NEW YORK STATE SENATOR

Velmanette Montgomery

$4.8 Million Awarded for Projects to Develop Advanced Technologies for More Energy Efficient Buildings

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Governor Andrew M. Cuomo this week announced $4.8 million in awards for projects that explore new technologies to make buildings in New York State more energy efficient while helping to expand the building sector economy.

Today’s announcement is the second of six rounds of funding under the New York State Energy Research and Development Authority’s (NYSERDA) Advanced Buildings Program, which will provide a total of $25 million over the next three years. NYSERDA is partnering with manufacturers, research scientists, building owners and property managers interested in developing and applying new and emerging energy-efficient technologies that offer improved energy and environmental performance.

Funding is being provided through a competitive process and is available through all stages of the product development process including concept to commercialization, field installation and evaluation.

Proposals awarded funding under the second round ranged from studies and proof-of-concept work to product development and demonstration projects.

Specific areas of interest included construction materials and strategies, heating and cooling systems, solid-state lighting, demand response and smart buildings.

Award winners include:

Lighting:

Autronic Plastics Inc. d/b/a Clear-Vu Lighting, Westbury (Nassau County) received $307,000 and is working to develop a new energy-efficient, wirelessly controlled, low-voltage, light-emitting diode (LED)-based temporary lighting system for construction sites that will be demonstrated at a high profile construction project in New York City.

Ephesus Lighting Inc., Syracuse (Onondaga County) received $303,000 for its plans to develop a high-intensity LED stadium light fixture that will replace the metal halide fixtures in place at many professional sports stadiums, including those of Major League Baseball and the National Football League. The energy-efficient, low maintenance fixture will incorporate state-of-the-art LEDs, lensing technology and rugged design to meet the demands of professional stadium lighting.

OLEDWorks LLC, Rochester (Monroe County) received $491,000 and seeks to improve the capability and control of its organic light emitting diode (OLED) manufacturing processes in order to manufacturing robust products at affordable cost. OLED manufacturing improvements are critical for reducing the cost of OLED panels without compromising performance, for future commercialization activities, leading to overall market growth for the OLED technology.

R-Display & Lighting LLC, Webster (Monroe County) received $100,000 and is developing advanced Organic Light Emitting Diode (OLED) materials that are highly efficient and stable, to be used for energy-efficient OLED lighting devices. The work will focus on using new advanced emissive materials to fabricate more energy-efficient and lower cost lighting devices. New York State-based OLED lighting

manufacturing companies will be engaged to support commercialization objectives.

Rensselaer Polytechnic Institute, Troy (Rensselaer County) received $210,000 and is working with the Lighting Research Center on plans to create a technical and educational center focused on organic light emitting diodes (OLEDs). This OLED Application Innovation Center will provide one-on-one technical assistance, seminars and learning opportunities for New York manufacturers to better understand and apply the OLED technology with the goal of accelerating OLED development and market acceptance of this new technology.

Heating and Cooling:

Brookhaven National Laboratory, Upton (Suffolk County) received $100,000 and is researching the feasibility of applying a forced-flow air supply for common baseboard radiators, which will allow for the use of high-efficiency, low-temperature heat sources such as heat pumps, condensing boilers and solar collectors. The forced flow air supply will be a series of fans or an eductor system directing a stream of air into the baseboard air inlet. This will increase both the effectiveness and output of the baseboard heating source, providing consumers with a low-cost option for adopting high-efficiency heating.

Fulton Heating Solutions, Pulaski (Oswego County) received $500,000 and is working in collaboration with Synex Controls to construct a dual-fuel boiler (gas/oil) with the capability of condensing on oil while maintaining the ability to heat larger building capacities. This new style of condensing boiler will improve the efficiency of gas and oil boilers and increase energy savings.

Fulton Steam Solutions, Pulaski (Oswego) received $100,000 to develop a low-cost, corrosion-resistant heat exchanger for a high-efficiency steam boiler. This heat exchanger will recover heat otherwise lost from boiler flue gas and preheat incoming air, which will increase efficiency of steam systems and lower overall costs.

Hudson Fisonic Corporation, Long Island City (Queens County) received $500,000 and is working to develop, design, manufacture, install and test a supersonic, condensing heat pump (Fisonic system) with the purpose of substantially reducing the energy consumption of district-heated buildings, including space heating and domestic hot water services. A completely automated Fisonic system will bypass the existing heat supply equipment and reduce building steam, electricity and water consumption and sewer discharge rate.

Mechanical Solutions Inc. Albany (Albany County) received $300,000 to develop a supercharger for heat pumps that will allow for more efficient operation in cold climates. The supercharger will work in concert with the heat pump's traditional compressor, increasing energy efficiency and reducing energy costs without compromising the basic design already applied in today's market.

ThermoLift Inc., Stony Brook (Suffolk County) received $483,000 and is developing a natural gas driven heat-pump/air conditioner/water heater with the intent of replacing current HVAC and Domestic Hot Water systems in residential and commercial buildings. This design uses the chemical energy stored in natural gas, along with "renewable" thermal energy from the surrounding environment for significant energy efficiency improvements.

Construction Materials, Strategies and Practices:

Ecovative Design LLC, Green Island (Albany County) received $442,000 and is developing a biomaterial-based insulation product used for structural sheathing in new and retrofit construction. These materials will perform the same function as traditional plastic foam insulations, as a natural alternative to the petroleum-based plastics and foam often used in sheathing insulation today.

Rensselaer Polytechnic Institute, Troy (Rensselaer County) received $100,000 and will develop and test active control mechanisms that would reduce the chaotic wind flow over parapets of rooftops, with the goal of improving the performance of rooftop wind turbines.

Rensselaer Polytechnic Institute, Troy (Rensselaer County) received $100,000 to investigate the use of luminescent solar concentrators (LSCs) to concentrate sunlight onto photovoltaic (PV) cells. By constructing and testing wedge shaped LSCs spectrally matched to PV cells, RPI will show increased power harvesting performance as compared to planar, spectrally un-matched LSC-PV systems.

The Research Foundation for SUNY ESF, Syracuse (Onondaga County) received $100,000 and is researching the development of the cross-laminated timber (CLT) panel industry in New York State. This technique uses lower grades of wood and processes them for efficient use in CLT panels to be used in construction. This research will test the structural performance of these panels and examine the cost of production and manufacturing for the CLT industry in New York.

Demand Response, Smart Buildings and Demand-Side Resources:

Rensselaer Polytechnic Institute, Troy (Rensselaer County) received $99,000 to demonstrate a silicon-based microelectronic vibration energy harvester to be used in wireless sensor applications. The micro-generator will eliminate the need for batteries for wireless networks in building automation systems.

Steven Winters Associates (SWA), New York (New York County) received $56,000 and is working with the New York City Housing Authority to analyze deep energy retrofit upgrades for comparable building types to achieve high energy-efficiency savings in multi-family buildings. A primary goal will be to link long-term capital and operations and maintenance planning in a way that most cost effectively addresses energy use and resiliency.

In addition, two leading, non-profit research institutes received funding for energy efficiency technology development as well. The Electric Power Research Institute received $272,000 and will demonstrate a modular interface technology for air conditioning appliances that could enable all new appliances to accept demand response communication modules. These modules could be easily inserted by New York State consumers who choose to participate in a utility load control program which helps relieve stress on the grid during heat waves. Also, the Gas Technology Institute received $282,000 and is working alongside multiple New York State utilities, including National Grid, NYSEG and National Fuel Gas Co., and Auburn University to demonstrate a hybrid heat pump hydronic water heater system that will provide heating, cooling and hot water at optimal efficiencies. This integrated system will have benefits in the form of reduced energy consumption and cost reduction.

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