

Gowanus Green
Category A Feasibility Study
NYSERDA PON 4614

Kings County

Technical Lead: Endurant
Energy (formerly GI Energy)

Anticipated completion of
study/availability of final
report: October 2021



V1 6/2021

The Site & Beneficiaries

Gowanus Green will be new construction of a mixed-use complex in the Gowanus section of Brooklyn with six buildings consisting of nearly 1,000 all affordable housing units. Construction of a seventh building, a school, is under consideration. These six buildings, collectively nearly 1-million square feet, will be analyzed to explore district-style heat pumps. A public right-of-way bifurcates the site, and the analysis will explore the advantages/disadvantages of pursuing one larger district thermal system serving the entire site versus two smaller districts each serving the subset of buildings on a given side of the bifurcation. The analysis will quantify the peak of the composited thermal load and compare it to the sum of the individual peaks in order to assess the load-flattening benefits of aggregating into a district.

Potential Thermal Resources

The primary opportunity anticipated will leverage heat recovery heat pumps to move heat from one building to another, and supplemental thermal resources, if needed, could include ground-coupled boreholes, energy foundations (structural thermal piles), air-source heat pumps, and/or sewage water.

Potential Configuration

Will explore 4G design, consisting of a central Thermal Building, which houses the heat pumps and from which hot water and chilled water will be distributed via conveyance pipes to the end-use buildings (simple radiators can be used in the end-use buildings). Benefits of this configuration include: opportunity to integrate with other supplemental thermal infrastructure and to use the heat pumps as the first-call (reserving the fossil fuel systems as supplement to meet extreme peaks or for systemwide redundancy for resilience); focusing the location where electric infrastructure upgrades are needed to meet the expanded electrification demand to occur at the Thermal Building (as opposed to at the end-use buildings) to minimize disruption to mission-focused activities during construction; and cost containment.