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Bank of America's Bold Statement in Green

The bank's Cook+Fox-designed tower will be the second-tallest in New York City and a wonder of environmental responsibility

by Adam Aston

Times Square's claim to fame is its million-watt light show and sky-high electric billboards. As much as the New York City landmark is a celebration of capitalism, it's also a crackling, pulsing symbol of energy excess. But just a block away on the Avenue of the Americas, a new crystalline tower is rising that's turning heads for the opposite reason: its unprecedented efficiency.

Designed by Cook+Fox Architects, and co-developed by Bank of America with the Durst Organization, the 55-story tower will be the most prominent addition to New York's skyline in a generation, as well as being the most energy-efficient, water-saving, and healthful office tower ever built.

Even by the outsize standards of New York real estate deals, Bank of America Tower at One Bryant Park is an exercise in superlatives. Budgeted at around \$1.3 billion, the building will stand 1,200 feet tall, making it the city's second-highest structure, after the Empire State Building.

The project occupies one of the last remaining large plots adjoining Times Square, a site the Durst family pieced together over 40 years. But in the increasingly eco-aware business of U.S. office construction, it's the tower's green features that are getting all the attention.

FINANCIALLY RESPONSIBLE

From the Carolinas to Chicago and L.A., architects are competing on green features as much as they used to over innovative design or building height. And among deep-pocketed developers, anxiety about the prohibitively high up-front costs of building green is waning.

As costs fall, the appealing financial performance of existing green buildings becomes clearer. In a 2006 survey of developers by McGraw-Hill Construction ([MHP](#), MHC is owned by the same corporate parent as *BusinessWeek*), respondents reported they expected to see occupancy rates for green buildings 3.5% higher than market norms, with rent levels increased by 3%. Operating costs are expected to be 8% to 9% lower, as well.

The economics are straightforward: More rental income minus lower operating costs makes for a more valuable property. Respondents to MHC's survey anticipate green building values will rise by 7.5%, which in turn should improve their return on investment by 6.6%.

These numbers are getting the attention of developers and driving the growth of eco-construction. Nationally, about 2% of today's new, nonresidential construction is considered green, estimates the MHC study. From last year's \$3.3 billion, green office and retail construction is expected to surge by up to 10% a year, to \$20 billion, by 2010.

COSTS BACKING DOWN

Given New York's love affair with tall towers and the unmatched scale of the city's real estate market, it's no surprise that Manhattan is emerging as the epicenter of green high-rise construction. Bank of America's tower will be the greenest of a surge of eco-friendly office buildings sprouting up in midtown and near Wall Street.

First to open was 7 World Trade Center, the start of new construction at Ground Zero. Next was Foster + Partners' stunning addition to Hearst's headquarters in midtown. And nearing completion just a few blocks west of Bank of America Tower on 42nd Street is Renzo Piano's New York Times Building.

The flurry of eco-construction reflects builders' growing confidence that the extra costs of building green are a good investment. The up front costs of building green are still higher than using conventional materials, but that premium is shrinking. Just a few years ago, green construction could cost 10% or more than standard construction.

Today that margin has fallen into the range of single digits. As the market for green materials and design expertise has grown and matured, "the supply of materials and services is going up and the price is coming down," says Taryn Holowka, communications manager at the U.S. Green Building Council (USGBC).

WATERLESS WATER CLOSETS

To be sure, green projects can still throw up costly delays or surprising snafus. Until recently, for example, New York-area carting companies charged extra to sort and recycle construction debris.

But as haulers have come to recognize the market value of the refuse, they've lowered their prices and become more cooperative. At the Bank of America site, explains Cook+Fox's Lisa Storer, carting companies presorted scrap steel, concrete, and other debris on site for removal. Ultimately some 90% of construction waste was recycled.

Sometimes the latest, greenest technology just isn't approved yet. The first time the Durst Organization proposed waterless urinals for a project, they were nixed as not being up to building code. The urinals are now O.K. under New York City guidelines and are key part of the Bank of America Tower's water-saving technology.

Indeed, with green building systems changing so rapidly, each new project can involve materials and systems that officials, designers, and laborers are working with for the first time, explained Douglas Durst, co-president of the family-run developer, at a recent green building confab. "Each new project is a new learning process."

MORE DAYLIGHT

At Bank of America Tower, going green tacked on 5% in costs, said Durst. At roughly \$60 million, that's a serious add-on, yet it's one that the partners expect to recover through energy savings and improved worker productivity in a matter of years, says Mark Nicholls, Bank of America's corporate workplace executive.

Consider the bank's anticipated economics. Bank of America, which is funding half the project, plans to occupy 38 of the tower's 51 occupied floors. The bank estimates energy savings will tally up to about \$3 million annually—a nice figure, though nothing substantial.

Bigger gains are expected to come from improvements in productivity. "In a commercial office, energy accounts for about 10% of costs. Employees account for 60% to 70%. That's where the real savings come from," Durst said.

As simple as it sounds, cleaner air and more daylight account for most of these gains. Studies of the benefits of green buildings, such as William Fisk's work at Lawrence Berkeley National Lab, show a direct link between indoor air quality and the incidence of illness. And experiences in existing green buildings with air quality standards lower than Bank of America Tower's target suggest that its low-toxin workspaces, superclean air, and abundant natural light will cut down on sick days from allergies, colds, or even "sick building syndrome."

SHINY, HAPPY PEOPLE

Incidents of this condition, which is linked to poor ventilation and high concentrations of airborne contaminants, have risen in recent years as buildings have become more tightly sealed. A mere 1% reduction in illness-related absenteeism among the bank's anticipated staff of some 5,000 could deliver a \$10 million annual boost in productivity.

Add in gains from more alert, comfortable workers and other improvements not related to illness, and the possible gains soar. "We believe you can get 10% to 15% productivity gains. That's the biggest allure of a green building," says Durst.

When the first tenants walk into the tower, sometime in the first half of 2008, there will be both overt and subtle green touches. In the lobby, plans call for walls lined with recycled leather hides; elsewhere, floors will be made from bamboo, a fast-growing, sustainable material.

The high-tech systems are mostly behind the scenes, explains Cook+Fox's Storer. For example, on hot summer days, the building's air conditioners will get a boost from ice—produced at night when power prices are lower and stored in the basement. Much of the building's heat and power will come from a bus-sized, gas-fired turbine in the building's podium.

On-site generation slashes losses from long-distance transmission of power. The facility will help triple the efficiency of the tower's overall energy systems compared with a conventional grid-connected tower (see BusinessWeek.com, 2/28/07, "[A Skyscraper Banking on Green](#)"). Any extra juice the building needs will come from the regular grid.

SOME THINGS HAVE TO WAIT

The building will also use water with ingenious economy. It eliminates about 40% of the fresh water a regular building would need, thanks to features that collect nearly every raindrop and that recycle any nontainted water again and again through the building's cooling system. Overall, the building will save 10.3 million gallons of fresh water per year, enough to meet the annual needs of 125 households.

For all of Bank of America Tower's innovations, some green solutions proved technically impossible or just too costly. At first, Cook+Fox hoped to attach a power-generating vertical wind turbine to the building's shorter, second mast. But site studies proved the wind was too volatile, says Storer.

Another nonstarter: a so-called anaerobic digester that would have harvested methane from the building's sewage. Although it's a proven technology, it was too costly even for this ambitious project.

Still, the unprecedented array of green features at Bank of America Tower should qualify it for a Platinum certificate, the highest ever score for an office tower, under the Leadership in Energy & Environmental Design (LEED) rating system. Created by USGBC, the LEED standards aim to identify the best practices, materials, and systems for environmentally friendly buildings. The final award of platinum status won't be made until construction is complete.

From its earliest stages, each of the tower's key players pushed the others to go greener. For Durst, the Bank of America project was an evolutionary step from 4 Times Square, the building just next door that was designed by Fox & Fowle Architects (a predecessor to Cook+Fox) and is recognized as one of the first green office towers in the U.S.

Built speculatively in the early 1990s, the tower's eco touches, such as solar panels and improved air quality, are standard fare today but helped it sell out faster than Durst expected. "That really made the value of green click," says Durst spokesman Jordan Barowitz.

Bank of America connected with Durst when, a few years ago, the fast-growing bank decided to consolidate its scattered New York offices into a single new building that would mirror its ambitions. Since BofA had already built a green tower at its headquarters in Charlotte, N.C., executives didn't need to be convinced of the productivity gains and energy savings of green work spaces. "Coming to New York, we wanted to make a very bold statement," says Nicholls, "and it had to be very green."

[Aston](#) is Industries editor for *BusinessWeek Online* in New York.

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