EMPIRE STATE BUILDING

PUTTING A NEW FACE ON AN AMERICAN ICON

RMI | Rocky Mountain Institute

Project Team

Owner: Empire State Building Company, LLC
Program Manager: Jones Lang LaSalle
Energy Service Company: Johnson Controls, Inc.
Design Partner: Rocky Mountain Institute
Advisor: Clinton Climate Initiative

Key Metrics

Incremental Capital Cost: $13.2 Million
Building Size: 2,700,000 sf
Annual Energy Cost Savings: $4.4 Million

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AN ENDURING SYMBOL

Using the Empire State Building as a test case and model, Rocky Mountain Institute teamed up with the Clinton Climate Initiative, Johnson Controls Inc., and Jones Lang LaSalle to develop an process for determining the economic viability of achieving significant energy savings in existing commercial building retrofits.

Adopted as a core element of the more than $500 million upgrade program presently underway at the world's most famous office building, the energy efficiency retrofit program takes a comprehensive whole-building approach to energy efficiency. Coordinated with planned equipment replacements, the final package of eight energy efficiency measures is expected to reduce energy consumption by up to 38 percent with a 3-year payback (based on the total incremental cost). Most importantly, the approach and analysis process were developed with the intention of becoming a replicable model for similar projects around the world.

Execution of the recommended energy efficiency projects has already commenced, with those projects that are part of the Johnson Controls performance contract slated for completion by year-end 2011. The remaining projects to be executed by building ownership and tenants should be completed by the end of 2013. In addition to dramatic, cost-effective energy savings, ownership will also be pursuing LEED Gold certification under the USGBC's Existing Buildings rating system.

With billions of energy inefficient commercial buildings operating in the U.S., achieving cost effective retrofits is essential to reaching long-term fossil fuel reduction goals. The Empire State Building project helps prove the economic viability of whole-building retrofits. However, we must overcome significant hurdles (financing, split incentives, developing advanced analysis tools, and nurturing capable engineers) in order to reach the necessary scale. Once the solution to each barrier is better understood, we can begin to realize widespread adoption.

RELEVANT LINKS

http://www.esbsustainability.com
http://www.rmi.org/sitepages/pid589.php