Clean Coalition

Unleashing Clean Local Energy

Long Island Community Microgrid Project

The Clean Coalition, in collaboration with PSEG Long Island and other key stakeholders, is leading the Long Island Community Microgrid Project. Located in the town of East Hampton, this project is part of the Clean Coalition's Community Microgrid Initiative, which is designed to prove that local renewables connected to the distribution grid can fulfill at least 25% of total electric energy consumption while maintaining or improving power quality, reliability, and resilience.

Policymakers and utility executives need to see real-world solutions in action to gain confidence in accelerating the transition to local renewable energy. The Long Island Community Microgrid Project will provide a world-class example of the technical and economic viability of high penetrations of local renewables. This project will show how East Hampton can secure the economic, environmental, and resilience benefits from significant levels of clean local energy – serving as a model for other communities around the country.

The Long Island Community Microgrid Project will provision about 50% of its grid-area electric power requirements from local solar. Additionally, this approach shows the way to avoid $300 million in transmission upgrades to the East End of Long Island, while directly avoiding transmission infrastructure investments and avoided peak energy costs that more than pay for the entire Project. The result will be an optimized local energy system combining up to 15 megawatts (MW) of solar power with a 25-megawatt-hour energy storage system. The renewables-based solution will also provide backup power to critical loads, including two Suffolk County Water Authority water pumping and filtration plants and the Springs Fire District facility, during outages.

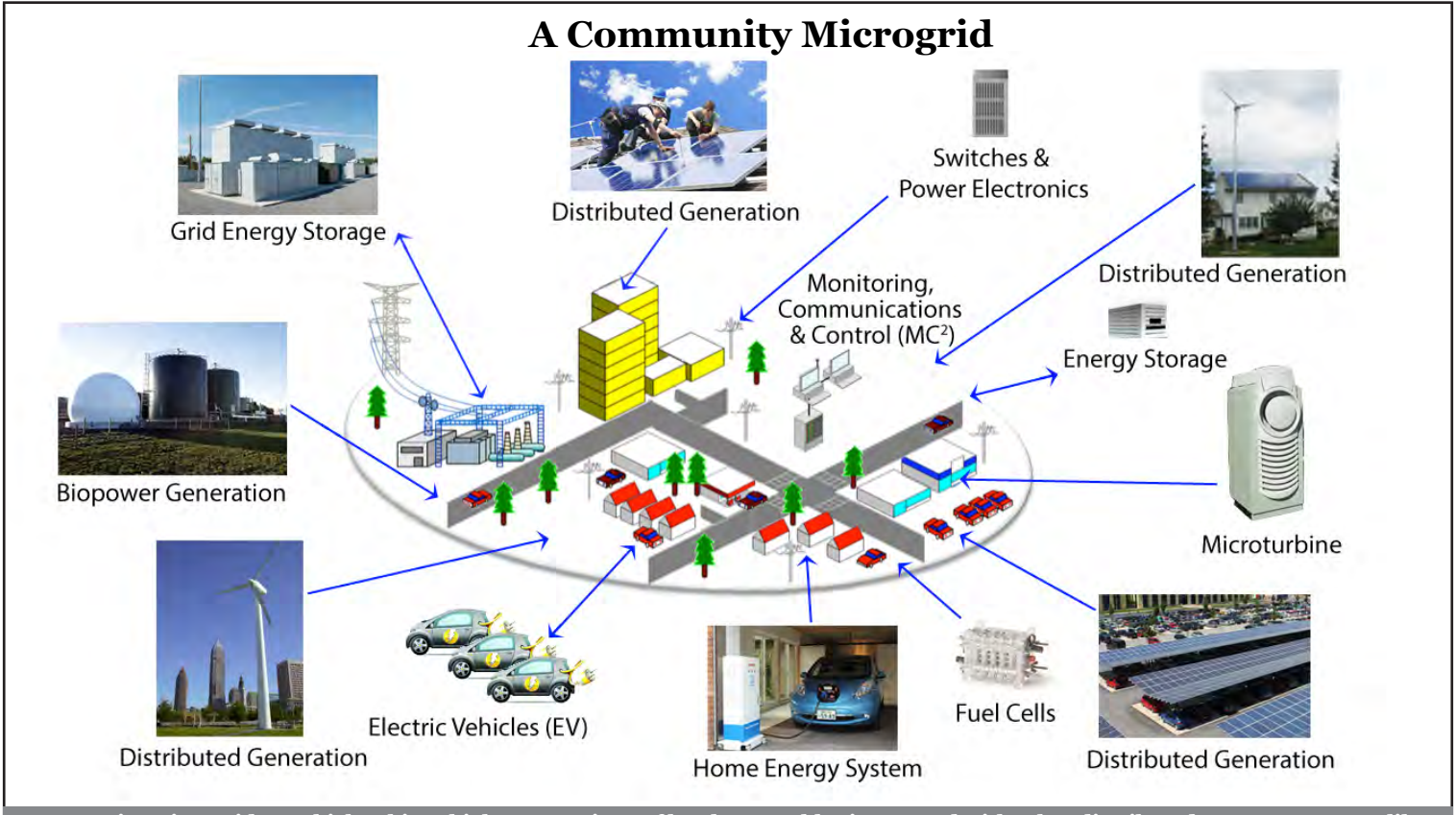
The Long Island Community Microgrid Project is designed to deliver many benefits to the community such as: reducing dependence on the transmission grid and local, oil-based generators; significantly increasing the penetration of local renewable energy; maintaining electric services for critical loads during grid outages; and, demonstrating the feasibility of using energy storage in utility grid operations to increase local renewable generation, while decreasing fossil fuel consumption and transmission costs.

A New Approach on Long Island

Like many coastal towns, East Hampton, located on the southern shore of Long Island, sees its population swell during the summer. This seasonal increase pushes the electric grid to the max – as more air conditioners, laptops, and other devices demand power.

Normally, a utility would address this issue by building another power plant, new transmission lines – or both. But PSEG Long Island, the local utility, is taking a novel approach that will not only reduce emissions but also its customers' bills. In coordination with the Clean Coalition and other stakeholders, PSEG Long Island is pursuing the Long Island Community Microgrid Project as an innovative, renewables-based solution instead of a new, oil-based power plant.

The deployment of distributed energy resources (DER), like local solar and energy storage, can enhance grid security, which is of particular importance to this region. Along with much of the Northeast coastline, Long Island felt the impacts of Hurricane Sandy – a storm that left more than eight million Americans without power. The Long Island Community Microgrid



Community Microgrids — which achieve high penetrations of local renewables integrated with other distributed energy resources like energy storage and advanced inverters — enable cleaner, cost-effective, and more resilient power systems.

Project is designed so that the distributed solar installations and energy storage systems provide long-term backup power to critical facilities. This means the local grid will be more resilient in the event that another widespread blackout occurs – from a natural disaster, technical malfunction, or terrorist attack.

Supporting NY's Energy Vision

The Long Island Community Microgrid Project was an early recipient of funding through the NY Prize Community Microgrid Competition and one of the first projects to complete *Stage 1: Feasibility Study*. The NY Prize is part of a statewide endeavor to modernize New York State's electric grid, spurring innovation and community partnerships with utilities, local governments, and private sector. Its mission is to enable the technological, operational, and business models that will help communities reduce costs, promote clean energy, and build reliability and resiliency into the grid.[1] As part of the NY Prize, the development of the Long Island Community Microgrid Project will align with the competition timeline.

NY Prize Timeline

***Stage 1: Feasibility Study* –** The Long Island Community Microgrid Project submitted its Stage 1 deliverables in late 2015. Key Stage 1 activities included: modeling the distribution grid to analyze existing loads and capacities, including storage; identifying optimal sites for local renewables, including 32 MW of new potential local solar capacity; and assessing the substantial economic, energy, and environmental benefits.

***Stage 2: Design* –** The Clean Coalition is preparing its proposal to advance the Long Island Community Microgrid Project to Stage 2 of the competition. Key Stage 2 activities include: detailed assessments of technical design and system implementation; project valuation and investment planning; and finalizing project development, construction, and operational plans. Stage 2 milestones are expected to be complete by yearend 2017.

***Stage 3: Project Build-Out* –** The last stage of the NY Prize Competition is expected to begin in early 2018. Key Stage 3 activities include: technical and operational performance assessments; microgrid system reliability demonstrations; financial, commercial, and managerial capabilities of the project developer; and complete build-out of the project.

For more information on the Long Island Community Microgrid Project, please visit www.clean-coalition.org.

[1] New York State, Web, 2015, <http://www.nyserda.ny.gov/All-Programs/Programs/NY-Prize>