

Chicago Merchandise Mart and Clinton Climate Initiative's EE Building Retrofit Program

June 11, 2008

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Merchandise Mart- History

- Built by national retailer Marshall Field & Co. to house a single wholesale center for the entire nation, construction began on The Merchandise Mart in 1928 and doors opened on May 5, 1930.
- Joseph P. Kennedy, former U.S. Ambassador to England, purchased the Mart in 1945 for \$12.5 million. The Kennedy family ran the building for 50 years.
- In the 1940s and 1950s, the Mart management was United States' largest producer of trade shows.
- Vornado Realty Trust, a leading real estate investment trust, acquired The Merchandise Mart and MMPI in 1998.



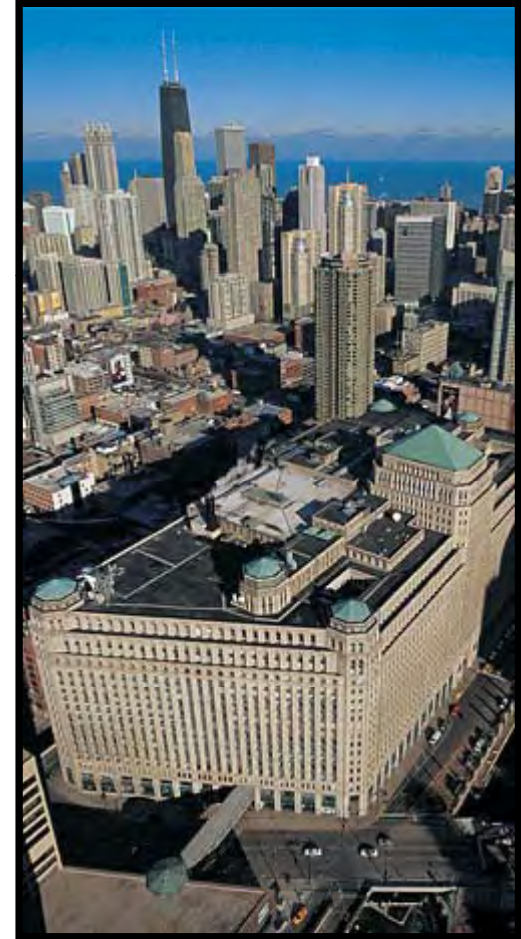
Merchandise Mart Properties, Inc.

The Building

- The Merchandise Mart is the world's largest commercial building and second only to the Pentagon in size.
 - 4.2 million ft² under one roof (6 acres of roof)
 - 4,000 windows
 - Five miles of corridors
 - Contains 4.2 million square feet of space
 - 20,000 visitors daily
 - Two full city blocks
 - Unique zip code
- The Mart houses both office and retail tenants, while 50 percent of the building is devoted to wholesale showrooms.
- The building is one of two commercial complexes in Chicago with a public elevated train station on its property.



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The Merchandise Mart's LEED Certification

- The Merchandise Mart Chicago, the world's largest commercial building encompassing 4.2 million square feet, was awarded the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (**LEED-EB**) **Silver** certification for existing buildings in November 2007.
- The Merchandise Mart has developed new sustainable construction standards, as well as created new policy outlines for cleaning and exterior maintenance. With an average yearly basis of 700,000 square feet being affected by construction at The Mart -- including capital improvements, trade show operations and tenant build-outs -- it is important that everyone working in and on the building comply with LEED guidelines.
- The Delta Institute assisted MMPI in achieving certification. The Delta Institute is a nonprofit organization formed in 1998 that works for a cleaner environment, healthier communities and a greener economy.



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Benefits of LEED to The Merchandise Mart

- *“Our investors want long-term results. Our city demands corporate responsibility and the community wants environmental stewardship. The LEED program helped us find common ground and proved that growth and sustainability are great partners.”* Christopher Kennedy, president, MMPI.
- *“Wanting to be a pioneer for sustainable building practices, The Merchandise Mart signed on to the environmental movement early and we are now realizing its many advantages. Not only does going green have a positive effect on our environment, but it makes sense economically. USGBC studies have shown green building practices guarantee a 30% energy savings, 30-50% water savings, and 50-97% waste savings. Additionally, we are providing a value-added service to our tenants and employees by offering a comfortable, healthy workplace which will ultimately increase productivity.”* Mark Bettin, National Vice President of Engineering, MMPI.
- *“We don’t view this as a completed project. We have developed the tools, now we use those tools in our day-to-day operations. The Mart is going to continue to refine and improve our green building practices. This is a way of life at The Merchandise Mart.”* Myron Maurer, Senior Vice President, MMPI



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Clinton Climate Initiative

- President Clinton launched the Clinton Foundation's Climate Initiative in August 2006 with the mission of applying the Foundation's **business-oriented approach** to the fight against climate change in practical, measurable, and significant ways.
- In its first phase, CCI is working with the C40 Large Cities Climate Leadership Group to accelerate efforts to reduce greenhouse gas emissions:
 - Create a purchasing consortium that pools the buying power of cities in order to lower the prices of energy saving products and to **accelerate the development and market deployment of new energy saving technologies**.
 - Mobilize the best experts in the world to provide technical assistance to cities to develop and implement programs that will result in reduced energy consumption and greenhouse gas emissions.
 - Create and deploy common measurement and information flow tools that will allow cities to establish a baseline on their greenhouse gas emissions, track the effectiveness of their emissions reduction programs, and share what works and does not work with each other.
- *"Climate change is a global problem that requires local action. The business, banks and cities partnering with my foundation are addressing the issue of global warming because it's the right thing to do, but also because it's good for their bottom line. They're going to save money, make money, create jobs and have a tremendous positive impact on climate change."* President Clinton.



CCI, The Merchandise Mart, and TAC



- September, 2007- CCI introduced TAC to The Merchandise Mart
- November, 2007- TAC's preliminary analysis indicated potential energy efficiency opportunities
- February, 2008- The Merchandise Mart and TAC execute the first CCI Project Development Agreement in the U.S.

Objectives for The MM/TAC EE Project

- Augmentation of MM's LEED Certification
 - Rapid implementation of energy efficiency measures
 - Guaranteed performance of energy efficiency measures
- Reduce Energy Cost With Optimized Control of the MM
 - Expand energy management system (EMS) to HVAC systems w/o control
 - Integrate real time utility data into control strategies
 - Maximize demand response capability
- Financial
 - 7 year simple payback period
- Develop Methodology for Measurement of Savings From Energy Efficiency Measures

Energy & Water Conservation Measures

- Variable-speed chilled water pumping
- Air-handler control upgrades
- Boiler efficiency upgrades
- Boiler room supply air / exhaust air control
- Heat recovery for domestic hot water
- Lighting retrofits
- ION Meter integration with BAS
- Window film

Com-Ed Energy Efficiency Rebate Plan

- Listed below are the ECMs that are candidates for rebates.
 - Variable-speed chilled water pumping (Total possible incentives: *\$31,300*)
 - Two variable-speed drives (Prescriptive—\$50 per HP)
 - Two new, premium efficiency motors (Custom—Approximately \$400-600 per motor)
 - DDC on AHUs with VFD fan and CO2 control (Total possible incentives: *\$50,000+; Base project \$28,600*)
 - Variable-speed drives (Prescriptive—\$50 per HP)
 - New, premium efficiency motors (Prescriptive—varies by motor HP)
 - CO2 Sensors and custom energy savings programming (Custom—varies)
 - Lighting retrofits (Prescriptive/Custom—Approximately \$59,600)
 - Base Scope of work (Approx. \$53,500)
 - Induction Lighting (Approx. \$6,100)