

Ravenswood District Energy System
Category A Feasibility Study
NYSERDA PON 4614

Queens County

Technical Lead: Rise Light & Power

Anticipated completion of study/availability of final report:
August 2023



V1 6/2022

The Site & Beneficiaries

Rise Light & Power ("Rise") proposes to study the feasibility of developing a new district heating & cooling system as part of a vision to transform the 60-year-old Ravenswood Generating Station site into a hub of renewable energy. Rise has a unique opportunity to repurpose its existing river water cooling infrastructure to facilitate a new district-scale renewable heating and cooling system. This new project, Ravenswood District Energy, would serve neighbors in Northwest Queens, an ethnically diverse densely populated urban environment with a variety of large-scale developments including nearby New York City Housing Authority ("NYCHA") properties, many defined as Disadvantaged Communities.

Potential Thermal Resource

Rise currently holds a New York State water withdrawal permit allowing the withdrawal of up to 1.5 billion gallons of water per day. This study will evaluate the feasibility of repurposing that water permit into a district-scale renewable thermal asset for various off-takers within three miles of Ravenswood. The Ravenswood system would repurpose the river water extraction and once-through cooling system, currently used to cool the station's 1960s steam turbines. This new project would provide water that will serve as the heating and cooling source for Ravenswood District Energy rather than providing cooling for existing fossil generation.

Potential Configuration

Water-sourced heat pumps would treat the East River as a thermal source and thermal sink and deliver efficient heating and cooling via the Ravenswood System. Typically, water-sourced heat pump systems achieve three-four times greater efficiency than gas-fired equipment. The System would also be all-electric, which would allow off-takers to remove gas-fired boilers from properties, eliminating on-site emissions and improving local air quality. The Ravenswood District Energy System could decarbonize more than 15,000 households and support tenants and homeowners' ability to decarbonize at reduced cost through rate structures and long-term contracts providing decarbonization at scale, with cost efficiencies, and with the environmental benefits accruing to Disadvantaged Communities.