

Project Experience



Sustainability at 7 World Trade Center New York, New York

Project Description

As New York City's first LEED-certified office tower, 7 World Trade Center is a pioneer in environmental responsibility, energy efficiency, and quality of life. Known as a tower of light, 7 WTC's green sensibilities begin with its base, which, by occupying a smaller footprint than its predecessor, reopened Greenwich Street and allowed more light to enter the neighborhood. At the same time, it restored both the historic grid and the views to the tip of Manhattan that had been blocked by the former Seven World Trade Center.

The specially-commissioned glass façade is a canvas of the cityscape, animated by light and changing color with the day, and reflecting programmed LED projection sequences by night. Practical and beautiful, the tower conserves energy while allowing more daylight inside.

To ensure that 7 WTC was built according to green guidelines, developer Silverstein Properties and architect Skidmore, Owings & Merrill LLP (SOM) partnered with the New York State Energy Research and Development Agency, the U.S. Green Building Council, the Natural Resources Defense Council, Clean Air Communities, and the EPA.

The 52-story 7 WTC is the first commercial office building in New York City to receive the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification, where it won a gold rating. The building was one of the first projects accepted to be part of the U.S. Green Building Council's Pilot Program for Leadership in Energy and Environmental Design - Core and Shell Development (LEED-CS).

GREEN FEATURES

Light & Energy

- 100% of core-and-shell electricity comes from renewable energy
- Full-height, ultra-clear glass windows maximize light and reduce solar heat
- Light-dimming system adjusts to available sunlight
- Smart elevator system reduces energy waste by grouping patrons by floor
- Light energy costs reduced by 10%
- Total energy costs reduced by 35%

Natural Resources

- Rainwater is collected on roof, stored, and reused for cooling, ventilation, air-conditioning, and irrigation of the 7 WTC park
- High-efficiency plumbing system reduces water consumption by 30%
- Air-intake from roof cleaned by high-performance, carbon-activated system, improving indoor air quality

Toxic Waste

- No ozone-depleting HCFC refrigerants
- Greenhouse gas emissions reduced by 723 tons per year
- Run-off from site to sewer reduced by 25%

Materials & Construction

- Materials include: sustainably harvested wood, recycled steel, concrete supplemented with fly ash (byproduct of burned coal)
- During construction, 90% of solid construction waste was recycled
- Diesel Emissions Reduction Project: used ultra-low sulfur diesel fuel in combination with innovative filter technologies to reduce diesel emissions from construction equipment by 90%