



NEWS RELEASE

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Christie Administration Moves Forward with the Development of Town Center Microgrids to Improve Storm Resiliency of Critical Facilities

- N.J. Board of Public Utilities approves \$2 million in N.J. Clean Energy Program funding for 13 town center microgrid feasibility studies -

TRENTON, N.J. – The New Jersey Board of Public Utilities (Board) today furthered the Christie Administration’s priority of improving energy resiliency and the State Energy Master Plan’s (EMP) policies of increasing the use of microgrid technologies and applications for distributed energy resources (DER) by approving approximately \$2 million in funding for 13 applications for Town Center Distributed Energy Resource Microgrid feasibility studies.

“My fellow commissioners and I are excited to get these 13 microgrid feasibility studies started as the final reports will provide great detail on options concerning designs, connections, financing options and the types of buildings to be included in a town center microgrid,” said President Mroz. “As these town center microgrids are developed around the state, communities will have the power and freedom to keep critical facilities such as hospitals, police and fire stations, water and wastewater treatment plants and buildings used to shelter residents operational and running independent of the grid during emergencies.”

The Board approved funding for applications submitted by: Atlantic City, Camden County, Cape May County MUA, Galloway-Township, Highland Park, Hoboken, Hudson County, Middletown Township, Montclair Township, Neptune Township, Paterson, Woodbridge Township, and the State of New Jersey Department of Treasury with the partners Mercer County, Mercer County Improvement Authority and Trenton.

New Jersey suffered devastating damage from the impacts of Superstorm Sandy and other major storms and weather events. The Christie Administration made it a priority to improve energy resiliency and the emergency preparedness and response of the utility companies. Therefore, the EMP 2015 Update contained a new section on hardening and improving utility infrastructure resiliency

which supports the establishment of Distributed Energy Resources (DER) such as microgrids to improve the grid's resiliency and reliability in the event of a major emergency. The Update also directed the Board to continue its work with the utility companies, local, state and federal governments, and other strategic partners to identify, design and implement Town Center DER microgrids to power critical facilities and services across the state.

At its Jan. 25, 2017 agenda meeting, the Board authorized the opening of an application period for Town Center DER microgrid feasibility studies. The program was developed to provide incentives for local and state government agencies to study the feasibility of TCDER microgrids. Applicants were limited to local government entities or state agencies which own or manage critical facilities. The program was opened to Town Centers identified in the report prepared by the New Jersey Institute of Technology (NJIT) titled, *New Jersey Town Centers Distributed Energy Resource Microgrids Potential* (2014) or Town Centers that have similar characteristics.

The Board had established a Town Center Distributed Energy Resource Microgrid Feasibility Study program with a budget of \$1 million. However, after receiving and evaluating 13 applications for proposed microgrids and the potential benefits offered, the Board approved a budget modification to fund all 13 applications at a total cost of \$2,052,480. The Board also authorized Board President Richard S. Mroz to sign a Memorandum of Understanding (MOU) with each applicant.

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Summary of Proposed Town Center Distributed Energy Resource Microgrids

Atlantic City

Atlantic City has proposed a microgrid project that would include the installation of an additional combined heat and power unit at the ACM Energy's Midtown Thermal Control Center (MTCC) to support critical facilities that include Atlanticare Regional Medical Center, Boardwalk Hall, and Ceasars/Bally's Hotels and Casino. The MTCC currently provides chilled water and steam to customers for cooling, heating, domestic hot water and kitchen use. A combine heat and power ("CHP") unit currently part of the MTCC system provides thermal energy to several hotel & casinos and public buildings. The proposed microgrid would include an additional CHP unit providing an additional generation of 7.5 MW electric and thermal would be connected to the critical facilities to provide additional thermal generation and electricity to the microgrid participants and other customers. Cost savings would be realized by peak power demand reduction and reduced electric generation.

Estimated time to complete the feasibility study is three to four months. The total incentive amount is \$175,000 for City of Atlantic City.

Camden County

Camden County, along with the Camden County Municipal Utilities Authority ("CCMUA"), proposes to establish a community microgrid in Camden City. The project envisions connecting CCMUA with

Covanta to allow the two facilities to exchange electrical and thermal energy during emergency and non-emergency times based on the needs of CCMUA and its connected microgrid community partners. The interconnection of the two facilities will allow Covanta to replace its use of potable water with treated wastewater for its power production operations, as part of a sustainability loop that would be created. This treated wastewater supply is expected to reduce stress on the local aquifer system. Other facilities that will benefit from the microgrid include Camden Housing Authority, Riletta Cream and H.B. Wilson Elementary Schools, New Village Supermarket, Fellowship House, Fortunas, and Citgo Gas.

The microgrid feasibility study will evaluate the technical and financial viability of providing DER to most if not all of the study areas' electrical needs while using excess heat from the Covanta WTE facility to offset thermal loads of the CCMUA. In turn, water from CCMUA could be used to decrease Covanta's potable water use. This self-sustainable system would also provide continuity of operations to critical public safety infrastructure (shelters, police, fire and medical) during times of natural or man-made disasters.

The estimated time to complete the feasibility study is twelve months. The total incentive amount is \$150,000 for Camden County

Cape May County

Cape May County (CMC) Municipal Utilities Authority (MUA) proposed a microgrid project that would utilize a syngas/biogas/natural gas fueled combined heat and power unit at CMC MUA's Seven Mile Beach / Middle Wastewater Treatment Facility ("WTF"). Syngas / biogas will be generated on site and turned into electrical and thermal energy on site from the supply of wastewater bio-solids. Natural gas will be needed as a supplementary fuel. In addition to supplying electrical and thermal energy to the WTF, this project will also supply energy to several critical facilities in the Crest Haven Complex which includes the CMC Prosecutor's Office, CMC Correctional Center, CMC Sheriff's K9 Unit, Police and Fire Academies, CMC Administration Building, CMC Health Department, CMC Road and Bridge Department, fueling station, Crest Haven Nursing and Rehab Center, Special Services School, Technical High School, NJ Army National Guard Armory and few others.

The estimated time to complete the feasibility study is twelve months. The total incentive amount is \$175,000 for Cape May County Municipal Utilities Authority.

Galloway Township

Galloway Township's proposal will examine the potential of using a town center microgrid to connect the Galloway Town Hall and police station, AtlantiCare Regional Medical Center, two assisted living facilities, Stockton University, Reeds Elementary School, Roland Elementary schools, Galloway Middle School and Absegami High School and a ShopRite. The preliminary estimate of energy production represents approximately 47,000,000 kWh and 1,400,000 therms. The applicant will evaluate most commercially-viable technologies, such as fuel cells, energy storage systems, solar, combined heat and power ("CHP"), thermal loops and water exchange systems.

The estimated time to complete the feasibility study is 12 months. The total incentive amount is \$175,000 for Galloway Township.

Highland Park

The Borough of Highland Park submitted an application entitled Being Resilient In Temporary Emergencies (“BRITE”) Highland Park TC DER Feasibility Study to examine the potential of connecting the borough hall, police and fire stations, two senior centers, the Housing Authority, the Bartle School and Board of Education Offices. The preliminary estimate of energy production represents approximately 1,349 MWh and 52,248 therms. Additional sites may be evaluated for potential inclusion in the TCDER Microgrid. The applicant will evaluate most commercially-viable technologies, including but not limited to fuel cells, energy storage systems, solar, and combined heat and power (“CHP”).

The current timeframe for completion of the study is approximately nine months. The total incentive amount is \$130,000 for the Borough of Highland Park.

Hoboken

The City of Hoboken filed an application for a Feasibility Study to examine the potential of connecting the critical facilities that include Hoboken Fire Company 3, Police Headquarter, City Hall, the Hoboken Homeless Shelter, St. Matthews Church, as well as St. Peter and Paul Church, Kings Grocery, municipal garages B, D & G, multiple senior housing facilities, the YMCA, two local pharmacies, three Hoboken Housing Authority Properties (Andrew Jackson Gardens, Harrison Gardens, Adams and Monroe Gardens) and pump stations. The applicant will evaluate most commercially-viable technologies, including but not limited to DER, energy storage systems, solar, combined heat and power (“CHP”), thermal loops and biodiesel fueled generators.

The current timeframe for completion of the study is approximately 12 months. The total incentive amount is \$157,000 for the City of Hoboken.

Hudson County

Hudson County submitted an application for the proposed Hudson County Advance Microgrid (HCAM) to be located in Secaucus Township. The HCAM project core partners include Hudson County, the Township of Secaucus, the Secaucus School District, Secaucus Housing Authority, Meadowview Hospital and Alaris Health at the Fountains. The Project’s critical facilities are centered around the Meadowview Complex, which contains multiple critical facilities including the Meadowview Psychiatric Hospital and Hudson County’s Juvenile Detention Center, Hudson County’s 911 Call Center, multiple Hudson County office buildings, Alaris Health at the Fountains, Secaucus Housing Authority, and the Secaucus Town Hall and Police Department.

The Feasibility Study will evaluate the most commercially-viable technologies, including but not limited fuel cells, solar and dispatchable generation such as combined heat and power (“CHP”) and

other new electric infrastructure to allow the proposed Project to operate during normal and emergency conditions.

The estimated timeframe to complete the feasibility study is 12 months. The total incentive amount is \$150,000 for Hudson County.

Middletown

The Township of Middletown submitted a feasibility study application with the core partners of Middletown School District, Middletown Sewage Authority, Monmouth County, NY Waterway and Earle Waterfront. The proposed project would include the critical facilities of NWS Earle Waterfront Administrative Area, Township of Middletown Sewage Authority (TOMSA), NY Waterways Ferry Terminal, Middletown Public Works and CNG Fueling Facilities, Middletown Municipal Complex, Public Schools, Bayshore Middle School, Leonardo Elementary School, Bayview Elementary School, Monmouth County Highway Department, Middletown Fire Stations 3, 4 and 7, and Monmouth County Bayshore Outfall Authority. The study will evaluate the new power generation capacity needed; estimated to be between 30 to 50 MW.

The estimated timeframe to complete the feasibility study is 12 months. The total incentive amount is \$150,000 for the Township of Middletown.

Montclair

The Township of Montclair submitted an application for the Montclair Town Center Microgrid with core partners including the Montclair School District, United Methodist Communities, New Jersey Transit and Hackensack UMC – Mountainside Hospital. The project's critical facilities include the Montclair fire department headquarters ("HQ"), Glenfield Middle School, Pine Ridge Senior Living housing, Mountainside Hospital and New Jersey Transit Bay Street Station and Garage. Several other public building and private sector businesses were identified as potential sites.

The study will evaluate approximately 2.3 MW of new power capacity which may include solar and dispatchable generation such as combined heat and power ("CHP"), battery storage and other new electric infrastructure to allow the proposed project to operate during normal and emergency conditions. Additionally, the will evaluate both Siemens SICAM and Johnson Controls Grid Connect microgrid control/communications systems.

The estimated timeframe to complete the feasibility study is 11 months. The total incentive amount is \$142,480 for The Township of Montclair.

Neptune

Neptune Township submitted an application for a feasibility study for a Neptune Township Advanced Microgrid (NTAM) with partners including the Neptune Township School Board, Neptune Township Housing Authority, Monmouth County and several private sector entities. The NTAM critical facilities include the Jersey Shore University Medical Center ("JSUMC"), Monmouth County Academy of Allied Health & Science, Meridian Dentistry for Children, Pediatric Associates, Neptune

Municipal Building (including the Police Department and Library), Neptune Department of Public Works, Gables Elementary School, Neptune Middle School, Brookdale Community College, Monmouth County Vocational School, Neptune High School, Neptune Aquatic Center, County Sheriff Backup Communications Center and Emergency Medical Squad (“EMS”) Training Center, Neptune Senior Citizens Center, Neptune Housing Authority, Employment Services, U.S. Post Office, senior housing, DaVita Neptune Dialysis Center, Excelsior Medical Corporation, Walgreens, Neptune Getty Station, ALDI Supermarket, Neptune Township Sewage Department and Wastewater Treatment Facility, New Jersey American Water Company, Monmouth County Emergency Communications Tower, Shark River Hills Fire Company, Shark River Hills First Aid Squad, and the Neptune Township Housing Authority.

The study will evaluate the proposed project using an existing 3.8 MW combined heat and power (“CHP”) facility at the JSUMC. Also to be evaluated is approximately 15 MW of new power capacity which may include solar and dispatchable generation, such as CHP, and other new electric infrastructure to allow the proposed Project to operate during normal and emergency conditions.

The estimated timeframe to complete the feasibility study is 12 months. The total incentive amount is \$150,000 for Neptune Township.

Paterson

The City of Paterson submitted an application for the Great Falls Eco-Energy Resiliency Project along with core partners including Passaic County and the City of Paterson School Board. Potential partners include the US Government Service Administration (GSA), Saint Joseph’s Medical Center and the Children’s Hospital. The critical facilities to be served include Paterson City Hall, Health and Human Services – Community Development Office, Paterson Recreational Offices, Paterson Fire Department Headquarters, Paterson Police Department, Paterson International High School, JFK High School, Passaic County Jail, Passaic County Courthouses, Passaic County Administration Buildings and Passaic County Social Services. Other potential critical facilities include Hinchliffe Stadium, the US GSA Federal Building, Saint Joseph’s Medical Center and Children’s Hospital.

The existing generation technology for the proposed project is the Great Falls Hydro-Electric Generation Plant (“Great Falls”). The Great Falls can generate between 3.5 to 7.0 MW of power depending on water flow. The additional capacity could be provided through new power which may include solar, dispatchable generation such as combined heat and power (“CHP”), new distribution assets, storage, and other new electric infrastructure to allow the proposed microgrid to operate during normal and emergency conditions.

The estimated timeframe to complete the feasibility study is 12 months. The total incentive amount is \$173,000 for the City of Paterson.

State of NJ – Treasury DPMC

The N.J. Department of Treasury, Division of Property Management and Construction, filed an application with core partners include the City of Trenton, Mercer County and the Mercer County Improvement Authority for a feasibility study for the proposed Downtown Trenton Microgrid. Critical

facilities include N.J. Justice Complex, N.J. State House, N.J. Treasury Taxation Building, N.J. Department of Labor Building, N.J. Department of Health Building, N.J. Department of Community Affairs – Ashby Building, N.J. Department of Human Services – Capital Plaza One Building, N.J. Department of Environmental Protection Building, N.J. Treasury – Mary Roebling Building, NJ Motor Vehicle Commission Building, NJ Network Building, Old Barracks, Thomas Edison College and the NJ War Memorial. Based on the list of partners and proposed critical facilities the NJ State Capital Complex would be a FEMA category IV designated facilities and there are four FEMA category III facility within 0.5 miles that can provide shelter in an emergency as well as several critical data storage facilities such as the Justice Complex, Labor and Taxation. There are several FEMA category III facilities that have a combined energy usage of greater than 90,000 Btu’s per square foot and the Project’s estimated overall electrical usage is 63,300 Btu/ square foot. The estimated total annual electricity usage is 86,505,508 kWh and the thermal load is provided by Veolia’s Trenton Thermal Energy District Network (“TEDN”).

The existing Trenton TEDN would be the hub technology of the Project. The existing combined heat and power (“CHP”) – district thermal facility provides 13,000 tons of chill water capacity and 132,352 pounds per hour of steam/hot water to approximately 35 customers in the central business district of Trenton. The additional capacity could be provided through new power which may include solar, dispatchable generation such as CHP and other new electric infrastructure to allow the proposed Project to operate during normal and emergency conditions. The Project will include a fully customized microgrid controller that would include the ability to balance load and generation and include smart grid and advanced metering infrastructure.

The estimated timeframe to complete the feasibility study is four months. The total incentive amount is \$175,000 for the State of New Jersey – Department of Treasury.

Woodbridge

The Township of Woodbridge submitted an application for a feasibility study for a proposed Woodbridge Town Center Advanced Microgrid (WAM) with core partners including the Woodbridge School District, Woodbridge Housing Authority and a number of private sector companies. The critical facilities would include the Woodbridge Town Hall/Police building, fire department building, Stern Tower Senior Living, Adams Tower Senior Living, Finn Tower Senior Living, Pump Station, Ross Street Elementary School, Mawbey Street Elementary School, Woodbridge Middle School and several private sector businesses.

The study will evaluate new power capacity which may include fuel cells, solar and dispatchable generation such as combined heat and power (“CHP”) and other new electric infrastructure to allow the proposed microgrid to operate during normal and emergency conditions.

The estimated timeframe to complete the feasibility study is 12 months. The total incentive amount is \$150,000 for the Township of Woodbridge.

