



CTBUH 2008

8th World Congress 3-5 March, Dubai



TALL

& GREEN: Typology for a Sustainable Urban Future

Post Congress Review





**Council
on
Tall Buildings
and
Urban Habitat**

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Front cover: From left to right: Ken Yeang, *Llewelyn Davies Yeang*; HE Mohamed Ali Alabbar, *Emaar*; Adrian Smith, *Adrian Smith + Gordon Gill Architecture*; Christine Whitman, *Whitman Strategy Group*; Peter Wynne Rees, *City of London Corporation*; Sadhu Johnston, *City of Chicago*; HE Hussain Nasser Lootah, *Dubai Municipality*.

Back cover: From left to right: Jeanne Gang, *Studio Gang*; William F. Baker, *Skidmore Owings & Merrill LLP*; Ole Scheeren, *OMA*; Werner Sobek, *Werner Sobek Ingenieure*; Habiba Al Marashi, *Emirates Environmental Group*; Ken Shuttleworth, *Make*; Leslie E. Robertson, *LERA Associates*

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Carbon-Neutral Congress

The CTBUH took valuable steps to tackle climate change by offsetting the CO2 emissions from the Dubai Congress through a carbon offset scheme organized by Climate Care. Climate Care began their offset service in 1998 sourcing projects that reduce greenhouse gases in the atmosphere, making CO2 reductions on behalf of individuals and companies. Their approach to these matters mirrors the best practice and energy efficiency ethos of the CTBUH 8th World Congress.

To achieve this carbon neutrality the CO2 emissions that were released from the energy used by the Congress, including delegates' international travel, were calculated. These CO2 emissions have been offset by Climate Care who fund a variety of different projects to reduce the equivalent amount of CO2 emissions through:

- Renewable energy - this replaces non-renewable fuel such as coal
- Energy efficiency - this reduces the amount of fuel needed
- Forest restoration - this absorbs CO2 from the atmosphere as the trees grow

A proportion of all delegates registration fees were directed to this initiative. We would encourage readers to visit the Climate Care website for further information, visit:

<http://climatecare.org>

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More content including all technical papers, videos of all presentations and photographs at: www.ctbuh.org/dubaicongress.htm



HE Hussain Nasser Lootah, Head of Dubai Municipality speaking on recent strategies implemented in Dubai to improve the sustainable performance of the city's built environment.



Sadhu Johnston, Chief Environmental Officer, City of Chicago addressing what it takes to build a 'Green City' such as Chicago.



Peter Wynne Rees, The Chief Planning Officer, City of London Corporation, arguing that a wise property developer will choose sustainable development locations.

Plenary 1: Tall Buildings & Sustainable Cities

Dubai, Chicago, London

His Excellency Hussain Nasser Lootah, *Head of Dubai Municipality*

Sadhu Johnston, *Chief Environmental Officer, City of Chicago*

Peter Wynne Rees, *Chief Planning Officer, City of London Corporation*

The Opening Plenary of the Congress concentrated on urban-scale sustainability to set the scene for the congress overall: what exactly can city governments be doing to promote green cities at the necessary wider level than just buildings? The plenary focused on three cities across three continents that are taking both tall buildings and sustainability seriously: Chicago, London and Dubai.

A high-ranking official from each city gave their unique perspective on what was being done in their city to promote sustainability. The first plenary speaker was His Excellency Hussain Nasser Lootah, Head of the Dubai Municipality, who gave the audience an overview of where Dubai currently is, and where it's heading, especially in light of the recently-issued edict from the ruler of Dubai, His Highness Sheikh Mohamed bin Rashid Al Maktoum, that all new construction in the city should start to adopt green principles. His Excellency Mr. Lootah also gave a frank account of some of the problems Dubai faces, such as traffic congestion and the poor quality of pedestrian space.

Next up was Sadhu Johnston, Chief Environmental Officer for the City of Chicago and part of Mayor Daley's small circle of trusted advisors on sustainability. Sadhu opened a fascinating window on some of the political initiatives underway in Chicago, which are helping position the city as the greenest in North America. In particular, Sadhu explained about the sustainable upgrade of several existing iconic tall buildings (such as the Sears Tower) and the wide-scale adoption of green roofs in the city (Chicago has more area of green roofs than any other city in the world). These green roofs in both new and upgrade construction are helping to better thermally insulate buildings,

reduce the urban heat island effect by absorbing solar heat normally re-radiated out by building materials, make good use of stormwater and provide recreational space for building users. This enthusiastic uptake of green roofs in Chicago has been inspired partly by the city initiative to allow an expedited planning permission process for those buildings employing such features – a good example of how 'carrot' can work over 'stick' in US city policies.

The final speaker of the plenary was the hugely popular Peter Wynne Rees, chief planning officer for the City of London Corporation, who had the audience both inspired and in stitches with his humorous presentation style. The title of Peter's presentation: "It ain't what you build, it's the place that you build it", demonstrated the extremely important notion that true urban sustainability is about much more than just buildings, with location and infrastructure playing the more significant role. Thus London, as Peter explained, located in a temperate climate (requiring neither excessive heating or cooling), has an inherent sustainable advantage over many cities – an advantage increased when tall buildings can be located over transport nodes etc. Peter gave a passionate plea for a rejection of the suburban model of development, seeing denser cities with less energy and infrastructure-greedy suburban sprawl as being the only logical way forward.

“The title of Peter Wynne Rees’ presentation: “It ain’t what you build, it’s the place that you build it”, demonstrated the extremely important notion that true urban sustainability is about much more than just buildings, with location and infrastructure playing the more significant role.”

Questions + Answers Plenary 1

Q: What can be done to encourage pedestrian movement within the center part of Dubai, mainly Sheikh Zayed Road, the financial district and so forth.

HE Hussain Nasser Lootah: Pedestrian movement is one of the things we are looking at. One of the problems we are facing is the heat which is preventing people to walk. We are introducing a new landscape design at Sheikh Zayed Road, considering pedestrian movement. The authority will also introduce a lot of new bridges around the city taking you from one side of the street to the other. Maybe we have to invent a bicycle with air-conditioning! When people are looking for parking, they select the parking spot close to the area where they want to go, because they don't want to walk a certain distance in the heat. But I think introducing more greenery is going to help. The main problem we are having here is the number of cars. There are so many cars and so many dealers that are selling so many cars. Maybe the price of cars is cheaper than any place in the world. Petrol is also cheaper compared to other places. People love to have two, three or even four cars. I also have four cars at home. I am part of this problem.

Sadhu Johnston: Your Excellency, you will be happy to know that many cities across the world are facing the same challenges. In cities like Chicago we face major issues with congestion. We've been looking at new ways, or expanding existing well known ways, to deal with that. Transit-oriented development is one of the ways. We are currently developing a transit oriented development masterplan for the city. We are looking at all the transit nodes that are under utilized, but that have higher density around them that could accommodate increased construction, reduce parking requirements and then also build infrastructure to make it easy for people to get around without needing a car. We have over 150 miles of bike lanes and bike paths in Chicago, we've added 10,000 bike racks, and we recently changed our tax code to support car sharing.

Q: What are some of the main barriers to implementing some of these sustainable principles in each of the three cities?

Sadhu Johnston: One of the main barriers that we face is inertia; people are just used to doing what they always do and are slow to change.

Peter Rees: I think one of the biggest barriers is that what we are all arguing for is using less. Energy is running out and so we have to use less energy. Using less is never popular. People don't like having less of anything, once they become used to a certain quantum of energy, money or whatever it might be. So I think it is important that we also make saving energy fun. That's very difficult in suburban locations, because there is not much fun in the suburbs. The main reason people use energy in the suburbs is to escape boredom. They go on the internet to escape boredom, and they get into their car to escape boredom. Whereas if you are in the center of the city; you can have an awful lot fun without using much energy. You already have public transport, you have all the facilities, you have other people you want to meet and you can have a very good time. You are already in a party, all the time. So, I think the main thing we can do; the main barrier we have to overcome is getting rid of the suburbs.

HE Hussain Nasser Lootah: Dubai as a city is moving so fast and everybody wants to finish work in the minimum amount of time. That doesn't give us, as authority and municipality, time to do more studies, to do more analysis and find out approved practices from others. This is one of the barriers we are facing. Are we going on the right track, are there better scientific ways or do we need more studies in this subject? This is costing us a lot of money. Sometimes we have to do major studies faster than we should, and we don't know if the results are accurate or not.



Sadhu Johnston speaking in the opening plenary about what cities can do through policies to promote sustainability.

Technical Tours



Burj Dubai
Emirates Towers
Index Tower
Burj Al Arab
Palm Jumeirah

© Antony Wood / CTBUH

Tour 1: Burj Dubai. View from top of tower looking at Sheikh Zayed Road with Index Tower.

Members of the Congress Organizing Committee had personally organized tours to experience five seminal projects in Dubai, either built or under construction. These technical tours became one of the highlights of the three days, as the congress teleported itself from the plenary hall to building sites around the city.

The Burj Dubai, understandably given the Plenary Session on the project we had witnessed that morning, was perhaps the most popular of the five technical tours, certainly judging by the numbers who undertook it. Over 300 delegates boarded coaches at the congress venue and, guests of the developer Emaar, were escorted down Sheikh Zayed Road to the Downtown Dubai development, with the Burj Dubai as the jewel in the crown. Already standing at 600+ meters with the steel spire starting to emerge above the 150 floors of concrete, though it technically will not be crowned 'The Tallest Building in the World' until fully complete and occupied, delegates experienced it as the largest free-standing structure in the world. The technical tour included an overview of the entire 17 million square feet Downtown Dubai development, embracing several tall buildings as well as the Dubai Mall and Emaar's marketing suite, with its massive model of the Burj - a definite highlight of the trip.

“Donning hard hats and luminous site jackets provided by hosts Multiplex, other delegates boarded the construction hoist for an unforgettable ride up Norman Foster's first tall building project in Dubai – the Index Tower, then at about the fiftieth of an envisaged eighty floors.”

Moving back in time eight years, other delegates visited the tall building project that had first put Dubai on the map – the twin Emirates Towers standing tall and



© Antony Wood / CTBUH

Tour 1: Burj Dubai. View looking up.

proud at the foot of Sheikh Zayed road. Still looking in pristine condition, delegates were treated to inside information on the project from original architect Hazel Wong and colleagues at the NORR group, and a detailed tour of the hotel tower (the other tower accommodates office function) including the busy lobby which functions as one of the main business-meeting spaces in the city, the conference hub, the mid level facilities space, and the high-level restaurant, sat below the sloping rooftop.

Donning hard hats and luminous site jackets provided by hosts Multiplex, other delegates boarded the construction hoist for an unforgettable ride up Norman Foster's first tall building project in Dubai – the Index Tower, then at about the fiftieth of an envisaged eighty floors.





Tour 2: Emirates Towers. Office Tower.

A mixed-use skyscraper accommodating 47 floors of residential over 25 floors of office, delegates got to experience the double-height, high-level sky lobby separating the two functions, and the numerous sustainable features that were already beginning to take shape.

For many people the Burj Al Arab tower is the very essence of Dubai – bold, brazen and literally dripping with opulence. The subject of continued worldwide attention, this 7-star hotel is now the exclusive domain of those fortunate enough to be able to afford an overnight's stay, or to those who book a long time in advance to eat at the high-level restaurant, cantilevering out over the Arabian Gulf. After experiencing the building from the events lawn of the Jumeirah Beach Hotel at the Welcome Reception the evening before, those delegates who undertook



Tour 3: Index Tower under construction.

the personal technical tour courtesy of the architects, WS Atkins, were treated to a no-holds-barred experience of the building, from the luxurious lobby with its luminous fish-tanks and shooting fountains, to some of the incredibly-sumptuous hotel suites and recreational spaces.

The final tour on offer gave a different-scale experience. Courtesy of the developer Nakheel, a hundred delegates visited the Nakheel sales centre where they boarded boats to travel out into the Arabian Gulf to visit the vast reclamation project that is the Palm Jumeirah. Built in the shape of a palm tree out in the Gulf, and still a long way from completion, delegates got to see not only the vast infrastructure side of the project but also the private beach-lined residences and other buildings that were in various states of construction and occupation.



Tour 4: Burj Al Arab. Night view.



Tour 5: Palm Jumeirah. Aerial view.



Tour 1: Burj Dubai. Delegates looking up the tower © Antony Wood / CTBUH

About the Council

The Council on Tall Buildings and Urban Habitat, based at the Illinois Institute of Technology in Chicago, is an international not-for-profit organization supported by architecture, engineering, planning, development and construction professionals, designed to facilitate exchanges among those involved in all aspects of the planning, design, construction and operation of tall buildings.

Founded in 1969, the Council's mission is to disseminate multi-disciplinary information on tall buildings and sustainable urban environments, to maximize the international interaction of professionals involved in creating the built environment, and to make the latest knowledge available to professionals in a useful form.

The CTBUH disseminates its findings, and facilitates business exchange, through: the publication of books, monographs, proceedings and reports; the organization of world congresses, international, regional and specialty conferences and workshops; the maintaining of an extensive website and tall building databases of built, under construction and proposed buildings; the distribution of a monthly international tall building e-newsletter; the maintaining of an international resource center; the bestowing of annual awards for design and construction excellence and individual lifetime achievement; the management of special task forces / working groups; the hosting of technical forums; and the publication of the CTBUH Journal, a professional journal

containing refereed papers written by researchers, scholars and practicing professionals. The Council actively undertakes research into relevant fields in conjunction with its members and industrial partners, and has in place an international 'Country Representative' network, with regional CTBUH representatives promoting the mission of the Council across the globe.

The Council is the arbiter of the criteria upon which tall building height is measured, and thus the title of 'The World's Tallest Building' determined. CTBUH is the world's leading body dedicated to the field of tall buildings and urban habitat and the recognized international source for information in these fields.

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