facility in Highland now makes solar panel films with the same equipment that used to make plasma TVs.

And most recently, it assisted Precision Flow Technologies, a semiconductor company in Saugerties, in converting a defunct IBM plant into a solar technology equipment factory, an effort that more than doubled its staff.

“We were founded to help grow the solar industry in New York, basically to create one,” says Vincent Cozzolino, TSEC founder and co-CEO. “We bring solar device manufacturing here—for existing companies that want to morph or start ups that want to produce something.”

“When we talk about green jobs, we are talking about factory-related jobs. Our goal is the number of new jobs in this industry” - Vincent Cozzolino, TSEC president and co-CEO

And the list goes on. Today, there are over 75 companies in this New York supply chain, all producing different solar technology parts.

“At the center of that web is TSEC,” says Cozzolino.

The consortium has secured over \$7 million in federal funding, including grants from the Department of Energy, to support

“The stimulus dollars will help us make some changes that will save energy and money.” -

Doug Sippel, the town's general services director, says.



Solar films are manufactured at Precision Flow Technologies in Kingston, N.Y., facility. The factory once served as an IBM plant. | Photo courtesy of Kevin Brady

its efforts to grow New York's solar industry. TSEC brings a variety of business and university leaders to the table to communicate, collaborate and advance the technology forward and contribute to this burgeoning supply chain.

More solar, more jobs

Precision Flow Technologies, which historically made semiconductor machinery, is one of TSEC's most successful efforts.

“When the semiconductor business started to have the typical ebb and flow, we decided to branch out,” says Kevin Brady, president of Precision. “Once we identified this, we reached out to [TSEC] to help us stay on top of the technology curve.”

In 2007, the company decided to move into the renewable field by making solar technology support systems, fuel cell test systems and solid-state LED production equipment used in electronics.

The addition proved worthwhile. “What started to rise to the surface was solar and LEDs, so we put all our resources into that,” Brady says.

Last year, Precision added more products to the list: large-scale machines that make solar panels and the support equipment to run them. The company expanded its operations and took over 100,000 square feet last year at the old IBM plant in Kingston, N.Y. It is planning to take over another 65,000 square feet by the end of this year.

Precision had 80 employees in 2009 and added 190 new jobs in 2010. Brady expects to have 450 employees by the end 2011. The \$1.2 million facilities upgrade will create another 31 jobs.

Overall, because of TSEC, 800 new manufacturing jobs will have been created in the state by the end of 2010, according to Cozzolino. By the end of 2011, Cozzolino says that number will be 1,400.

“When we talk about green jobs, we are talking about factory-related jobs,” he says. “Our goal is to increase the number of new jobs in this industry.”

Why solar in New York?

The TSEC was started by Cozzolino, a former IBM executive, Petra Klein, a former hospital executive and Carl Meyer, a retired president of Central Hudson Gas and Electric, to build up a solar energy industry, a field none of them were involved in.

NY's Solar Supply Chain

- The Solar Energy Consortium (TSEC)
- 600 new solar tech manufacturing jobs since 2007
- Estimated 900 jobs by the end of 2010
- 1,400 new solar tech manufacturing jobs by end of 2011

Source: TSEC

But three years ago, Congressman Maurice Hinchey, a longstanding proponent of a local, clean energy economy, asked why solar energy wasn't pervasive there. The question resonated with Cozzolino and others.

"He forced us on a path to answer that critical question," says Cozzolino.

They realized that in order to bring solar—and jobs—to New York, industry was going to have to take the lead. "We need to execute to keep this industry flowing," says Cozzolino. "But you also have to move at a speed to keep up with the growing technology in order for it to be successful. And only industry knows how to move that fast."