Department of Energy

Recovery Act State Memos

New Jersey

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 JERSEY RECOVERY ACT SNAPSHOT

Funding for selected DOE projects: $350.4 million

DOE Recovery Act projects in New Jersey: 107

Clean energy tax credits and grants: 59

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

New Jersey has substantial natural resources, including wind and biomass. 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 Jersey are supporting a broad range of clean energy projects, from energy efficiency and the smart grid to alternative fuels and vehicles, as well as the Princeton Plasma Physics Laboratory in Plainsboro. Through these investments, New Jersey's businesses, universities, non-profits, and local governments are creating quality jobs today and positioning New Jersey to play an important role in the new energy economy of the future.

EXAMPLES OF NEW JERSEY FORMULA GRANTS

Program	State Energy Program	Weatherization Assistance Program	Energy Efficiency Conservation Block Grants	Energy Efficiency Appliance Rebate Program
Award (in millions)	$73.6	$118.8	$75.5	$8.3
	The New Jersey Department of Treasury has received $73.6 million in State Energy Program funds to invest in state-level energy efficiency and renewable energy priorities.	The State of New Jersey has received $118.8 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 Jersey's low-income families. Over the course of the Recovery Act, New Jersey expects to weatherize nearly 13,400 homes. The program also includes workforce training and education as part of the state's efforts to develop a green workforce.	Seventy-six communities in New Jersey have received a total of $75.5 million for Energy Efficiency and Conservation Block Grants (EECBG) to develop, promote, implement, and manage local energy efficiency programs.	The New Jersey Department of Treasury has received $8.3 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 JERSEY COMPETITIVE GRANTS AND TAX CREDITS

Award	$26.8 million	$18.7 million	$15 million	$7 million
	New Jersey received **fifty-eight 1603 payments for renewable energy generation** totaling **$26.8 million**, which include solar and combined heat and power projects.	**Atlantic City Electric Company** was awarded a **Smart Grid Investment Grant** for **$18.7 million** to take the lead in installing 25,000 direct load control devices and deploy communications and grid monitoring infrastructure across New Jersey.	The **New Jersey Clean Cities Coalition** was awarded **$15 million** under **the Clean Cities Alternative Fuel Vehicle (AFV) Grant Program** to deploy more than 225 compressed natural gas (CNG) vehicles and develop four CNG fueling sites.	**Princeton University** was awarded **$7 million** for **National Spherical Torus Experiment (NSTX) Facility Upgrades**. The funds will be used to upgrade key components of the experiment, accelerating advancement of understanding in plasma and fusion technologies.

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	*Weatherization Assistance Program (F)*	1	$118.8
	State Energy Program (F)	1	$73.6
	Energy Efficiency and Conservation Block Grant (F)	76	$75.5
	BetterBuildings (CM)	1	$5.0
	Energy Efficient Appliance Rebate (F)	1	$8.3
	Building Energy Efficiency (CM)	3	$8.2
	Industrial Energy Efficiency (CM)	3	$2.5
	Additional Programs (CM & C)	1	$0.1
	TOTAL Energy Efficiency	87	$292.0
Electric Grid	*Smart Grid Investment and Demonstrations Project (CM)[3]*	1	$18.7
	State and Local Energy Assurance and Regulatory Assistance (F)	3	$2.2
	TOTAL Electric Grid	4	$20.9
Transportation	*Clean Cities Alternative Fuel and Vehicles Program (CM)*	1	$15.0
	TOTAL Transportation	1	$15.0
Science and Innovation	*Advanced Research Projects Agency - Energy (ARPA-E) (CM)*	1	$1.0
	Small Business Research (SBIR/STTR) (CM)	3	$0.4
	National Laboratory Facilities (C)	5	$15.0
	Additional Programs	6	$6.1
	TOTAL Science and Innovation	15	$22.5
TOTAL - DOE Programs[4]		**107**	**$350.4**
Tax Credits/ Programs[5]	*Payments for Renewable Energy Generation in Lieu of Tax Credits (1603)*	58	$26.8
	Clean Energy Manufacturing Tax Credits (48C)	1	$1.1
	TOTAL Tax Incentives	59	$27.9
TOTAL - DOE/Treasury + DOE		**166**	**$378.3**

[1]F=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.

[3]Projects may cross state boundaries, signifies HQ location.

[4]Total does not include administrative funds.

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

ENERGY EFFICIENCY – 87 projects totaling $292 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): $118.8 million, Weatherization Assistance Program (WAP)
Location: Statewide
New Jersey received $118.8 million in Weatherization Assistance Program funds to increase existing weatherization efforts in the state, create jobs, reduce carbon emissions and save money for New Jersey's low-income families. Over the course of the Recovery Act, New Jersey aims to weatherize nearly 13,400 homes. The program also includes workforce training and education as part of the state's efforts to develop a green workforce.

Award(s): $73.6 million, State Energy Program (SEP)
Location: Statewide
The New Jersey Department of Treasury received $73.6 million in State Energy Program funds to invest in state-level energy efficiency and renewable energy priorities. The Treasury Department is implementing several financial incentive programs to help support residential solar, energy efficiency and multi-family energy efficiency improvements. The state is using Recovery Act SEP funds to expand its existing Clean Energy Program (CEP) offering energy efficiency support to consumers not currently eligible for funding. The CEP works with a variety of energy efficiency initiatives, including the Home Performance with ENERGY STAR® Program, the Pay for Performance Program, the Local Government Energy Audit Program and the Direct Install Program. Recovery Act SEP funds also support comprehensive energy audits and energy efficiency upgrades for three state institutions with multi-building campuses which provide various services for developmentally disabled citizens.

Award(s): 76 totaling $75.5 million, Energy Efficiency and Conservation Block Grant Program (EECBG)
Location: Statewide
Recipients: Willingboro, West Orange, West New York, Wayne, Washington, South Brunswick, Sayreville, Ewing, Edison, Clifton, Brick, Cherry Hill, Elizabeth, Egg Harbor, East Orange, East Brunswick, Jersey City, Marlboro, Manalapan, Plainfield, Piscataway, Middletown, Evesham, Perth Amboy, Pennsauken, Newark, Paterson, Passaic, Parsippany-Troy Hills, Linden, Kearny, North Bergen, Newark, Mount Laurel, Morris County, Newark (New Jersey State Energy Office), Hoboken, Hillsborough, Galloway, Franklin, Bridgewater, Atlantic City, Montclair, Monroe, Monmouth County, Old Bridge, Fort Lee, Ocean County, Jackson, Irvington, Hamilton, Hackensack, Bloomfield, Berkeley, North Brunswick, Howell, Camden, Camden County, Gloucester, Gloucester County, Somerset County, Bergen County, Burlington County, Bayonne, Trenton, New Brunswick, Manchester, Lakewood, Vineland, Union, Union City, Union County, Toms River, Teaneck, Woodbridge, Winslow

Seventy-six communities in New Jersey received a total of $75.5 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 and maximizes cost savings, reduces the total energy use of eligible entities and improves energy efficiency in the transportation, building and other appropriate sectors. An example of is:

- **Woodbridge Township - $935,000**
  Woodbridge Township received $935,000 to undertake an extensive Energy Efficiency and Conservation Strategy, including a long-range plan for energy efficiency and management. During the first year, cost-effective energy opportunities are inventoried, implementation projects are planned and an action-oriented energy master plan is produced. The creation of the Energy Plan costs about $250,000 and creates several jobs. Based upon the results of the plan, energy efficiency retrofits of municipal buildings will be undertaken with priority given to cost-effectiveness. Finally, the township will utilize $236,000 to provide new energy-efficient heads for 70 street lights on New Brunswick Avenue in Fords, as well as new green poles and energy-efficient heads for 30 lights on Main Street and on Poillon Street in downtown Woodbridge.

Award(s): $8.3 million, Energy Efficient Appliance Rebate Programs
Location: Statewide
The New Jersey Department of Treasury received $8.3 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 the appliances which apply, typically they include clothes washers, dishwashers, refrigerators, freezers, air conditioners and water heaters.

Award(s): $5 million, BetterBuildings
Location: Camden
The City of Camden received $5 million for the **BetterBuildings** program. The funds are being used to model whole-neighborhood retrofits in low-income urban communities using a comprehensive approach to program delivery and financing. The program is focusing first on three neighborhoods by doing door-to-door canvassing and outreach with local churches. The project includes efforts to provide low interest loans for low- and middle-income families and focuses on healthy homes and life safety programs to further benefit residents.

Award(s): $110,000, Ground Source Heat Pumps
Location: Princeton
Environ International Corporation in Princeton received $110,000 for Ground Source Heat Pumps. The funds are being used to develop a least-cost design tool aimed at improving geothermal heat pump (GHP) efficiency in varying climate zones and building types.

Award(s): 2 totaling $2.1 million, Improved Energy Efficiency for Information and Communication Technology
Location: Murray Hill

- **Alcatel-Lucent USA, Inc., Murray Hill - $1.8 million**
  Alcatel-Lucent USA, Inc., in Murray Hill received $1.8 million for Improved Energy Efficiency for Information and Communication Technology. This project tests and develops advanced heat-sink structures and device-level liquid cooling which is dramatically enhancing the ability to deal with

ever-increasing device heat densities. Energy savings from using this system are estimated at 90 percent of conventional systems. With energy savings potential of 20 trillion BTUs as a starting point, this system avoids the equivalent emissions of nearly three million barrels of oil.

- **Alcatel-Lucent USA, Inc., Murray Hill - $300,000**
  Alcatel-Lucent USA, Inc., in Murray Hill received $300,000 for Improved Energy Efficiency for Information and Communication Technology. This project is developing and stimulating methods to raise and lower energy consumption in proportion to network traffic demands from network service provider equipment. The energy saved in global network operations from these algorithms potentially saves more than six trillion BTUs annually.

Award(s): $350,000, Industrial Assessment Centers and Plant Best Practices
Location: Newark
The New Jersey Board of Public Utilities in Newark received $350,000 for Industrial Assessment Centers and Plant Best Practices. This funding provides energy assessments, technical assistance and technology deployment in order to reduce the energy intensity of New Jersey manufacturers.

Award(s): 3 totaling $8.2 million, Solid State Lighting
Location: Ewing, Somerset, Princeton

- **Universal Display Corporation, Ewing - $4 million**
  Universal Display Corporation in Ewing received $4 million for solid state lighting. This is funding for pilot production of PHOLED lighting by applying off-the-shelf proven manufacturing technologies from synergistic technologies.

- **Veeco Process Equipment, Inc., Somerset - $2.4 million**
  Veeco Process Equipment, Inc., in Somerset received $2.4 million for solid state lighting. This project involves a novel large-capacity MOCVD design with complementary near-UV and IR pyrometry for accurate substrate temperature measurement and growth rate monitoring.

- **Lightscape Materials, Inc., Princeton - $1.8 million**
  Lightscape Materials, Inc., in Princeton received $1.8 million for solid state lighting. This project involves using nitride-based phosphors for conversion of LEDs to white light.

RENEWABLE ENERGY – 59 projects totaling $27.9 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): 58 payments totaling $26.8 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

New Jersey received fifty-eight 1603 payments for renewable energy generation totaling $26.8 million, which include solar and combined heat and power projects.

- **Jayne Enterprises, LLC, South Plainfield - $3.3 million**
  Jayne Enterprises, LLC, in South Plainfield received $3.3 million for a solar electricity project.

- **Conectiv Vineland Solar, LLC, Vineland - $3.3 million**
  Conectiv Vineland Solar, LLC, in Vineland received $3.3 million for a solar electricity project.

- **The Hartz Group, Inc., Secaucus (4) - $4.9 million**
  The Hartz Group, Inc., in Secaucus received four awards totaling $4.9 million for solar electricity projects.

- **Sherwood Industries, Inc., Hamilton Township - $2.2 million**
  Sherwood Industries, Inc., in Hamilton Township received $2.2 million for a solar electricity project.

- **Bayshore Soleil, LLC, Keasbey - $1.2 million**
  Bayshore Soleil, LLC, in Keasbey received $1.2 million for a solar electricity project.

- **RTC Properties, Inc., DBA River Terminal Development Company, Kearny - $1.2 million**
  RTC Properties, Inc., DBA River Terminal Development Company in Kearny received $1.2 million for a solar electricity project.

- **SunE PSNJ Holdings, LLC, Kearny - $992,000**
  SunE PSNJ Holdings, LLC, in Kearny received $992,000 for a solar electricity project.

- **Fond du Lac Cold Storage, Edison (2) - $936,000**
  Fond du Lac Cold Storage in Edison received two awards totaling $936,000 for solar electricity projects.

- **SunE GIL Holdings, LLC, Freehold - $719,000**
  SunE GIL Holdings, LLC, in Freehold received $719,000 for a solar electricity project.

- **Nautilus Solar Ocean City Two, LLC, Ocean City - $657,000**
  Nautilus Solar Ocean City Two, LLC, in Ocean City received $657,000 for a solar electricity project.

- **International Rollforms, Inc., Sewell - $630,000**
  International Rollforms, Inc., in Sewell received $630,000 for a solar electricity project.

- **Plast-O-Matic Valves, Inc., Cedar Grove - $594,000**
  Plast-O-Matic Valves, Inc., in Cedar Grove received $594,000 for a solar electricity project.

- **J. Supor & Son Trucking & Rigging Co., Inc., Harrison - $541,000**
  J. Supor & Son Trucking & Rigging Co., Inc., in Harrison received $541,000 for a solar electricity project.

- **2605 Shore Road, LLC, Northfield - $489,000**
  2605 Shore Road, LLC, in Northfield received $489,000 for a solar electricity project.

- **Echo Molding, Inc., Union - $419,000**
  Echo Molding, Inc., in Union received $419,000 for a solar electricity project.

- **National City Energy Capital, LLC, Phillipsburg - $409,000**
  National City Energy Capital, LLC, in Phillipsburg received $409,000 for a solar electricity project.

- **Missing Link, LLC, Paterson - $390,000**
  Missing Link, LLC, in Paterson received $390,000 for a solar electricity project.

- **Francis Markets, LTD, Neptune - $318,000**
  Francis Markets, LTD, in Neptune received $318,000 for a solar electricity project.

- **Quick Chek Corporation, Whitehouse Station - $239,000**
  Quick Chek Corporation in Whitehouse Station received $239,000 for a solar electricity project.

- **Paul Central Corp., Paramus - $230,000**
  Paul Central, Corp., in Paramus received $230,000 for a solar electricity project.

- **Phalines & Gligor, LLC, Woodbury Heights - $230,000**
  Phalines & Gligor, LLC, in Woodbury Heights received $230,000 for a solar electricity project.

- **D'Onofrio-Galetto Realty, L.P., Vineland - $209,000**
  D'Onofrio-Galetto Realty, L.P., in Vineland received $209,000 for a solar electricity project.

- **SatJas, LLC, Carlstadt - $180,000**
  SatJas, LLC, in Carlstadt received $180,000 for a solar electricity project.

- **Patel Family, LLC, Readington Branchburg - $149,000**
  Patel Family, LLC, in Readington Branchburg received $149,000 for a solar electricity project.

- **CODE Electrical Contractors, Inc., Turnersville - $148,000**
  CODE Electrical Contractors, Inc., in Turnersville received $148,000 for a solar electricity project.

- **112 Corporation, Moonachie - $147,000**
  112 Corporation in Moonachie received $147,000 for a solar electricity project.

- **EHT Leasing, LLC, Egg Harbor Township - $119,000**
  EHT Leasing, LLC, in Egg Harbor Township received $119,000 for a solar electricity project.

- **Triangle Farm, Elmer - $118,000**
  Triangle Farm in Elmer received $118,000 for a solar electricity project.

- **Whitehead Road Associates, LLC, Ewing - $112,000**
  Whitehead Road Associates, LLC, in Ewing received $112,000 for a solar electricity project.

- **Valley Brook Country Club, LLC, Blackwood - $112,000**
  Valley Brook Country Club, LLC, in Blackwood received $112,000 for a solar electricity project.

- **Business Furniture, Inc., Elizabeth - $104,000**
  Business Furniture, Inc., in Elizabeth received $104,000 for a solar electricity project.

- **MSMJ Associates, Lambertville - $103,000**
  MSMJ Associates in Lambertville received $103,000 for a solar electricity project.

- **Jonathan Solar Energy, LLC, Tuckahoe - $92,000**
  Jonathan Solar Energy, LLC, in Tuckahoe received $92,000 for a solar electricity project.

- **Shvarzblat Real Estate Holdings No 2, Lakewood - $84,000**
  Shvarzblat Real Estate Holdings No 2 in Lakewood received $84,000 for a solar electricity project.

- **Tool Shop, Inc., West Berlin - $73,000**
  Tool Shop, Inc., in West Berlin received $73,000 for a solar electricity project.

- **Eaise Design & Landscaping, Inc., Monroeville - $65,000**
  Eaise Design & Landscaping, Inc., in Monroeville received $65,000 for a solar electricity project.

- **AEL Group, LLC, Edison - $62,000**
  AEL Group, LLC, in Edison received $62,000 for a solar electricity project.

- **David Rago Realty, Inc., Lambertville - $60,000**
  David Rago Realty, Inc., in Lambertville received $60,000 for a solar electricity project.

- **JBHVAC, Inc., Mays Landing - $50,000**
  JBHVAC, Inc., in Mays Landing received $50,000 for a solar electricity project.

- **Tri County Building Supplies, Inc., Pleasantville - $50,000**
  Tri County Building Supplies, Inc., in Pleasantville received $50,000 for a solar electricity project.

- **Mack Industries, Inc., Trenton - $49,000**
  Mack Industries, Inc., in Trenton received $49,000 for a solar electricity project.

- **J,J,B&V,LLC, Lawrenceville - $48,000**
  J, J, B&V, LLC, in Lawrenceville received $48,000 for a solar electricity project.

- **West 10 Car Wash & Detail Center, Succasunna - $42,000**
  West 10 Car Wash & Detail Center in Succasunna received $42,000 for a solar electricity project.

- **East Jersey Commercial, LLC, Brick - $27,000**
  East Jersey Commercial, LLC in Brick received $27,000 for a solar electricity project.

- **Forrest Senior Apartments Urban Renewal, L.P., Jersey City - $27,000**
  Forrest Senior Apartments Urban Renewal, L.P., in Jersey City received $27,000 for a solar electricity project.

- **Pfister Energy PPA I, Mahwah - $24,000**
  Pfister Energy PPA I in Mahwah received $24,000 for a solar electricity project.

- **Kleen Tech Solutions, LLC, Toms River - $23,000**
  Kleen Tech Solutions, LLC, in Toms River received $23,000 for a solar electricity project.

- **SJ Fenwick & Associates Architects and Planners, LLC, Linwood - $22,000**
  SJ Fenwick & Associates Architects and Planners, LLC, in Linwood received $22,000 for a solar electricity project.

- **American DG Energy, Inc., Hoboken - $21,000**
  American DG Energy, Inc., in Hoboken received $21,000 for a combined heat & power project.

- **Studio 860, LLC, Princeton - $19,000**
  Studio 860, LLC, in Princeton received $19,000 for a solar electricity project.

- **Exim, Inc., Plainfield - $19,000**
  Exim, Inc., in Plainfield received $19,000 for a solar electricity project.

- **Central Poly, Corp., Linden - $18,000**
  Central Poly, Corp., in Linden received $18,000 for a solar electricity project.

- **Raymond F. Hlubik, Chesterfield - $9,000**
  Raymond F. Hlubik in Chesterfield received $9,000 for a solar electricity project.

Award(s): $1.1 million from DOE / Treasury, Clean Energy Manufacturing Tax Credit (48C)
Location: Ewing
Applied Photovoltaics received $1.1 million to manufacture of solar energy modules for use in building-integrated photovoltaics. The goal is to reduce or eliminate electric demand from the utility company.

MODERNIZING THE ELECTRIC GRID – 4 projects totaling $20.9 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 totaling $1.2 million, Enhancing State and Local Governments' Energy Assurance
Location: Trenton, Newark

- **New Jersey Department of Treasury, Trenton - $997,000**
  The New Jersey Department of Treasury in Trenton received $997,000 to administer funding on behalf of Rutgers University's Center for Advanced Energy Systems (CAES). CAES is developing a New Jersey Industrial Energy Program (NJIEP) which provides a portfolio of free energy-related services to New Jersey manufacturers in the form of assessments, technical assistance and technology deployment. These services aim to reduce the energy intensity of New Jersey manufacturers. Beyond direct services, NJIEP is also developing several marketing and outreach activities meant to distribute the content of their direct services to a wider population of

manufacturers. All of these activities work towards the broader goals of reducing industrial energy intensity by 2.5 percent annually, while helping companies become more streamlined and internationally competitive.

- **City of Newark, Newark - $200,000**
  The City of Newark received $200,000 for Enhancing State and Local Governments' Energy Assurance. This project focuses 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. The two sets of funding are being used to hire or retrain staff, building in-house expertise in the areas of Smart Grids, critical energy infrastructure interdependencies and cyber-security.

Award(s): $18.7 million, Smart Grid Investment Grant Program (EISA 1306)
Location: Mays Landing
Atlantic City Electric Company in Mays Landing received a Smart Grid Investment Grant for $18.7 million to install 25,000 direct load control devices and deploy communications and grid monitoring infrastructure across New Jersey.

Award(s): $971,000, State Assistance on Electricity Policies
Location: Trenton
New Jersey Department of Treasury in Trenton received $971,000 to fund New Jersey and their Public Utility Commissions (PUCs) to hire staff trained to facilitate the review of time-sensitive requests approving electric utility expenditures undertaken as part of the Recovery Act.

TRANSPORTATION – 1 project totaling $15 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): $15 million, Clean Cities Alternative Fuel Vehicle (AFV) Grant Program
Location: Rockaway
The New Jersey Clean Cities Coalition received $15 million under the Clean Cities Alternative Fuel Vehicle (AFV) Grant Program to deploy more than 225 compressed natural gas (CNG) vehicles and develop four CNG fueling sites.

Clean Cities' goal is reducing U.S. petroleum use by 2.5 billion gallons per year by 2020. Clean Cities identified petroleum-reduction strategies which are necessary to achieve their goal: replace petroleum with non-petroleum-based alternative fuels and blends, reduce petroleum consumption by promoting smarter driving practices, idle reduction, the use of more fuel-efficient vehicles and advanced technologies, and eliminate petroleum use by encouraging use of mass transit, trip elimination measures and other congestion-mitigation approaches.

SCIENCE AND INNOVATION – 15 projects totaling $22.5 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): $1 million, Advanced Research Projects Agency - Energy (ARPA-E)
Location: Livingston
Exelus, Inc., in Livingstone in partnership with Zeolyst International and Linde Process Plants, received $1 million for the Advanced Research Projects Agency – Energy (ARPA-E) program. The funds are being used to research how to reduce small-percentage inefficiencies equal to massive real losses of potential fuel and unnecessarily emitted greenhouse gases.

Award(s): $688,000, DIII-D Facility Upgrades
Location: Plainsboro
Princeton University in Plainsboro received $688,000 for DIII-D Facility Upgrades. This project is providing a one-time infrastructure upgrade and modernization program for the DIII-D National Fusion Facility, located at General Atomics (GA) in San Diego, CA. The project upgrades the auxiliary heating systems, power systems, and core and edge diagnostics and supports new short-term postdoctoral research positions for the added diagnostic, capability. The additional research capabilities enabled by this project accelerate the advancement of understanding in plasma science, fusion science and fusion technology, the knowledge base needed for an economically and environmentally attractive fusion energy source.

Award(s): 3 awards totaling $4 million, Energy Sciences Fellowships and Early Career Research Programs
Location: Princeton, Plainsboro, New Brunswick
Princeton University in Princeton and Plainsboro received three awards totaling $4 million for Energy Sciences Fellowships and Early Career Research Programs; Rutgers University in New Brunswick has received $750,000. These fellowships and research programs focus on exploring new physics beyond the standard model, super symmetry breaking, gauge mediation and the LHC, diamond pixel luminosity telescopes and self-consistent calculations of pedestal structure modification by 3D fields in to kamaks.

Award(s): $1.1 million, Enhanced Operation of Major Fusion Facilities
Location: Plainsboro
Princeton University in Plainsboro received $1.1 million for one-time augmentations of research and facility operations at fusion energy sciences facilities. This project will accelerate the advancement of understanding in plasma science, fusion science and fusion technology.

Award(s): $446,000, Infrastructure Improvements for General Plasma Science User Facilities
Location: Plainsboro
Princeton University in Plainsboro received $446,000 to fund infrastructure improvements to General Plasma Science (GPS) experiments at the Princeton Plasma Physics Laboratory (PPPL). These infrastructure improvements will enhance the scientific contributions of PPPL's GPS experiments to the GPS program. This program supports fundamental research opportunities in plasma science and engineering, focusing on issues of plasma science and engineering that have impact in other areas or disciplines in which improved basic understanding of the plasma state is needed.

Award(s): $1.8 million, Infrastructure Improvements for Innovative Confinement Concepts (ICC) Experiments
Location: Plainsboro
Princeton University in Plainsboro received $1.8 million to funds infrastructure improvements to Innovative Confinement Concepts experiments at the Princeton Plasma Physics Laboratory (PPPL). These upgrades will significantly improve the near-term chances of discovering better ways to confine plasmas and to understand the properties of these plasmas in support of fusion energy research. Better diagnostics, heating systems and other improvements will allow measurements of key plasma parameters which will facilitate improved understanding of plasma behavior.

Award(s): $7 million, National Spherical Torus Experiment (NSTX) Facility Upgrades
Location: Plainsboro
Princeton University in Plainsboro received $7 million for National Spherical Torus Experiment (NSTX) Facility Upgrades. The funds are being used to upgrade key components of the experiment, thus accelerating advancement of understanding in plasma and fusion technologies.

Award(s): $290,000, Plasma Science Centers
Location: Plainsboro
Princeton University in Plainsboro received $290,000 to fund research cooperative agreements for two new Plasma Science Centers. Each center represents a significant investment in fundamental plasma science research. This project accelerates the advancement of understanding in plasma science.

Award(s): $5 million, Princeton Plasma Physics Laboratory (PPPL) General Plant Projects (GPP)
Location: Plainsboro
Princeton University in Plainsboro received $5 million for the Princeton Plasma Physics Laboratory (PPPL) General Plant Projects (GPP). This project improves reliability and maintainability of the electrical infrastructure at PPPL which supports the research mission of the laboratory and of DOE. The funding enables the removal of obsolete transformers and equipment that limit planned expansion of the 138KV switchyard and prevents potential environmental problems.

Award(s): 3 totaling $450,000, Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) Round 1
Location: Ringwood, Piscataway, Whippany

- **Ergenics, Corp., Ringwood - $150,000**
  Ergenics, Corp., in Ringwood received $150,000 for developing a new air conditioning and refrigeration system which operates on heat from the sun and does not use ozone damaging, or global-warming-potential refrigerants. The technology lends itself to mass production and is anticipated to be cost competitive with today's air conditioners.

- **Structured Materials Industries, Inc., Piscataway - $150,000**
  Structured Materials, Inc., in Piscataway received $150,000 for fabrication and commercialization of a new relatively low-cost high-efficiency solar cell, which greatly improves the nation's energy independence.

- **Mechanical Solutions, Inc., Whippany - $150,000**
  Mechanical Solutions, Inc., in Whippany received $150,000 for the conversion of wasted steam energy from steam plants into useful electric power through the development of an oil-free high-speed compact radial steam turbine generator which operates on foil (air) bearings. One thousand of these generators save enough energy to eliminate the need for 41 Exxon Valdez-size tanker shipments of imported oil, annually.

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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.
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Woodbridge Township has installed solar panels atop its community center. | Photo courtesy Woodbridge

WOODBRIDGE

New Jersey township champions sustainability

Caroline Ehrlich describes her New Jersey town as "a very diverse township where the quality of life and educational systems are terrific." Woodbridge Township's sustainability efforts such as installing solar panels and using fuel-efficient vehicles have earned it even more attention as a sustainability champion.

"Saving energy is one of our top priorities," Caroline, the mayor's chief of staff and responsible for sustainability efforts, says. "Aside from being good for the environment, it's ultimately a budget-saving mechanism for municipalities."

Last year, Woodbridge participated in the Sustainable Jersey initiative and was named the winner in the large municipality category. The township is continuing those efforts with an Energy Efficiency and Conservation Block Grant from the U.S. Department of Energy of just under $1 million. The grant is enabling the township to retrofit several municipal buildings, develop a climate action plan, which will help leaders establish a clear strategy for fighting climate change in the future. Woodbridge also plans to designate a 100-acre area as a green technology park for manufacturers and businesses that Caroline hopes will become a hub of green jobs.

"The grant is enabling us to do these things without too much investment up front — without it, some of this certainly would not be possible," she says.

The energy and money saved from retrofitting Woodbridge's buildings with more-efficient lighting, heating and cooling and other energy-using systems is expected to amount to just more than 500,000 kWh annually, or the total amount of energy saved by all of Vietnam during this year's Earth Hour (Vietnam's population is roughly that of California, Texas, New York and Maryland combined). That's the equivalent of about $120,000 each year in taxpayer savings. The work is expected to employ as many as 10 contractors during the retrofitting process.

The township will also established a "museum of the future," Caroline says, which will eventually showcase how some of the town's energy-efficiency efforts are working for its citizens.

"There are interactive exhibits," Caroline says, "where our residents and others throughout the area can learn about being sustainable and how beneficial it can be."

PENNINGTON

Small business harnessing solar energy with building materials

Business partners Jeff Szczepanski and Rob Lyndall imagine a world where many of the buildings have walls, windows and other materials that are integrated with photovoltaic technology — that is, buildings that generate solar energy without necessarily adding panels to the roof. And because of new funding opportunities, that vision might not be too far into the future.

Applied Photovoltaics, located in Pennington, N.J., will manufacture solar energy modules for use in building-integrated photovoltaics. The company received just about $1.1 million in 48C manufacturing tax credits through the U.S. Department of Energy and the Internal Revenue Service under the Recovery Act. The tax credits will help offset the company's costs of about $3 million to ramp up the equipment needed to manufacture BIPV products. BIPV technology involves a building where the actual materials used in construction generate energy by absorbing the sun's power instead of installing panels after construction.

Jeff, in addition to his degree in physics, has marketing experience but focuses more on sales now. Rob is the "technological genius" behind the engineering that makes Applied Photovoltaics tick. Together, along with

BIPV materials absorb solar energy as part of these balconies on a New York City Applied Photovoltaics project. | Photo courtesy Applied Photovoltaics

part-time workers, they have designed and built solar manufacturing equipment. They also act as industry consultants. Now, because of the tax credits and the additional manufacturing work they have planned, Jeff and Rob hope to hire 25 full-time employees for the first phase of that project.

Together, Jeff and Rob have about 40 years of experience in the solar industry, so they are eager to implement their technical expertise and start building products themselves as a company.

"What we're trying to do is build a manufacturing line to cater to one of the largest areas of growth in the solar industry," Jeff says. "This is a tremendous opportunity to set up a line where we create American jobs and projects that hit the sweet spot of architects looking for renewable energy solutions."

Jeff notes that using BIPV in building materials instead of PV as a separate generating facility has a dramatically lower price point, and replacing conventional components with solar energy glass, for example, has very little to no cost impact. BIPV also helps architects compete for more LEED points — a U.S. Green Building Council leadership designation — which has led many of them to contact Applied Photovoltaics already, Rob says.

"The nice thing about the 48C award is it gave us even more credibility," he says. "It shows we have it together as a small company, without deep pockets or foreign investors, and our plan has been vetted by the government. That's the DOE and IRS stepping in to help the backbone of our country — small American businesses — in a sector that's growing dramatically."

Princeton

Dorm room idea now revolutionizing energy

While many college students might spend their time playing Ultimate Frisbee or enjoying the nightlife, Darren Hammell and several other Princeton University classmates transformed an idea fostered in a dorm room into one of the fastest-growing businesses in the energy industry, creating jobs and inspiring innovation in New Jersey.

"The future is bright for alternative and renewable energy sources," says Darren, who is now the executive vice president of business development at Princeton Power Systems, the company that dorm-room idea became. "With strong federal and state support, the initial cost of investment in renewable energy becomes more affordable each day, and the payback for these systems is improving dramatically."

After placing first in the 2001 Princeton University Business Plan Contest with their idea, Darren and some colleagues founded PPS upon graduation. Since then, the company has strongly focused on renewable energy, and its products are designed to be compatible with solar arrays, wind turbines and energy storage, and they make those systems more reliable and efficient. PPS' grid-tied inverters can be connected to solar power systems or wind turbines, enabling bi-directional power flow. The inverters serve the purpose of transferring the power generated by various renewable energy sources to the grid as useable electricity for consumption.

"Clean power will become a mainstream source of power." — Darren Hammell, executive vice president of Princeton Power Systems

"As utility companies begin combining renewable energy systems with the electric grid, clean power will become a mainstream source of power," Darren says.

PPS is currently installing a 200-kW solar array and advanced battery system on company grounds to provide clean power to its building and to showcase advancements in renewable energy technology to businesses, municipalities and utilities that may be curious about renewable energy projects.

The Solar Energy Grid Integration Systems program received support from the Recovery Act, and SEGIS funds have been awarded to PPS to help with the development of a grid-tied Demand Response Inverter. The inverter will improve the integration with the electric grid, and the project is bringing new jobs with it. PPS hopes to hire about 90 more employees within the next two years.

Cedar Knolls

Weatherization provides boost for New Jersey business

Although supplying weatherization professionals with the materials they need to make homes more energy efficient has been a part of Niagara Conservation Corp.'s business since it was founded in 1977, Rich Wagner admits that sales have slumped over the last decade.

The Recovery Act is reversing that, says Wagner, the Director of Business Development-Weatherization for Cedar Knolls, N.J.-based Niagara.

The company makes and sells caulking and weatherstripping, duct sealing products, and window sealant kits to hundreds of local weatherization agencies and providers throughout the country, Wagner says. The company provides other high efficiency products, such as high-efficiency (HET) toilets and water-conserving showerheads.

Wagner says Niagara has seen a 15 to 20 percent increase in sales of its weatherization supplies since 2008. "It is driven by the Recovery Act," he adds. As part of the growth in its weatherization business, Niagara is selling more compact fluorescent (CFL) light bulbs to contractors who install energy-efficient lighting.

The company, Wagner says, is "hiring people almost weekly" in customer-service, sales and support positions, as well as manufacturing jobs."As we expand our business to meet the demand, let's put Americans back to work," Wagner says.

Newark

Help in N.J. for those struggling with energy costs

In Newark, N.J., times are still tough for some residents. However, there are signs of hope, thanks to a local community action agency's weatherization assistance program and a boost in funding from the Recovery Act.

The stories of homes in need of retrofitting in Newark are like those in many cities across America. Sammie Rutledge worked as a carpenter since he was a teenager but stopped working in 2004 when he was diagnosed with cancer. Faced without a paycheck from a full-time job and with high energy bills, as much as $600 each month, Sammie was distraught. Then, a friend heard about the weatherization program at La Casa de Don Pedro and recommended it to Sammie.

"I knew I needed the boiler in my house replaced, but I said, 'I can't pay nobody for anything,'" he says. "The heat would come on every 10 minutes before, but now it feels good in there and my bill is down to about $100 a month."

Lizette Perez echoes Sammie's story. She's raising 2-year-old and 17-year-old daughters on a fixed income. She's another Newark homeowner who found her energy bills skyrocketing this past winter.

"I have a two-floor condo, and the first floor was always cold,

but now it's evened out — this has been so beneficial for me and my children," she says. "I didn't know that simple things like insulation could make such a big difference, and now I can keep the thermostat 10 degrees lower and still be comfortable, even during the coldest weather."

Another helpful aspect of weatherization for Lizette was that the crew caught a safety hazard she didn't even know existed – bare wiring on her old refrigerator.

"I had chewed-up wires pretty badly, and I'm so glad they pulled out my refrigerator to check it because now it's much safer for my children," she says.

Sammie and Lizette have seen the benefits first-hand that come with making our homes more energy-efficient. Weatherization allows Americans everywhere to reduce their energy use, save money and live more comfortably at the same time.

Newark

Newark neighbors saving energy

Rosa and Francisco Sanchez are ecstatic about the weatherization work done to their New Jersey home. When Francisco explains the changes they have seen, his smile beams from ear to ear.

"They replaced my boiler, put in some new CFL light bulbs and gave me some carbon monoxide detectors," he says. "I was happy when I got approved after filling out the application for weatherization and even happier about the work they did for me — I appreciate it a lot."

The Sanchez family was able to take advantage of both the Weatherization Assistance Program and a federally funded heating improvement program ran by La Casa de Don Pedro, a community action agency that is expected to weatherize 650 homes under the Recovery Act.

"It's so much better now, I used a lot less energy all winter than before and everything's working perfectly now," Francisco says.

Francisco and his wife live next door to Ramon Vega, who also had his home weatherized. "It is much more comfortable now since they put in insulation and a new boiler — I'm talking about $400 each month in total savings on my energy bills," Ramon says.

Ramon and Francisco say sometimes their other neighbors don't believe how much money they are saving since making their homes more energy-efficient.

"I'm disabled now, and I don't have the same paycheck as when I could work," Francisco says. "I couldn't have afforded to fix everything, and I am so glad that someone helped me through the problems I had with the energy efficiency of my home. People might not believe it's true how much you can save, but it is." more comfortably at the same time.

Wayne

Largest on-campus solar facility being installed at William Paterson University

The largest solar farm on a U.S. college campus is being installed at William Paterson University. The solar facility is predicted to save millions of dollars in energy costs.

"We are proud we can do this," says Stephen Bolyai, William Paterson vice president for administration and finance, adding that the university's 11,000 students are taking the construction in stride and are "extremely positive" about the project.

The solar farm, designed by SunDurance Energy of South Plainfield, N.J., will power the university with 3.5 megawatts of energy and consist of solar arrays at parking lots and photovoltaic cells on the rooftops of campus buildings. The first 3 MW is slated to go online this summer and the remaining portion will be switched on early next year, providing the university with a big chunk of clean energy. "It should provide about 15 to 20 percent of our energy needs on the campus," Stephen says.

The system will be operated by Summit, N.J.-based Nautilus Solar Energy. William Paterson will buy the power from Nautilus at a reduced rate, cutting the school's energy bill by $4.3 million over 15 years.

Kiosks will be set up at the university's new science building so students and faculty can explore how much energy the solar farm produces and saves. "It will be part of a living laboratory," Stephen says.

William Paterson is taking additional steps to increase energy efficiency, upgrading its heating and air conditioning systems through a $1.2 million Recovery Act grant, deploying a new fleet of electric cars, and installing light sensors in buildings.

Stephen says the energy savings achieved through the solar farm will help the university's bottom line. "By doing this project we are saving money through cost avoidance." But, he says, the project's main benefactor will be Mother Earth. "We have a social responsibility in that we need to reduce our carbon footprint."

New Jersey training workers to weatherize homes

New Jersey is training an army of weatherization workers as the state surges ahead with plans to weatherize 13,000 homes, shrinking bills for low-income residents and creating hundreds of jobs.

The goal is to develop the "weatherization workforce with family supporting wages" and create "career ladders which will move low-income workers into higher-skilled occupations," says Lisa Ryan, public information officer for New Jersey's Department of Community Affairs. "This program is designed to train workers for advancement and provide job security."

The weatherization specialists conduct energy audits, finding ways to cut power bills. The workers make the homes more energy efficient by repairing heating systems, installing insulation, weatherstripping doors and windows, sealing drafty areas and installing low-flow shower heads. They also teach homeowners ways to lower their energy costs.

Money from the American Reinvestment and Recovery Act is being used to fund the weatherization training programs for 600 workers. New Jersey has set March 2012 as the target date to complete the home weatherization projects.

Trainees undergo a 10-week program at training centers and vocational schools throughout the state. Topics range from environmental sustainability to construction literacy, business management and life skills.

The New Jersey Building Laborers Training & Apprenticeship Fund and New Jersey Council of County Vocational-Technical Schools organize the training. Program graduates are certified by the Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA). They are then hired by community action programs, labor unions and contractors to weatherize homes for low-income residents.

The state estimates the weatherization projects will save families hundreds in first-year energy costs, reducing New Jersey's overall energy demands and resulting in a greener Garden State.