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Debating Tall: Are Supertalls Sustainable?

Whether tall buildings are a truly sustainable building type has been, and still is, a debatable topic. As sustainability becomes an increasing global issue, this question is also relevant in South Korea, where a great number of supertall buildings are being built or proposed. To see what issues prevail in the South Korean context, we posed the questions to two Korean professors.

YES

Professor Young Kyu Ju

Korea University, Department of Architectural Engineering

I prefer to look at the bigger picture when it comes to tall buildings and sustainability. Seen from this angle, supertall buildings allow for a more sustainable urban environment because of the efficiency of compact networks. Hypothetically, when you house 50,000 people in a small number of supertall buildings instead of spreading them out in a small town, residents save time and energy moving around as generally urban residents travel by foot, bike or metro, instead of by car. Also, not only is the infrastructure which moves people and goods around kept compact, but so is the technical infrastructure inside the building and between the buildings, such as plumbing and wiring. This allows for greater savings and efficiencies compared to connecting many individual buildings to an extended network. Within the Korean context, another important consideration is that given a population density of almost 500 people per square kilometer (1,300 people per square mile), South Korea ranks amongst the most densely populated countries in the world on a list that is mostly otherwise dominated by city or island states. For South Korea, tall buildings are not only a luxury, but also a necessity if we want to preserve not only energy, but also open space.

Downtown Seoul © Antony Wood

NO

Professor Jae-Weon Jeong

Sejong University, Department of Architectural Engineering

I have always questioned whether very tall buildings can be truly regarded as sustainable structures as there are some important practical considerations involved. In Korea, especially when it comes to very tall and iconic buildings, companies and residents alike appear to be more interested in the glossy image and lifestyle which these building represent, rather than pursuing a sustainable way of living. Someone living in a very large apartment on the highest floor of a supertall tower may be using far more energy compared to someone living in a compact apartment in a low-rise building. In fact, research shows that some tall buildings in Seoul are using up considerably more electricity than other buildings types, particularly because of the energy it costs to create good conditions for living and working. Another sustainable aspect deals with housing preferences. Currently, the Korean middle class looks favorably upon tall buildings. Developments in some European countries suggest that these preferences can change over time. Eventually families turned away from living in tall buildings, preferring low-rise housing instead, especially so when the average family becomes more prosperous. The places to live which are preferred today might not be those which will be favored in the future. As such, the building type has not proven to be a durable one.

What's on the CTBUH Web?

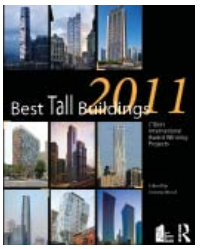
*Visit **www.ctbuh.org** for more on the global tall building industry*

9/11 – Ten Years on: CTBUH Reflections

In memory of the tenth anniversary of 9/11, the CTBUH has commissioned a number of articles from industry leaders reflecting on how the world of tall buildings has changed since then.

Sinclair Tall Building Studio: Calgary

These projects explore design inspired by local qualities including biology, ecology, geography and geology. Close attention to site and cultural issues informed numerous characteristics of the team-based tall building projects.



Best Tall Buildings 2011 Book Available for Pre-order

The 2011 edition of the CTBUH Awards book, which features 80+ tall buildings from around the globe, is now available for pre-order. Order now to be among the first to receive the publication in late October/early November upon release.