

MANSION GLOBAL

Inside the Greening of a 1930s New York City Building

Shane Shifflett | March 1, 2024



A nearly 100-year-old office building in New York City is undergoing a massive retrofitting to slash its emissions. The \$35 million project could serve as a blueprint—or warning—for property owners around the country.

The boiler in the basement of the 17-story building will be ripped out, along with the cast-iron radiators that wrap around each floor. In their place, heat pumps as big as oversize refrigerators will warm or cool water that is circulated in the building's pipes to control temperatures through new radiators.

The roughly decadelong project is an example of the daunting undertaking facing thousands of building owners across the U.S. By 2030, more than a dozen cities will have laws in place regulating building emissions, according to the carbon accounting company nZero.

In New York alone, retrofitting some 15,000 properties to comply with a new law capping emissions would cost between \$12 billion and \$15 billion, according to an analysis by the city in 2023.

The high costs partly reflect the city's aging properties, many of which were built when oil and natural-gas heating systems were the norm. The property being retrofitted at 345 Hudson St. in lower Manhattan, for example, was built in 1931 and has thick concrete floors that were designed to hold the printing presses and the Sears mail-order plant it once housed. The conversion to the new system is being done in stages as tenant leases expire.

Its owners are betting that the work will pay off. In addition to sharply reducing energy costs, they expect greener spaces will command higher rents.

"We see the tenant demand, and there's a tidal wave coming," said Mike Izzo, an executive at Hines, a global real-estate investment manager and one of the building's owners.

The new system also means avoiding steep fines. Without the changes, his firm estimates that the building would face \$440,000 a year in tax penalties starting in 2030.

The decision to invest in such a retrofitting isn't as clear-cut for all building owners. Already, landlords are struggling to fill empty office spaces after the pandemic made remote work commonplace. Higher interest rates have depressed building values, making it more expensive to refinance mortgages.

THE OVERHAUL

The retrofitting of 345 Hudson St. is unusual in a keyway.

The building is being hooked up to a newly erected property next door that can effectively act as a battery. About 120 feet below the new building, the owners drilled a reservoir that can store water at stable temperatures, so that it doesn't have to be heated or cooled as much before it is circulated through the buildings.

In the summer, the buildings' heat pumps cool water that is circulated throughout the properties, so heat can be absorbed. That water becomes warmer in the process and can be sent down to the reservoir for storage, where it is kept warm. When it gets cold outside, that water can be brought back up into the pipes and doesn't have to be heated up as much to provide warmth.

The pipes between floors are connected, allowing excess heating and cooling to be moved between them to further conserve energy.

Several other properties in the city are planning similar reservoirs to help cut energy costs.

The new building also has concrete floors lined with piping to warm and cool spaces, instead of radiators. Its energy-efficient systems cost \$12 million. A ventilation system in both buildings also helps conserve energy by recapturing it from air leaving the building.

Once the retrofit of the old building is complete around 2030, Hines expects its emissions will be reduced by at least 70% annually. Much of the energy savings will come from a reduction in power needed to heat the building, which will practically be eliminated.

THE PAYOFF

Not all of New York's building owners are rushing to retrofit their properties. About 1,400 buildings could start facing annual fines in the first compliance period next year, based on their recent energy usage, according to the city. Since this past March, the city said landlords voluntarily disclosed 409 construction projects intended to reduce emissions.

Hines doesn't have an estimate on when its retrofit might start to pay off. But government incentives to cut emissions have become available to help offset costs.

New York state is funding about 16% of more than \$130 million committed to greening seven older buildings, including the office building at 345 Hudson.

President Biden's climate law provides generous tax credits to geothermal projects. Hines said it is looking at the programs to see whether it might qualify.

Regardless, the firm expects the building's revamped spaces to be in demand as companies look to shrink their carbon footprints. Average rents are 31% higher for buildings certified to conserve energy and meet other environmental standards than those without, according to a 2022 study by CBRE, a commercial real estate services firm.

Besides, Izzo of Hines said the transition to greener buildings is inevitable, given the emissions they produce.

"It is the elephant that you have to deal with at some point," he said.