

Empire Building Challenge

Low Carbon Retrofit Project Summary



AMALGAMATED
HOUSING
COOPERATIVE



Empire Building Challenge
PARTNER
Reimagining Low-carbon Buildings

The Towers

3975 and 3965 Sedgwick Ave.
Bronx, New York

- 425,000 square feet
- 20 stories
- Built in 1968 and 1971
- 2021 EUI: 111.6
- Façade: structural brick masonry
- Heating: hot water via steam from dual-fuel central plant
- Cooling: 420-ton single-stage steam absorption chiller

\$3 MILLION
NYSERDA investment

\$19.5 MILLION
total investment
to install Empire Building
Challenge retrofits

200 MILLION SQ.FT.
of multifamily
building stock for
potential replication
statewide



Oldest limited equity multifamily co-op in the U.S. moves to eliminate carbon emissions with innovative retrofits that make clean energy from dirty water

Amalgamated Housing Corporation's (AHC) low carbon retrofit project targets two 20-story buildings on their Bronx campus known as 'The Towers,' comprising 316 units of limited equity housing.

As part of this retrofit, AHC will focus on re-piping the existing single-use dual-temperature hydronic distribution system to enable simultaneous heating and cooling, rather than the singular seasonal option offered by their present arrangement. If successful, this solution could be replicated in other buildings with central heating and cooling with similar piping systems – a total market estimated at 200 million square feet. Additionally, new wastewater heat recovery and geothermal systems will capture and utilize heat from showers and toilets that is typically flushed down the drain. Thanks to this system design, AHC will reduce the number of geothermal boreholes needed, decommission its cooling tower, and install a photovoltaic system on the roof instead – all further supporting energy generation at the site.

The decarbonization of systems at The Towers will increase thermal comfort and secure utility affordability for their low-to-moderate income residents, as well as enhance the energy efficiency and climate resilience of the property. This project will set a precedent for other large multifamily complexes that share similar ownership structures, laying the groundwork for successful decarbonization in the multifamily sector across New York State.



NYSERDA

PROJECT TEAM:

- Amalgamated Housing Corporation (AHC)
- EN-POWER (ENPG)
- Egg Geo

LOW CARBON RETROFIT MEASURES INCLUDE:

- Retrofit of heating and cooling distribution systems with efficient motors for fan coil units and shared 2-pipe configuration to allow simultaneous heating and cooling
- Wastewater energy transfer (WET) system to recover thermal energy from wastewater lines
- Ground source heat pump (GSHP) geothermal system
- Upgraded ventilation system, lighting, and building envelope
- Installation of ground source heat pumps, solar PV, and controls system
- Electrification of appliances and submetering

About Amalgamated Housing Corporation

Established in 1927, Amalgamated Housing Corporation is the oldest limited equity multifamily co-operative in the U.S. Their 13-building, low-to-moderate income multifamily complex located in the Bronx contains nearly 1,500 units.

The Empire Building Challenge

The Empire Building Challenge is a \$50 million investment by New York State to demonstrate different pathways for achieving carbon neutrality in tall buildings.

Through the establishment of a private-public partnership with leading real estate owners and their engineering experts, exciting approaches to cold-climate decarbonization are being tested in the New York market. With the potential to replicate these solutions across the expansive real estate portfolios of Empire Building Challenge partners and beyond, the impact of each project will accelerate New York's progress toward the Climate Leadership and Community Protection Act's (Climate Act) goal of reducing greenhouse gas emissions 85% by 2050.

Join the challenge

Visit nyscrda.ny.gov/EBC or email ebc@nyscrda.ny.gov for additional details on the Empire Building Challenge and to learn how to partner with NYSERDA, reduce carbon emissions, and get involved in the clean energy economy.

