

Empire Building Challenge

Low Carbon Retrofit Project Summary



Empire Building Challenge
PARTNER
Reimagining Low-carbon Buildings

59-17 Junction Boulevard
Queens, New York

- 396,000 square feet
- 20 stories
- Built in 1970
- 2021 EUI: 103.5
- Façade: metal panel system with double-pane windows and insulated aluminum frames
- Heating and cooling: dual-temperature, 2-pipe hydronic system

\$3 MILLION
NYSERDA investment

\$19.7 MILLION
total investment to install Empire Building Challenge retrofits



Leveraging end-of-life building upgrades to support decarbonization and ensure resiliency

As part of their participation in Empire Building Challenge, Lefrak will complete all the enabling steps required to support the electrification and heat recovery of thermal loads at the property. Completing those steps will result in the total elimination of onsite fossil fuels by 2035. Crucially, these measures aim to reconfigure the current, inefficient, two-pipe heating and cooling system, which does not allow the core and perimeter zones of the building to exchange thermal energy. By electrifying and recapturing thermal energy throughout the building, Lefrak will immediately reduce its site energy use by over 35% from a 2021 baseline.

The plan for decarbonization was developed with short- and long-term needs in mind and was prompted by heating and cooling equipment that has reached the end of its useful life, due in part to damage sustained by Hurricane Ida. As a result, the existing fuel-fired absorption chillers will be replaced with modular electric chillers that have heating and cooling capabilities. Additionally, new **heat exchangers and critical re-piping will enable the core and perimeter of the building to operate independently, and enable heat recovery within the building** during winter season as the core requires cooling year-round.

Lefrak's project highlights the intersection between decarbonization and resiliency, in which **necessary upgrades can be leveraged to integrate low-carbon solutions** and safeguard critical building systems from future climate impacts.



NYSERDA

PROJECT TEAM:

- Lefrak Organization
- Steven Winters Associates
- Ryan Soames Engineering

LOW CARBON RETROFIT MEASURES INCLUDE:

- Installation of new piping and heat exchangers that enable building core and perimeter to operate independently and recover heat
- Replacement of existing fuel-fired absorption chillers with electric, magnetic-bearing modular chillers, new pumps with variable frequency drives, emergency generator, condensing boilers, and other equipment

About Lefrak

LeFrak is a preeminent, family-owned property company committed to community development and long-term ownership. LeFrak affiliates own and manage an extensive portfolio of real property concentrated in the New York/New Jersey metropolitan area, as well as South Florida, Los Angeles, and throughout the West Coast. Through its affiliated companies, LeFrak has developed and built the majority of its real estate portfolio and is one of the world's leading property firms. The firm is acclaimed around the globe for the quality of its projects and its properties, its financial strength and conservatism, its entrepreneurial business model, and its commitment to long-term ownership. Although primarily focused on the residential and office sectors, LeFrak affiliates also invest in numerous hospitality and retail assets, securities, private businesses, and energy. Learn more about LeFrak [here](#).

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 nyserdera.ny.gov/EBC or email ebc@nyserdera.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.

