NEW YORK–NEW JERSEY

CHP TECHNICAL ASSISTANCE PARTNERSHIPS

PROGRAM PROFILE

# New Jersey Energy Resilience Bank Program

## Program Description

The New Jersey Energy Resilience Bank (ERB) was established in 2014 utilizing $200 million of Community Development Block Grant-Disaster Recovery (CDBG-DR) funds allocated to New Jersey by the U.S. Department of Housing and Urban Development (HUD) as a result of Superstorm Sandy. The ERB was operated by the New Jersey Economic Development Authority (NJEDA) with support from the New Jersey Board of Public Utilities (NJ BPU) and New Jersey Department of Treasury. ERB funds were specifically designated for development or enhancement of distributed energy resource technologies, including combined heat and power (CHP), at critical facilities impacted by Sandy or other eligible disasters.

Eligible end users included public and/or not-for profit water and wastewater treatment plants, hospitals, and related healthcare facilities that were impacted by Sandy or other eligible storms and eligible to receive CDBG-RD funds in accordance with HUD regulations. The ERB prioritized projects that serve low- and moderate-income (LMI) communities in line with national HUD objectives. Eligible systems included new resilient CHP systems, retrofits of existing CHP systems, and microgrids. CHP projects were required to meet 65% lower heating value (LHV) efficiency, include black start capability, and be capable of operating in "island" mode independent of the electric grid during an outage. The CHP system, in conjunction with existing emergency generators, had to be capable of operating the facility's designated critical loads for seven days without delivery of fuel. Applicants were also encouraged, to the extent possible, to make use of New Jersey-based businesses for system manufacturing and project construction.

## Program Development


**Gov. Christie and PSE&G President David Daly at opening of St. Peter's University Hospital CHP project, New Brunswick, NJ**

The ERB program was established as part of New Jersey's effort to minimize the impacts of future major power outages and increase energy resiliency. The Governor's Office of Recovery and Rebuilding developed the initial program outline in consultation with NJEDA, NJ BPU, and the New Jersey Department of Environmental Protection. As a result of stakeholder input, a number of changes and clarifications were identified in the program design, including:

- Requiring that CHP systems achieve an annual system efficiency of at least 65% LHV.
- Defining "resilience costs" as incremental costs required to make a CHP system capable of islanding and the costs associated with hardening the facility to protect the CHP and supporting systems.
- Developing a funding mechanism that incorporated a 100% grant for resilience costs and 40% grant for other costs. The balance of unmet project costs was eligible for a loan with 2% interest and a maximum term of 20 years.

## Stakeholders / Key Decision Makers / Partners

The NJ BPU and the NJEDA worked together to create and develop the ERB, which was originally structured as a dual-agency effort. Subsequently, the NJEDA began leading the program, with technical support by the NJ BPU. The program application window closed on September 30, 2016, and the ERB is no longer accepting applications. The total available funding is committed to approved applications, and the program does not anticipate any additional funding.

## Summary of Program Results and Outcomes

The ERB program funds were deployed to improve the resilience of twelve critical facilities in New Jersey, including three wastewater treatment plants and nine hospitals. Nine of these projects included new construction of resilient CHP plants with infrastructure upgrades and grid islanding capabilities. The program also funded the repowering and upgrading of existing CHP plants at one wastewater treatment plant and one hospital, as well as one solar-plus-storage microgrid at a wastewater treatment plant.

| Applicant | System Size (MW) | System Type | ERB Funding | Amt. Disbursed | Status | Est. End Date / (Actual) |
|---|---|---|---|---|---|---|
| Bergen County Utilities Authority | 1.4 | Dual Fuel Recip. Engine & Biogas Storage | $ 26,990,350 | 13% | Approved | - |
| Cooper Health System | 4.4 | Combustion Turbine | $ 17,043,622 | 100% | Complete | (9/30/2022) |
| Hunterdon Medical Center | 1.5 | Combustion Turbine | $ 9,527,715 | 86% | Construction | 3/1/2023 |
| Ocean County Utilities Authority | 0.6 | Dual Fuel Recip. Engine & Biogas Storage | $ 7,626,480 | 90% | Construction | 3/1/2023 |
| RWJ Barnabas Health (Livingston CHP) | 2.5 | Recip. Engine | $ 12,858,502 | 71% | Approved | 3/1/2023 |
| RWJ-Jersey City | 1.5 | Recip. Engine & Absorption Chiller | $ 9,826,758 | 12% | Construction | 3/31/2023 |
| RWJ-NBI (Newark Beth Israel) | 2 | Recip. Engine & Absorption Chiller | $ 18,102,492 | 0% | Construction | 9/30/2023 |
| RWJ-Somerset | 1.5 | Recip. Engine & Absorption Chiller | $ 11,577,036 | 30% | Construction | 9/30/2023 |
| Saint Peter's University Hospital | 2 | Recip. Engine | $ 8,125,240 | 100% | Construction | - |
| South Monmouth Regional Sewerage Authority | 0.27 | Dual Fuel Recip. Engine | $ 3,918,000 | 93% | Construction | 3/1/2023 |
| Trinitas Regional Medical Center | 2 | Recip. Engine | $ 10,359,909 | 65% | Construction | 3/1/2023 |
| University Hospital | 5.7 | Combustion Turbine | $ 39,120,000 | 87% | Complete | (11/20/2022) |
| **Total** | **25.37** | | **$ 175,076,104** | | | |

When construction is completed, the program will result in an addition of 25.4 MW of resilient CHP[1]. All projects will result in significant reductions in both energy costs as well as site emissions.

## Lessons to Share

The NJ ERB was a unique program, with rules created to improve resilience and competitiveness among existing energy efficiency and infrastructure development programs. Lessons learned include:

- It was recognized that resilience costs provide a societal benefit but can be significant to an energy project while providing little economic value to the application. This understanding resulted in 100% grant funding for resilience costs separate from CHP project costs.
- HUD funding goals excluded the option for private, for-profit participation. The ERB program was restricted to public and not-for profit applicants.

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*The program guide and additional information can be found **here**.*

- An in-depth technical, commercial, and environmental screening process including detailed pre-engineering analysis, budget development, and implementation of program terms and conditions early in the review process, which led to a high level of program efficacy.
- Strong regulatory support by the program management team was essential to effective operation of such a complex program.

## For More Information

**U.S. DOE NEW YORK-NEW JERSEY CHP TECHNICAL ASSISTANCE PARTNERSHIP (CHP TAP)**
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[1] https://www.nj.gov/dca/ddrm/plansreports/sandyplansreports.shtml - 2022 and 2023 Reports