

# The New York Times

## Empire State Building Plans Environmental Retrofit – April 6, 2009

Once the world's tallest building, the [Empire State Building](#) is striving for another milestone: It is going green.

Owners of the [New York City](#) landmark announced on Monday that they will be beginning a renovation this summer expected to reduce the skyscraper's energy use by 38 percent a year by 2013, at an annual savings of \$4.4 million. The retrofit project will add \$20 million to the \$500 million [building makeover already under way](#) that aims to attract larger corporate occupants at higher rents.

Although the retrofit was specifically designed for the Art Deco [office building at 34th Street and Fifth Avenue](#) and its enormous features — 102 stories, 2.6 million square feet, 6,500 windows and 73 elevators — the energy-efficiency improvements are meant to serve as a model for other office buildings around the world, said Anthony E. Malkin, president of [Wien & Malkin](#), which supervises the building on behalf of the owners, the Malkin family and the Helmsley estate.

He said upfront costs are often a deterrent for retrofitting older buildings, but the energy savings for the building, built in 1931, are expected to pay back those costs in only about three years.

“People associate greening with expense and compromise,” Mr. Malkin said. “We’re trying to prove: no compromise and payback.”

Mr. Malkin announced the details of the project at a news conference attended by Mayor [Michael R. Bloomberg](#), who has made sustainability a theme of his administration, and former President [Bill Clinton](#), whose [Clinton Climate Initiative](#) program, which works with cities to develop large scale energy efficiency programs, helped facilitate the project.

People involved with the retrofit said the Empire State Building can offer an example of how older buildings can retrofit to the highest energy standards and effectively cut down their greenhouse gas emissions, a contributor to [global warming](#). The largest share of New York City's greenhouse gas emissions, 78 percent, comes from the city's buildings, with commercial buildings contributing 25 percent, mostly from the use of electricity and natural gas.

By reducing energy use, the retrofit plan envisions cutting down the pollution the Empire State Building produces by 105,000 metric tons of carbon dioxide emissions a year, although the number of emissions currently emitted was not immediately available.

“They’re showing the rest of the city that existing buildings, no matter how tall they are, no matter how old they are, can take steps to significantly reduce their energy consumption,” Mr. Bloomberg said.

The largest energy guzzlers at the Empire State Building are lighting, cooling and heating, said Paul Rode, a project executive with [Johnson Controls](#), the retrofit designer. The building has 302 office tenants but

is occupied by about 13,000 people a day, including visitors to the observatories on the 86th and 102nd floors that are open to the public 18 hours a day, seven days a week.

The designers said that about half the reduction in energy use will be achieved in the first two years of the project as they retrofit the double hung operable windows, insulate behind radiators and rebuild chillers in the cooling plant in the basement.

To avoid transportation-related pollution, the windows will be redone on site, by adding a layer of coated film between two glass panes to increase insulation. at a rate of 50 windows a day.

In all, the retrofit consists of eight projects, including upgrades to the electrical and ventilation systems and installation of sophisticated electronic instrumentation.

The biggest challenge in planning the project, Mr. Rode said, was to figure out what was behind the walls and the ceilings of the 78-year-old skyscraper — in the absence of original drawings and specifications.

“It took a lot of investigative work,” Mr. Rode said.

The plan also calls for tenants’ involvement in monitoring their own energy use in their offices through a Web-based dashboard accessible from their computers, which keeps track of how much energy is being used and where.

Some tenants are already ahead of their landlord. [Skanska](#), a Swedish construction company that took over the 32nd floor in November with 80 employees, renovated its 24,400 square feet of office space to green standards like daylight sensors to conserve energy and dual-flush toilets to avoid wasting water.

The company, which says it has cut its electric bill by one-third with the improvements, is seeking platinum certification, the highest level awarded by the [United States Green Building Council](#), which certifies buildings and commercial interiors for energy, water efficiency and other green features.

The federal [Environmental Protection Agency](#) rates buildings for energy efficiency under its [Energy Star program](#), and 6,200 commercial and institutional buildings have earned the label by achieving 30 to 40 percent greater efficiency than their peers. The Empire State Building is expected to fall in the top 10 percent of Energy Star office buildings when its renovation is completed, the project designers said.

While the energy-saving improvements will be substantial, no one visiting the building is very likely to notice them — most involve slight changes or will be hidden in the building’s innards. The night lighting that makes the building a distinctive part of the city’s skyline represents a small draw of energy during off-peak hours and will continue without changes, Mr. Malkin said.

He said the green features will be highlighted for visitors as an educational tool, and tenants may also see a mark-up on rents because of the desirability of green features.

Jacques Catafago, president of the Empire State Building Tenants Association, called making the building more energy-efficient “a laudable effort” but said that rent increases were a concern. Mr. Catafago, a

lawyer whose firm has been in the building since 1990, said that “34th Street is not 57th Street — the rents are very reasonable here.”

But Mr. Malkin said he was looking at the larger goal.

“If we don’t change our unsustainable practices and the amount of energy we consume, if we don’t make our city more efficient, we’re toast,” he said. “We won’t be able to avoid the sort of changes that would spell a reduced quality of life.”