CoStar Green Report: The Coming Ice Age?

In this issue of CoStar Green Report, we examine ice-powered energy savings at Morgan Stanley and Credit Suisse; the next step in CBRE's sustainability plan; Wells Fargo's commitment to LEED; and a new green advisory firm from the founder of DMR Architects.

For Trane, Melting Ice Reveals Lower Energy Costs

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The Metropolitan Life Bldg. in Manhattan, one of several buildings using energy-efficient ice-cooled air-conditioning systems.

In one of the coolest (and simplest) ideas yet to combat global warming, companies are turning to air conditioning systems powered by melting ice to cut energy bills.

Although the technology isn't new, ice cooling systems can go a long way in reducing energy usage and lessening the strain on energy grids by either replacing traditional air-conditioning systems or supplementing them during peak hours.

The system works by pumping coolant through up to two miles of tubing in tanks of water stationed in the basement of a building during off-peak hours. When the coolant is retracted through the tubes, the ice melts and the resulting cool air is pumped throughout the building.

The system takes advantage of stored energy in the same way as a hot water heater, says David Pospisil, marketing and communications director for the New York-New Jersey operations of Trane, the air-conditioning arm of American Standard and one of the leaders in ice cooled system applications.

"Between the considerations and concerns with greenhouse gases and the rapid escalation of utility pricing, we have a lot of interest across all markets," he said.

Trane has installed systems for Credit Suisse in the 1.9 million-square-foot Metropolitan Life Tower, at 11 Madison Ave. in Manhattan, and Morgan Stanley's 750,000-square-foot office in Purchase, NY. It is currently installing a system in the new Goldman Sachs tower at World

Trade Center and recently developed another system for Morgan Stanley at its offices on Fifth Ave.

Pospisil says responses to the systems have been positive.

"The response from owners has been 'Okay, where can we build the next one?' For Morgan Stanley and Credit Suisse, we've already done multiple jobs or are discussing more jobs."

The system Trane installed for Credit Suisse is comprised of 64 thermal storage tanks, each holding 800 gallons. The environmental benefits are equivalent to taking 223 cars off the street or planting 1.9 million acres of trees to absorb electricity usage. Morgan Stanley's system in Purchase reduces peak energy usage by 740 kilowatts and overall electric usage by 900,000 kilowatt hours each year.

Credit Suisse is saving $1 million or more each year in energy costs as a result of the system, according to Pospisil.

Ice cooled systems can produce energy savings of 20% to 50% over traditional air-conditioning systems, depending on the size of the system, which generally needs 5,000 to 10,000 square feet of space and is sometimes constrained by the size of the room.

Costs can range up to $5 million to install a system, although both Morgan Stanley and Credit Suisse received incentives from the State of New York that helped offset the initial cost.