

Boosters Try To Stay Upbeat During Slump

At skyscraper conference, architect unveils holistic urban 'decarbonization' planning effort

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By [Nadine M. Post in Chicago](#)

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A Chicago architect is producing a holistic planning approach to reduce carbon emissions in dense urban cores. The fledgling urban replanning effort, which Adrian Smith + Gordon Gill Architecture is developing for the 550-building Chicago Loop area, is a process that starts with a survey of existing buildings in a district to assess age, use, condition, energy consumption and more. The survey is a first step toward devising a district-wide approach to sustainable retrofits and appropriate adaptive reuse. The planning framework can be used as a model for retrofits in other cities, urban cores and building campuses, says the architect.



Photo: Richard Shields,
Courtesy: Legacy Chicago

Chicago area is focus of a district-wide decarbonization plan, which included surveying 550 buildings.

The goal of the firm's Chicago Central Area Decarbonization Plan, which it is sponsoring with its own funds and with cooperation from the city and local organizations, is to improve the performance of every building and major infrastructure system within Chicago's Loop. The idea is to reduce the area's emissions of 3.9 million metric tons of carbon per year, to meet the goals of the 2030 Challenge.

The firm is still building its database, having surveyed 550 Loop buildings and interviewed 24 of 83 building managers. This is the start of a "monumental effort," said Smith at the Council on Tall Buildings and Urban Habitat (CTBUH) 2009 conference on "Evolution of the Skyscraper: New Challenges in a World of Global Warming and Recession." The conference was held Oct. 22-23 in Chicago and drew 613 people from 35 nations.

"If we want to make the biggest difference to the planet tomorrow, in terms of lessening the impact of building operations on climate change, then we need to concentrate on the upgrade of existing buildings," added Antony Wood, the council's executive director.

Though some attention at the conference was focused on energy retrofits, most was focused on new, planned or stalled tall buildings. According to CTBUH, there are at least 50 buildings taller than 158 m that have been on hold for some time after initiation of foundation work. Several projects, including the planned 1-kilometer-tall Nakheel Tower in Dubai and the planned 2,000-ft-tall Chicago Spire, were presented at the conference, prompting one attendee to rebub the group, "the Council on Stalled Buildings."

Eight of the tallest 20 stalled projects are in the Middle East, and six are in Latin America. Several are not out of the foundation phase, including Nakheel Tower. According to architect Woods Bagot, the tower's foundations are half complete, but the building is on hold pending a revaluation by the developer sometime next year. In Chicago, foundations are complete for the Chicago Spire. Work also has stopped on the planned 1,047-ft-tall Waterview Tower. The partially complete frame stands as a conspicuous reminder of the recession.

Though the tall-building blahs have hit the Americas, Europe and many parts of the Middle East, the building boom in China "has not stopped," said David Scott, a principal of the New York City office of engineer Arup. He was chairman of CTBUH until Oct. 22, when Sang-Dae Kim, a professor of structural engineering at Korea University in Seoul, took over for a two-year term.

Of the tallest 50 buildings on hold, there are only three in China. Of the 100 tallest buildings under construction, some 30 are in China.

The next likely skyscraper in China, in its early stages of construction, is the planned 632-m Shanghai Tower. The design calls for 128 stories of retail, exhibit, office and hotel space in what the design architect, Arthur Gensler, described as a vertical city of 5.5 million sq ft. Every 14 floors, at the skylobby levels, there are amenities, said Gensler, chairman of the San Francisco-based firm that bears his name.

The tower's design, which is seeking a Gold certification from the LEED sustainable-building rating system, includes wind turbines for night lighting, rainwater collection and more.

Another sustainable tall building in China still under way is the Pearl River Tower in Guangzhou, planned at 310 m. Construction of the eventual 71-story building is at approximately level 40 for the main floors...

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...and 48 for the core. Though the building is designed to be 58% more efficient than a code-compliant building in China, it will not be the net-zero-energy building that its architect-engineer envisioned.

"We don't have enough data to give developers the confidence that [the net-zero energy systems] work," said Russell Gilchrist, director of technical architecture in the Chicago office of Skidmore, Owings & Merrill.

The new, second-tallest building in the U.S., which is seeking LEED Gold certification, is virtually complete. The 1,362-ft Trump International Hotel and Tower opened in phases beginning last year.

Trump and all other supertall buildings are trumped by the 800-m-plus Burj Dubai. Mohamed Ali Alabbar, chairman of developer Emaar Properties PJSC, Dubai, says the Burj will open on Dec. 2 after more than a year of delays.

In a sea of tall-building boosters, both Alabbar and Andy Weiss, executive vice president for the Trump Organization, New York City, said supertall building development is not for the feint of heart. Weiss advised developers to prepare for a time-consuming and costly entitlement and zoning process, pay attention to quality so the building can become an icon and begin with a large, centrally located site.

Financing for a supertall building can be another headache because of the need for a large lender, Weiss said. If there are multiple uses, be prepared for a complex design and construction process. "Use firms with track records," Weiss advised.

THE TALLEST 20 BUILDINGS ON HOLD*

RANK	NAME	CITY	ORIGINAL COMPLETION	STORIES	HEIGHT (METERS)	USE
1	Nakheel Tower	Dubai	2020	200+	1,000+	Office/Hotel/Residential
2	Chicago Spire	Chicago	2014	150	609	Residential
3	Doha Convention Center Tower	Doha	2012	112	551	Hotel/Residential
4	Lam Tara Tower 1	Dubai		88	454	Residential
5	The Square Capital Tower	Kuwait City	2010	63	351	Office/Hotel
6	Faros de Panama Torre Central	Panama City	2011	85	346	Office/Hotel/Residential
7	Torre Planetarium I	Panama City	2011	92	343	Residential
8	The Skyscraper	Dubai		66	330	Office
9	Lam Tara Tower 2	Dubai		77	320	Office
10	Waterview Tower	Chicago		89	319	Hotel/Residential
11	Torre Planetarium II	Panama City	2011	82	305	Residential
12	Eurasia	Moscow	2010	67	304	Office/Hotel/Residential
13	Tianjin International Trade Tower	Tianjin	2010	80	300	Office/Hotel
14	Gran Torre Costanera	Santiago	2010	70	300	Office
15	I&M Tower	Dubai		54	290	Office
16	Vision	Brisbane		72	283	Residential
17	Four Seasons Hotel and Condominiums	New York	2011	68	278	Hotel/Residential
18	Faros de Panama Torre 2	Panama City	2011	73	270	Residential
18	Faros de Panama Torre 3	Panama City	2011	73	270	Residential
20	The Trump Palm Int'l Hotel & Tower	Dubai	2011	62	270	Multiple

* A TALL BUILDING IS CONSIDERED TO BE 'ON HOLD' WHEN IT IS WIDELY REPORTED WITHIN THE PUBLIC DOMAIN THAT CONSTRUCTION HAS HALTED. © COUNCIL ON TALL BUILDINGS AND URBAN HABITAT

With Trump International, the firm started a trend in the U.S. for phased occupancy of supertall buildings. "To have 30 stories of finished building sitting idle is a major drag" on a project, said Weiss.

But phased occupancy brings its own logistical headaches, which need to be accommodated from Day One. "It's like stacking a series of independent and fully functional buildings one atop the other," Weiss said. "Phased occupancy permeates the entire design process and every construction element."

Richard Hanson, founder of Mesa Development, Chicago, knows all the pressures of completing a supertall building in a recession. Condominium closings began last month on his 72-story Legacy at Millennium Park, in the Loop, which achieved a presale status of nearly 90%. The closing pace has averaged one per day. But with real estate values down, it feels as if "you are continually reselling the condos," he said.

For now, his optimism is lagging. "There's no debt anywhere in the U.S.," he said. "You can't borrow money."

Still, Hanson is upbeat about the future. "It will take some time before the housing market stabilizes, but we look forward to building tall buildings in several major metropolitan areas," he said.

Weiss is more discouraged. "The landscape is littered with grandiose plans for buildings not completed or not even started," he said. "You have to be able to predict the cycles in real estate, trying to complete the project within a cycle. Unfortunately, I don't think many of us can."

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