

UNIVERSITY HOSPITAL CO-GENERATION PLANT UPGRADES

STATE PROGRAM: New Jersey Environmental
Infrastructure Bank

ASSISTANCE RECIPIENT: University Hospital

ASSISTANCE AMOUNT: \$7.34M



PROJECT DESCRIPTION

University Hospital is New Jersey's principal teaching hospital and is the state's only public academic medical center. It provides essential services, including trauma care, in the state's largest and most overburdened communities. The hospital previously generated heat and electricity through a combined heat and power (CHP) system that utilized water injection turbines to reduce nitrous oxide (NOx) emissions. This system, which was costly to operate and generated high volumes of wastewater discharge while achieving only moderate NOx reductions, was noncompliant with New Jersey Department of Environmental Protection (NJDEP) regulations.

By leveraging \$7.34 million in assistance from the NJ Water Bank with funding from the NJ Energy Resilience Bank, University Hospital was able to replace and upgrade to highly efficient natural gas turbines, thus reducing emissions by 50%. This upgrade saves the Newark campus eight million gallons of water annually, significantly decreasing the hospital's discharge of wastewater. The upgrades also provide a resilient power source to the hospital's wastewater pumping stations and stormwater pumps. With the upgraded CHP energy system, the hospital can generate power without relying on external electric transmission, ensuring continuity of hospital care as climate change increases the frequency of storm events and the risk of power outages.

To read more about this case study, please visit <https://www.epa.gov/system/files/documents/2024-04/cwsrf-piscs-2023-recognition-program.pdf>.