



## MTA Press Releases

[Select Language](#) ▼

Press Release

April 24, 2012

[Metro-North](#)

IMMEDIATE

### Upgrades to Grand Central Terminal To Cut Energy Consumption 30%

#### *MTA's Largest Energy Efficiency Project with New York Power Authority Ever*

The largest energy efficiency project that the Metropolitan Transportation Authority has ever undertaken with the New York Power Authority is underway in Grand Central Terminal and it will reduce annual carbon emissions by 10,000 tons.

Behind-the-scenes equipment that keeps Grand Central cool in the summer, warm in the winter and flushed with fresh air all year round is being upgraded through a \$22 million partnership between NYPA and MTA Metro-North Railroad. The energy efficiency project will conserve energy and save an estimated \$3 million a year.

Deep below the gleaming marble Concourse and high above the constellation ceiling is a myriad of pumps, chillers, fans, compressors, cooling towers, meters and miles of high-pressure steam pipes, many of them a century old. Many of these systems are being replaced throughout the 48-acre Terminal that extends seven stories above ground and 150 feet below sea level.

The upfront costs of the new, energy-efficient equipment will be borne by NYPA and be repaid annually over about 11 years by Metro-North with the money it saves as the result of a reduction in energy use. Installation began this month and will be completed by the end of 2013.

"Partnerships like this one between the MTA and NYPA are good for the environment, good for the state and good for the taxpayers as we continue to find ways to conserve energy and save money," said MTA Chairman Joseph J. Lhota. "This particular project is especially good for Grand Central Terminal. As this great train station approaches its centennial, it is due for these kinds of system improvements."

"This upgrade is the latest in a series of innovative energy efficiency projects that the Power Authority and MTA have partnered on in an effort to lower utility bills and operating costs, bringing New York closer to a clean energy economy," said Gil C. Quiniones, president and chief executive officer, NYPA. "Initiatives like the one we have spearheaded at Grand Central underscore the emphasis that Governor Cuomo is giving to energy efficiency improvements at facilities around the state."

"This is the latest and largest venture in a long partnership between our two agencies," said MNR President Howard Permut. "It is a win-win that pays for itself and it will take Grand Central a big step closer to maximizing its energy efficiency potential and possibly even attaining LEED Certification."

Currently the Terminal is cooled by steam supplied by Con Edison through huge underground pipes.

Five, steam-absorption chillers, now about two decades old, are being replaced by four new electrical centrifugal chillers, which have higher capacity and greater efficiency, thereby reducing the amount of steam that has to be purchased. (Two of the current seven steam chillers will be maintained for spare capacity in the Service Plant deep below the Terminal.)

Associated hardware - pumps, cooling towers, motors, etc. - also will be upgraded in various locations from the subbasement to the roof.

Grand Central has seven cooling towers on the roof, tucked behind the ornate copper and statuary, invisible from the street. Two were installed last year and the other five were installed when the Terminal was renovated in 1997-1998. Each is 10 feet square and 12 feet high. Water is pumped up from the basement and runs down the baffled sides of the towers. The water is cooled by fans and then re-circulated to cool the building. Fan motors on the five older towers will be replaced using more energy efficient motors and controls to optimize performance.

The new cooling system will be controlled by a state-of-the-art Building Management System that will optimize the operation of the pumps, cooling towers and chillers using variable speed fans to control air flow based on demand and temperature fluctuations and will result in energy savings.

In addition, 53 air handling units will be upgraded by replacing valves, dampers, sensors and coils as needed.

Portions of the old steam pipe network will be replaced with new steel pipes to alleviate stress that is causing reoccurring leaks. Pressure reducing stations also will be replaced to deliver the proper pressures needed at each different location.

Two existing air compressors will be replaced. The compressed air is used to test the air-brakes on all Metro-North trains before each and every trip. They are also used to power valves for pneumatic controls throughout the Terminal. Thousands of feet of pipes and several compressors throughout the building will be replaced with modern equipment.

This project is a partnership between Metro-North and its Grand Central Terminal Department and NYPA. NYPA's team is managing the design, implementation and commissioning.

Over the past year, Metro-North undertook \$1.5 million in energy efficiency improvements in Grand Central including 11 new escalator controllers that save 25-40% in electricity, 2,600 new lighting fixtures, 59 new motors of 5 horsepower or greater and a new sewage ejector. Meters also were installed on the steam, chilled water, compressed air and gateway electric feeders to collect data for the metering and verification portion of the project.