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Recovery Act Funds Support Innovative N.C. Energy Projects

RALEIGH – Eighteen innovative North Carolina projects, 17 using solar technology and one using landfill gas, will receive a total of about \$2.3 million in federal Recovery Act funds to implement energy conservation projects that invest in energy technology, Gov. Bev Perdue announced today.

“These projects help build our state’s green energy economy, create jobs and demonstrate how public and private partnerships can work to help our communities,” said Perdue.

The 18 projects represent \$26.3 million in total costs and will generate 31.8 million kWh of electricity annually (enough for 2,610 average homes for a year) or 2.6 billion BTUs (enough to provide hot water to 287 average homes for a year), depending on the specific project. Funding for additional projects is still under review and will be announced later.

Money for the grants is distributed by the North Carolina Energy Office, part of the state’s Department of Commerce, through the State Energy Program fund through the American Recovery and Reinvestment Act of 2009.

The following are details of the projects receiving funding:

Charlotte-Mecklenburg Board of Education, Mecklenburg County -- \$24,719 for a 20 panel solar thermal system to be installed at the J.V. Washam Elementary School in Cornelius. The solar thermal system will provide the cafeteria and school facilities with 1,000 gallons of hot water per day. The solar heating system includes solar panels, pumps, tanks, controls, wiring, piping, and insulation. A web-based monitoring service will provide access to energy production data on a daily, weekly and monthly basis. The total cost of the project is \$123,595, and it will generate 204,000,000 BTU annually.

City of Charlotte, Mecklenburg County -- \$38,042 for a photovoltaic solar project to be placed on the parking deck of the Charlotte-Mecklenburg Government Center. The system will be installed in the southwest corner of the parking deck on a single steel pole. The monitoring system will be web-based and allow the City of Charlotte access to real time energy production data for a variety of time periods. Total cost of the project is \$616,432, and it will generate 131,000 kWh annually.

Commonwealth Brands, Rockingham County -- \$200,000 for a rooftop photovoltaic solar system installed at Commonwealth Brands, a manufacturer and distributor of tobacco products in Reidsville. In addition to the installation of the solar panels, major elements of this project include furnishing and installing a photovoltaic powered 100 kW inverter, and all wiring and system data monitoring equipment capable of tracking five years of real-time data via Internet. Total cost of the project is \$810,000, and it will generate about 162,000 kWh annually.

Elon University, Alamance County -- \$200,000 for solar thermal systems to be installed at Elon University to produce approximately 4,500 gallons of hot water per day for four buildings on campus. One of the newer student housing facilities on campus, Colonnades A and B are two identical student housing facilities, and each dorm will get a 20- panel solar thermal system. The Colonnades Dining Hall will get a 30-panel solar thermal system. The Danieley Center, another dorm, will get a 20-panel solar thermal system. The solar heating system includes solar panels, pumps, tanks, controls, wiring, piping, and insulation. A Web-based monitoring service providing access to energy production data on a daily, weekly and monthly basis will collect flow rates and temperatures, capturing actual performance of the systems. Total cost of the project is \$482,734, and it will generate 920,000,000 BTU annually.

FLS YK Farm, Caldwell County -- \$32,358 for a solar thermal project to be installed at Meadowood Garden Apartments in Lenoir to supply hot water for the complex. FLS Energy is a national solar energy generation company headquartered in North Carolina. Meadowood Garden Apartments includes 50 one- and two- bedroom apartments and townhouses. The project will consist of a 21-panel solar thermal energy system to supply 1,050 gallons of hot water a day to the water heating system for the apartment building. The solar heating system includes solar panels, pumps, tanks, controls, wiring, piping, and insulation. A Web-based monitoring service providing access to energy production data on a daily, weekly and monthly basis will collect flow rates and temperatures, capturing actual performance of the systems. Total cost of the project is \$129,433, and it will generate 215,000,000 BTU annually.

FLS YK Farm, Martin County -- \$200,000 for a 250 kW photovoltaic solar system to be installed on the roof of the Food Lion in Robersonville. The roof-mounted, grid-tied installation will include all labor, materials and services required for a complete and functioning grid-tied photovoltaic system. The system will include: solar panels, panel racking and mounting, wiring, inverters, and monitoring system. Total cost of the project is \$1.75 million, and it will generate 330,000 kWh annually.

FLS-YK Farm, Mecklenburg County -- \$143,054 for a 32 kW capacity photovoltaic solar system to be installed at both the Beatties Ford and Hickory Branch Libraries in Charlotte. The system will include: solar panels, racking and mounting, wiring and monitoring system. Total cost of the project is \$572,228, and it will generate 42,000 kWh annually.

Firstfloor K-12 Solutions, Cumberland County -- \$200,000 for a photovoltaic solar project placed in Fayetteville at the New Century International Elementary School and Public Library & Information Center. Firstfloor is a company specifically designed to provide turnkey development solutions to educational institutions. The school complex is designed as a LEED Platinum building and will serve 800 students. This building is anticipated to approach net zero energy consumption when the energy generation of the photovoltaic solar system is considered. Energy data will be real-time and access will be available via the Internet. Total cost of the project is \$4.2 million, and it will generate 820,000 kWh annually.

Frontier Spinning Mills, Lee County -- \$200,000 for a photovoltaic solar project to be placed on Frontier Spinning Mills rooftop at the distribution and manufacturing facility in Sanford. Frontier Spinning Mills is a large textile production company. In addition to the installation of the solar panels, major elements of this project include furnishing and installing wiring and system data monitoring equipment capable of tracking five years of real-time data via the Internet. Total cost of the project is \$7.2 million, and it will generate 1.5 million kWh annually.

Gaston County -- \$200,000 to complete a landfill gas-to-energy project to harvest methane from the Gaston County Solid Waste Landfill in Dallas. The Gaston County Public Works Department Solid Waste Division will lead the project, which will support equipment necessary for landfill gas transport, conditioning, and compression, preparing the gas for use in two engines - generator sets used to create electricity. The landfill gas transport and conditioning equipment is part of a larger county-funded project that also includes a power generation facility. Total cost of the project is \$446,200, and it will generate 26.35 million kWh annually.

McDowell County -- \$66,749 for a solar thermal system at the Senior Center and the Law Enforcement Center in Marion, supplying hot water. The showers, laundry and the dining facilities at the jail require large volumes of hot water year-round. McDowell County operates its Meals on Wheels program out of its Senior Center, which also requires large amounts of hot water. The Law Enforcement Center will get 50 solar thermal panels and the Senior Center will get six panels. The solar heating system includes solar panels, pumps, tanks, controls, wiring, piping, and insulation. A Web-based monitoring service will provide access to energy production data on a daily, weekly and monthly basis. Total cost of the project is \$333,747, and it will generate 572,000,000 BTU annually.

McDowell County Schools -- \$128,627 for solar thermal systems totaling 109 panels, to be installed at McDowell High School, East McDowell Junior High and Marion Elementary School to supply hot water for the schools. These three public schools include dining facilities that prepare breakfast and lunch for more than 2,300 students per day as well as showers at the middle and high school. The solar heating system includes solar panels, pumps, tanks, controls, wiring, piping, and insulation. A Web-based monitoring service will provide access to energy production data on a daily, weekly and monthly basis. Total cost of the project is \$643,136, and it will generate 657,000,000 BTU annually.

Patrick Yarn Mill, Cleveland County -- \$154,108 for a 100 kW photovoltaic solar system to be installed on the Patrick Yarn Mill, a textile manufacturing company. The system will be installed on the roof of the Clevemont Plant and Corporate Offices of Patrick Yarn Mill in Kings Mountain -320 panels, along with a 3.1 kW solar array mounted on the ground in the front of the building. The Web-based monitoring system gives a complete readout of energy production from the PV system and includes real-time energy generation as well as historic data for amount of energy produced. Total cost of project: \$616,432, and will generate 131,000 kWh annually.

Pisgah Inn, Transylvania County -- \$22,353 for a solar addition to expand the existing solar hot water system for the restaurant by adding 12 solar hot water collectors and installing a new 9.8 kW grid-tied photovoltaic system on the Inn's roof. The additional 12 solar thermal panels will expand the capacity of the existing system to generate hot water for residential and dining facilities at Pisgah Inn on the Blue Ridge Parkway. A Web-based program will allow remote data access. Total cost of the project is \$89,412, and it will generate 31,000 kWh annually.

Remington Arms, Rockingham County -- \$200,000 for a photovoltaic solar project to be placed on the rooftop at the Remington Arms headquarters in Madison. Remington Arms Company, Inc. in Madison designs, produces, and sells sporting goods products for the hunting and shooting sports markets. The system will be monitored by measuring the current and kWh output from the inverter. The data is uploaded to the monitoring server in real-time. Total cost of the project is \$1.4 million, and it will generate 277,500 kWh annually.

Schiele Museum, Gaston County -- \$60,000 for photovoltaic solar systems to be installed in two locations at the Schiele Museum in Gastonia: one on the museum building and the other on a pole-mount system in the parking lot. The museum building system will be installed on an existing south-facing roof. The parking lot installation will use a dual axis tracking system positioned in the parking lot near the main entrance of the museum. The data acquisition and monitoring system allows complete plant monitoring, remote diagnosis, data storage and display. Long-term data storage provides information about changes in plant performance, and allows access to review performance of equipment at any time from remote locations. Total cost of the project is \$120,000, and it will generate 23,000 kWh annually.

Shoe Show, Cabarrus County -- \$200,000 for a photovoltaic solar project to be placed on the rooftop at Shoe Show in Concord. In addition to the installation of the solar panels, major elements of this project include furnishing and installing four PV-powered 260 kW inverters, all wiring and installing system data monitoring equipment capable of tracking five years of real-time data via internet. Total cost of the project is \$7.2 million, and it will generate 1.5 million kWh annually.

Weaver Cooke Construction, Guilford County -- \$29,560 for a photovoltaic solar system installed on the Weaver Cooke Construction headquarters building in Greensboro. The roof-mounted, grid-tied installation will include all labor, materials and services required for a complete and functioning grid-tied photovoltaic solar electrical system. The system will include: solar panels, panel racking and mounting, wiring, inverters, and monitoring system. Monitoring will show DC voltage, amperage, and power, as well as live kWh production and historical day, week, month and year data. Total cost of the project is \$173,880, and it will generate 31,000 kWh annually.

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