



# Best Tall Buildings

*A Global Overview of 2014 Skyscrapers*

CTBUH



Antony Wood, Steven Henry & Daniel Safarik

**CTBUH Awards**

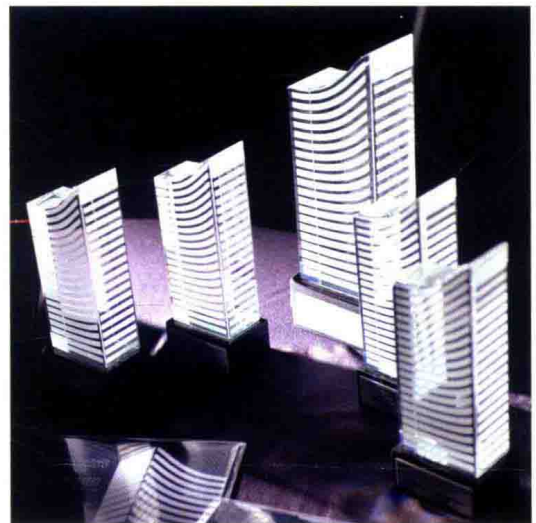
# **Best Tall Buildings**

*A Global Overview of 2014 Skyscrapers*

Antony Wood, Steven Henry & Daniel Safarik



**Routledge**  
Taylor & Francis Group  
NEW YORK AND LONDON





**Routledge**  
Taylor & Francis Group  
NEW YORK AND LONDON

ILLINOIS INSTITUTE  
OF TECHNOLOGY



**Bibliographic Reference:**

Wood, A., Henry, S. & Safarik, D. (2014) *Best Tall Buildings: A Global Overview of 2014 Skyscrapers*. Council on Tall Buildings and Urban Habitat: Chicago.

Book Design & Layout: Marty Carver

First published 2014 by Routledge  
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Simultaneously published in the USA and Canada by Routledge  
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group, an informa business*

Published in conjunction with the Council on Tall Buildings and Urban Habitat (CTBUH), the Illinois Institute of Technology, and Tongji University, Shanghai.

© 2014 Council on Tall Buildings and Urban Habitat

Printed in Canada.

The right of The Council on Tall Buildings and Urban Habitat to be identified as author of this work has been asserted by it in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

*Trademark notice:* Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

*British Library Cataloguing in Publication Data*

A catalogue record for this book is available from the British Library

*Library of Congress Cataloging in Publication Data*

A catalog record has been requested for this book

ISBN13 978-1-138-84289-2  
ISSN 1948-1012

Council on Tall Buildings and Urban Habitat  
S.R. Crown Hall  
Illinois Institute of Technology  
3360 South State Street  
Chicago, IL 60616  
Phone: +1 (312) 567-3487  
Fax: +1 (312) 567-3820  
Email: [info@ctbuh.org](mailto:info@ctbuh.org)  
[www.ctbuh.org](http://www.ctbuh.org)



## Acknowledgments

The CTBUH would like to thank all the organizations who submitted their projects for consideration in the 2014 awards program.

We would also like to thank our 2014 Awards Jury for volunteering their time and efforts in deliberating this year's winners and finalists.

## About the CTBUH

The Council on Tall Buildings and Urban Habitat is the world's leading resource for professionals focused on the inception, design, construction, and operation of tall buildings and future cities. A not-for-profit organization based at the Illinois Institute of Technology, Chicago, with an Asian office at Tongji University, Shanghai, the group facilitates the exchange of the latest knowledge available on tall buildings around the world through events, publications, research, working groups, web resources, and its extensive network of international representatives. Its free database on tall buildings, The Skyscraper Center, is updated daily with detailed information, images, data, and news. The CTBUH also developed the international standards for measuring tall building height and is recognized as the arbiter for bestowing such designations as "The World's Tallest Building."



# Contents

Foreword	6
Introduction	8
CTBUH Best Tall Building Awards Criteria	19

## Best Tall Building Americas

### Winner:

Edith Green-Wendell Wyatt Federal Building, <i>Portland</i>	22
---	----

### Finalists:

The Point, <i>Guayaquil</i>	28
United Nations Secretariat Building, <i>New York City</i>	32

### Nominees:

4 World Trade Center, <i>New York City</i>	36
Magma Towers, <i>Monterrey</i>	38
MuseumHouse, <i>Toronto</i>	40
Peninsula Tower, <i>Mexico City</i>	42
Territoria El Bosque, <i>Santiago</i>	44
The Godfrey, <i>Chicago</i>	46
Torre Costanera, <i>Santiago</i>	48
500 Lake Shore Drive, <i>Chicago</i>	50
1812 North Moore, <i>Arlington</i>	50
Concord Cityplace Parade, <i>Toronto</i>	51
Courtyard & Residence Inn, <i>New York City</i>	51
Couture, <i>Toronto</i>	52
K2 at K Station, <i>Chicago</i>	52
NEMA, <i>San Francisco</i>	53
The John and Frances Angelos Law Center, <i>Baltimore</i>	53
The Peter Gilgan Centre, <i>Toronto</i>	54
Torres del Yacht, <i>Buenos Aires</i>	54
YooPanama Inspired by Starck, <i>Panama City</i>	55
ZenCity, <i>Buenos Aires</i>	55

## Best Tall Building Asia & Australasia

### Winner:

One Central Park, <i>Sydney</i>	58
---------------------------------	----

### Finalists:

8 Chifley, <i>Sydney</i>	64
Abeno Harukas, <i>Osaka</i>	68
Ardmore Residence, <i>Singapore</i>	72
FKI Tower, <i>Seoul</i>	76
IDEO Morph 38, <i>Bangkok</i>	80
Sheraton Huzhou Hot Spring Resort, <i>Huzhou</i>	84

The Jockey Club Innovation Tower, <i>Hong Kong</i>	88
Wangjing SOHO, <i>Beijing</i>	92

### Nominees:

41X, <i>Melbourne</i>	96
171 Collins Street, <i>Melbourne</i>	98
Academic 3, <i>Hong Kong</i>	100
Albert Tower, <i>Melbourne</i>	102
Anhui New Broadcasting & TV Center, <i>Hefei</i>	104
Baku Flame Towers, <i>Baku</i>	106
Changzhou Modern Media Center, <i>Changzhou</i>	108
China Merchants Tower, <i>Shenzhen</i>	110
Fake Hills, <i>Beibai</i>	112
Guangzhou Circle, <i>Guangzhou</i>	114
Habitat, <i>Melbourne</i>	116
Jinao Tower, <i>Nanjing</i>	118
Kent Vale, <i>Singapore</i>	120
L'Avenue, <i>Shanghai</i>	122
OLIV, <i>Hong Kong</i>	124
Shanghai Arch, <i>Shanghai</i>	126
Xiamen Financial Centre, <i>Xiamen</i>	128
ASE Centre Chongqing R2, <i>Chongqing</i>	130
Asia Square, <i>Singapore</i>	130
China Resources Building, <i>Hong Kong</i>	131
DBS Bank Tower, <i>Jakarta</i>	131
Fortune Plaza Phase III, <i>Beijing</i>	132
Infinity, <i>Brisbane</i>	132
Jinling Hotel Asia Pacific Tower, <i>Nanjing</i>	133
One AIA Financial Center, <i>Foshan</i>	133
RMIT Swanston Academic Building, <i>Melbourne</i>	134
The Capital, <i>Mumbai</i>	134
The Gloucester, <i>Hong Kong</i>	135
The Pakubuwono Signature, <i>Jakarta</i>	135

## Best Tall Building Europe

### Winner:

De Rotterdam, <i>Rotterdam</i>	138
--------------------------------	-----

### Finalist:

DC Tower, <i>Vienna</i>	144
-------------------------	-----

### Nominees:

6 Bevis Marks, <i>London</i>	148
10 Brock Street, <i>London</i>	150
AvB Tower, <i>The Hague</i>	152

CalypSO, <i>Rotterdam</i>	154
Exxenterhaus Bochum, <i>Bochum</i>	156
Fletcher Hotel Amsterdam, <i>Amsterdam</i>	158
Maslak Spine Tower, <i>Istanbul</i>	160
Solaria, <i>Milan</i>	162
The Tower, One St George Wharf, <i>London</i>	164
Tour Carpe Diem, <i>Paris</i>	166
E' Tower, <i>Eindhoven</i>	168
Grand Office, <i>Vilnius</i>	168
One Angel Square, <i>Manchester</i>	169
Solea, <i>Milan</i>	169

## Best Tall Building Middle East & Africa

### Winner:

Cayan Tower, <i>Dubai</i>	172
---------------------------	-----

### Nominees:

BSR 3, <i>Tel Aviv</i>	178
Champion Tower, <i>Tel Aviv</i>	180
Portside, <i>Cape Town</i>	182
The Landmark, <i>Abu Dhabi</i>	184
22 Rothschild Tower, <i>Tel Aviv</i>	186
Conrad Hotel, <i>Dubai</i>	186
Rosewood Abu Dhabi, <i>Abu Dhabi</i>	187
World Trade Center Doha, <i>Doha</i>	187

## Urban Habitat Award

### Winner:

The Interlace, <i>Singapore</i>	190
---------------------------------	-----

### Finalist:

NEO Bankside, <i>London</i>	196
-----------------------------	-----

### Nominee:

Gramercy Residences, SkyPark, <i>Makati</i>	200
---	-----

## 10 Year Award

### Winner:

Post Tower, <i>Bonn</i>	204
-------------------------	-----

### Finalists:

Taipei 101, <i>Taipei</i>	210
Torre Agbar, <i>Barcelona</i>	210
Uptown Munchen, <i>Munich</i>	211
Highlight Towers, <i>Munich</i>	211

Time Warner Center, <i>New York City</i>	212
Bloomberg Tower, <i>New York City</i>	212
Tower Palace Three, <i>Seoul</i>	213

## Innovation Award

### Winner:

BioSkin	216
---------	-----

### Finalist:

Active Alignment	220
------------------	-----

### Nominees:

DfMA and Digital Engineering for Tall Buildings	222
LiftEye	224
Steel Fiber Reinforced Concrete	226

## Performance Award

### Winner:

International Commerce Center, <i>Hong Kong</i>	230
---	-----

### Finalist:

Jin Mao Tower, <i>Shanghai</i>	234
--------------------------------	-----

### Nominee:

Darling Quarter, <i>Sydney</i>	236
--------------------------------	-----

## Lifetime Achievement Awards

Lynn S. Beedle Award, <i>Douglas Durst</i>	240
Fazlur R. Khan Medal, <i>Peter Irwin</i>	246
CTBUH 2014 Fellows	252

## Awards & CTBUH Information

CTBUH 2014 Awards Jury	253
Review of Last Year's CTBUH 2013 Awards	254
Overview of All Past Winners	260
CTBUH Height Criteria	264
100 Tallest Buildings in the World	267

## Index

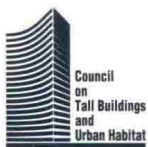
Index of Buildings	272
Index of Companies	273
Image Credits	277
CTBUH Organizational Structure & Members	279

**CTBUH Awards**

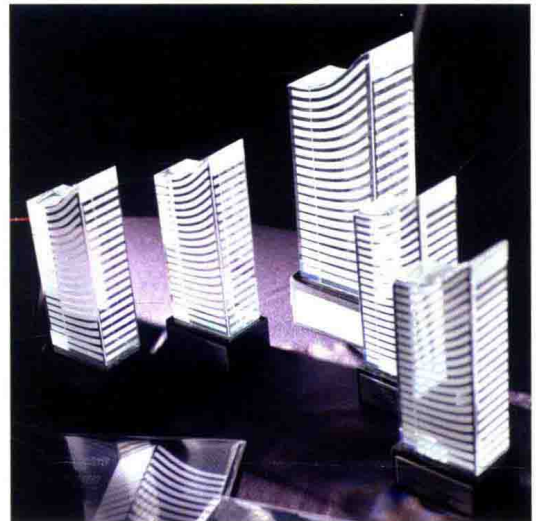
# **Best Tall Buildings**

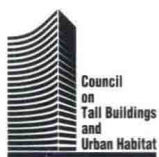
*A Global Overview of 2014 Skyscrapers*

Antony Wood, Steven Henry & Daniel Safarik



**Routledge**  
Taylor & Francis Group  
NEW YORK AND LONDON





**Routledge**  
Taylor & Francis Group  
NEW YORK AND LONDON

ILLINOIS INSTITUTE  
OF TECHNOLOGY



**Bibliographic Reference:**

Wood, A., Henry, S. & Safarik, D. (2014) *Best Tall Buildings: A Global Overview of 2014 Skyscrapers*. Council on Tall Buildings and Urban Habitat: Chicago.

Book Design & Layout: Marty Carver

First published 2014 by Routledge  
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Simultaneously published in the USA and Canada by Routledge  
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group, an informa business*

Published in conjunction with the Council on Tall Buildings and Urban Habitat (CTBUH), the Illinois Institute of Technology, and Tongji University, Shanghai.

© 2014 Council on Tall Buildings and Urban Habitat

Printed in Canada.

The right of The Council on Tall Buildings and Urban Habitat to be identified as author of this work has been asserted by it in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

*Trademark notice:* Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

*British Library Cataloguing in Publication Data*

A catalogue record for this book is available from the British Library

*Library of Congress Cataloguing in Publication Data*

A catalog record has been requested for this book

ISBN13 978-1-138-84289-2  
ISSN 1948-1012

Council on Tall Buildings and Urban Habitat  
S.R. Crown Hall  
Illinois Institute of Technology  
3360 South State Street  
Chicago, IL 60616  
Phone: +1 (312) 567-3487  
Fax: +1 (312) 567-3820  
Email: [info@ctbuh.org](mailto:info@ctbuh.org)  
[www.ctbuh.org](http://www.ctbuh.org)





## Acknowledgments

The CTBUH would like to thank all the organizations who submitted their projects for consideration in the 2014 awards program.

We would also like to thank our 2014 Awards Jury for volunteering their time and efforts in deliberating this year's winners and finalists.

## About the CTBUH

The Council on Tall Buildings and Urban Habitat is the world's leading resource for professionals focused on the inception, design, construction, and operation of tall buildings and future cities. A not-for-profit organization based at the Illinois Institute of Technology, Chicago, with an Asian office at Tongji University, Shanghai, the group facilitates the exchange of the latest knowledge available on tall buildings around the world through events, publications, research, working groups, web resources, and its extensive network of international representatives. Its free database on tall buildings, The Skyscraper Center, is updated daily with detailed information, images, data, and news. The CTBUH also developed the international standards for measuring tall building height and is recognized as the arbiter for bestowing such designations as "The World's Tallest Building."

# Contents

Foreword	6
Introduction	8
CTBUH Best Tall Building Awards Criteria	19

## Best Tall Building Americas

### Winner:

Edith Green-Wendell Wyatt Federal Building, <i>Portland</i>	22
---	----

### Finalists:

The Point, <i>Guayaquil</i>	28
United Nations Secretariat Building, <i>New York City</i>	32

### Nominees:

4 World Trade Center, <i>New York City</i>	36
Magma Towers, <i>Monterrey</i>	38
MuseumHouse, <i>Toronto</i>	40
Peninsula Tower, <i>Mexico City</i>	42
Territoria El Bosque, <i>Santiago</i>	44
The Godfrey, <i>Chicago</i>	46
Torre Costanera, <i>Santiago</i>	48
500 Lake Shore Drive, <i>Chicago</i>	50
1812 North Moore, <i>Arlington</i>	50
Concord Cityplace Parade, <i>Toronto</i>	51
Courtyard & Residence Inn, <i>New York City</i>	51
Couture, <i>Toronto</i>	52
K2 at K Station, <i>Chicago</i>	52
NEMA, <i>San Francisco</i>	53
The John and Frances Angelos Law Center, <i>Baltimore</i>	53
The Peter Gilgan Centre, <i>Toronto</i>	54
Torres del Yacht, <i>Buenos Aires</i>	54
YooPanama Inspired by Starck, <i>Panama City</i>	55
ZenCity, <i>Buenos Aires</i>	55

## Best Tall Building Asia & Australasia

### Winner:

One Central Park, <i>Sydney</i>	58
---------------------------------	----

### Finalists:

8 Chifley, <i>Sydney</i>	64
Abeno Harukas, <i>Osaka</i>	68
Ardmore Residence, <i>Singapore</i>	72
FKI Tower, <i>Seoul</i>	76
IDEO Morph 38, <i>Bangkok</i>	80
Sheraton Huzhou Hot Spring Resort, <i>Huzhou</i>	84

The Jockey Club Innovation Tower, <i>Hong Kong</i>	88
Wangjing SOHO, <i>Beijing</i>	92

### Nominees:

41X, <i>Melbourne</i>	96
171 Collins Street, <i>Melbourne</i>	98
Academic 3, <i>Hong Kong</i>	100
Albert Tower, <i>Melbourne</i>	102
Anhui New Broadcasting & TV Center, <i>Hefei</i>	104
Baku Flame Towers, <i>Baku</i>	106
Changzhou Modern Media Center, <i>Changzhou</i>	108
China Merchants Tower, <i>Shenzhen</i>	110
Fake Hills, <i>Beibai</i>	112
Guangzhou Circle, <i>Guangzhou</i>	114
Habitat, <i>Melbourne</i>	116
Jiniao Tower, <i>Nanjing</i>	118
Kent Vale, <i>Singapore</i>	120
L'Avenue, <i>Shanghai</i>	122
OLIV, <i>Hong Kong</i>	124
Shanghai Arch, <i>Shanghai</i>	126
Xiamen Financial Centre, <i>Xiamen</i>	128
ASE Centre Chongqing R2, <i>Chongqing</i>	130
Asia Square, <i>Singapore</i>	130
China Resources Building, <i>Hong Kong</i>	131
DBS Bank Tower, <i>Jakarta</i>	131
Fortune Plaza Phase III, <i>Beijing</i>	132
Infinity, <i>Brisbane</i>	132
Jinling Hotel Asia Pacific Tower, <i>Nanjing</i>	133
One AIA Financial Center, <i>Foshan</i>	133
RMIT Swanston Academic Building, <i>Melbourne</i>	134
The Capital, <i>Mumbai</i>	134
The Gloucester, <i>Hong Kong</i>	135
The Pakubuwono Signature, <i>Jakarta</i>	135

## Best Tall Building Europe

### Winner:

De Rotterdam, <i>Rotterdam</i>	138
--------------------------------	-----

### Finalist:

DC Tower, <i>Vienna</i>	144
-------------------------	-----

### Nominees:

6 Bevis Marks, <i>London</i>	148
10 Brock Street, <i>London</i>	150
AvB Tower, <i>The Hague</i>	152

CalypSO, <i>Rotterdam</i>	154
Exxenterhaus Bochum, <i>Bochum</i>	156
Fletcher Hotel Amsterdam, <i>Amsterdam</i>	158
Maslak Spine Tower, <i>Istanbul</i>	160
Solaria, <i>Milan</i>	162
The Tower, One St George Wharf, <i>London</i>	164
Tour Carpe Diem, <i>Paris</i>	166
E' Tower, <i>Eindhoven</i>	168
Grand Office, <i>Vilnius</i>	168
One Angel Square, <i>Manchester</i>	169
Solea, <i>Milan</i>	169

## Best Tall Building Middle East & Africa

### Winner:

Cayan Tower, <i>Dubai</i>	172
---------------------------	-----

### Nominees:

BSR 3, <i>Tel Aviv</i>	178
Champion Tower, <i>Tel Aviv</i>	180
Portside, <i>Cape Town</i>	182
The Landmark, <i>Abu Dhabi</i>	184
22 Rothschild Tower, <i>Tel Aviv</i>	186
Conrad Hotel, <i>Dubai</i>	186
Rosewood Abu Dhabi, <i>Abu Dhabi</i>	187
World Trade Center Doha, <i>Doha</i>	187

## Urban Habitat Award

### Winner:

The Interlace, <i>Singapore</i>	190
---------------------------------	-----

### Finalist:

NEO Bankside, <i>London</i>	196
-----------------------------	-----

### Nominee:

Gramercy Residences, SkyPark, <i>Makati</i>	200
---	-----

## 10 Year Award

### Winner:

Post Tower, <i>Bonn</i>	204
-------------------------	-----

### Finalists:

Taipei 101, <i>Taipei</i>	210
Torre Agbar, <i>Barcelona</i>	210
Uptown Munchen, <i>Munich</i>	211
Highlight Towers, <i>Munich</i>	211

Time Warner Center, <i>New York City</i>	212
Bloomberg Tower, <i>New York City</i>	212
Tower Palace Three, <i>Seoul</i>	213

## Innovation Award

### Winner:

BioSkin	216
---------	-----

### Finalist:

Active Alignment	220
------------------	-----

### Nominees:

DfMA and Digital Engineering for Tall Buildings	222
LiftEye	224
Steel Fiber Reinforced Concrete	226

## Performance Award

### Winner:

International Commerce Center, <i>Hong Kong</i>	230
---	-----

### Finalist:

Jin Mao Tower, <i>Shanghai</i>	234
--------------------------------	-----

### Nominee:

Darling Quarter, <i>Sydney</i>	236
--------------------------------	-----

## Lifetime Achievement Awards

Lynn S. Beedle Award, <i>Douglas Durst</i>	240
Fazlur R. Khan Medal, <i>Peter Irwin</i>	246
CTBUH 2014 Fellows	252

## Awards & CTBUH Information

CTBUH 2014 Awards Jury	253
Review of Last Year's CTBUH 2013 Awards	254
Overview of All Past Winners	260
CTBUH Height Criteria	264
100 Tallest Buildings in the World	267

## Index

Index of Buildings	272
Index of Companies	273
Image Credits	277
CTBUH Organizational Structure & Members	279

# Foreword

---

Jeanne Gang, 2014 Awards Jury Chair

It has been my pleasure to serve once again as Awards Jury Chair for this year's CTBUH Best Tall Building Awards. During my tenure, I've been consistently impressed with the depth and range of the juries' conversations. It is incredibly reassuring to recognize that despite our differences of discipline, geography, or language, we find so many commonalities when united in the appreciation of good design. Sharing ideas and analysis with such highly accomplished professionals and colleagues has been truly energizing.

It is always difficult and perhaps inherently unfair to judge a building through the brief process of an awards program when the actual project represents years of hard work by its design team. This year we re-examined and adjusted the process undertaken by the jury to allow more time for reflection and deeper inquiry into the projects' performance and innovation. Prior to selecting the regional Finalists, jurors were given an extra week to review the submissions, as well as the technical evaluations provided by our newly appointed Technical Jury. The extended timeline also provided the opportunity to solicit and review any additional information the jury felt was vital to the selection process and to request further feedback from the Technical Jury. These modifications served to strengthen an already thorough process, ensuring not only exemplary finalists throughout all of the categories but also careful attention to how we on the jury define and measure excellence.

While admirable buildings were submitted from every region, projects from Asia were undeniably compelling. With so many quality buildings to choose from, the jury found it difficult to select just a few. Ultimately, we decided to include a larger-than-usual sampling of Finalists from Asia, in order to recognize some of the most successful tall buildings in recent history.

Overall this year, the projects most appreciated by the jury propelled the tall building typology into new arenas, looking beyond pure height to their impact on urban environments. The expanded spatial aspects and connections between indoors and outdoors as demonstrated by IDEO Morph 38, Bangkok, and the Ardmore Residences, Singapore, both Finalists in the Asia & Australasia category, were especially promising. Projects such as The Interlace, Singapore, recognized as both a Finalist in the Asia & Australasia category and as the Winner of the inaugural Urban Habitat Award, have literally inverted conventional thinking about tall buildings. The way in which The Interlace and other projects engage the ground and the environment in new ways is exemplary. And the jury was particularly impressed with vegetated, solar-responsive tall building projects like One Central Park, Sydney, the Asia & Australasia Winner, which plays a role in urban ecology.

Having witnessed firsthand the progress and progressiveness of this building type, even just over the past two years, I am ever-more excited about the future of tall buildings and the transformative



potential of the ideas they incubate. This year's entries show that innovation is everywhere, yet there is also much to improve. Herein lies the challenge: if we really want to radically improve tall buildings, we need to continue to push ourselves and our clients to measure success through understanding the building's energy performance. Unless we as designers and jurors prioritize, disclose, and track this information, we are missing a major point of impact and our process remains flawed. Let us continue to discuss the idea of energy performance and together find ways to encourage forward movement on this front.

Thank you to my fellow jurors Sir Terry Farrell; David Gianotten; Saskia Sassen; David Scott, who served as Technical Jury Chair; Thomas Tsang Wai Ming; and of course Antony Wood, whose experience and passion is appreciated by all. Thanks also to this year's technical jurors Guo-Qiang Li, Nengjun Luo, Douglas Mass, Paul Sloman, and Peter Williams. And finally, my deep appreciation goes to Steven Henry at the CTBUH for once again tirelessly stewarding this program.



# Introduction

---

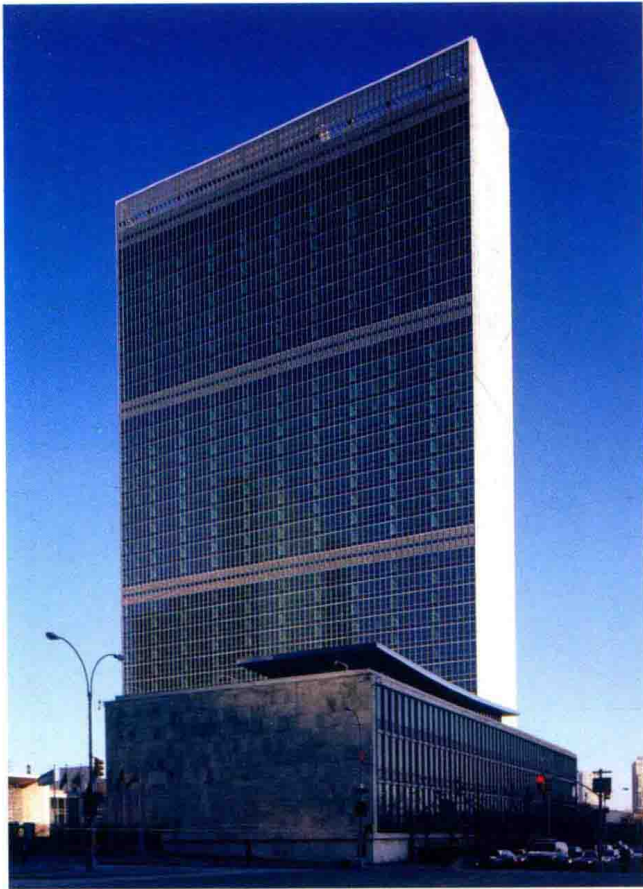
In 2014, it seems that the tall building community has finally recovered from the shock of the 2008 financial crisis, which had delayed or canceled many projects and had a chilling effect on investment in the immediate years following. But 2014 was not a year in which the built evidence demonstrated the industry simply shaking off the dust and resuming just as before. Many of the tall building projects of the boom era that never came to be – overwrought, gaudy, disconnected from place – were perhaps best left on paper. In 2014, there

are now strong signs that a return to largesse would not be a sustainable strategy. There seems to be a dawning recognition that, in order to deliver transformative, let alone viable, projects, some first principles about the way we build have to be re-examined.

Only a tiny selection of the tall buildings completing in the past 12 months or so have received CTBUH awards this year. But the value of throwing the spotlight on these projects is that doing so exposes themes that are reflective of, or have wider implications for, the industry as a whole. For in these projects we can see the vestigial signs of an emerging consciousness: one that recognizes the value of designing with, instead of against, nature – and the responsibility to do so. We see not a blind faith in technology, but a shrewd fusion of simple, time-tested principles with digital validation, creating solutions that have the potential to carry us through difficult conditions that surely await us in the near future. We see data being “liberated” and put to use in ever-expanding ways, so that as we ascend higher, we assume less. We see forms as inventive as ever, but with a renewed sense of purpose. And we see the achievements of our best practitioners as a reminder of why we build in the first place.

One of the strongest trends evident in the projects completing this year was the number of high-quality refurbishments and environmental upgrades of existing tall buildings, to become more energy-efficient, more functional, and safer. Establishing a precedent





**Opposite:** Americas Winner Edith Green-Wendell Wyatt Federal Building, Portland; a dramatic conversion/renovation of a 1940s office building

**Left:** Americas Finalist United Nations Secretariat Building, New York City; modernized without sacrificing its original iconic design

for renovating tall buildings is clearly important to the industry, as there is no template for demolishing buildings of the height we are now seeing constructed when they begin to underperform. Nor can we expect that there will be much tolerance for the environmental consequences of demolishing massive buildings and wasting their embodied carbon, or continuing to operate them with outmoded and inefficient technology.

But we must be honest and admit that these buildings do have a service life that ends at some point. Now the second major wave of tall buildings – which, with their thin envelopes and tight engineering, have proved to perhaps be more difficult to retrofit than the masonry and punched-opening buildings of the first generation – has reached that point. However, at least two projects in this book prove that second-generation skyscrapers can be retrofitted for another half-century's operation, at least. Still, we are running out of excuses for not considering how the buildings we construct today might be continuously optimized or feasibly altered tomorrow.

The Americas Winner, the Edith Green-Wendell Wyatt Federal Building, and Americas Finalist United Nations Secretariat, were particularly outstanding in their refurbishment, because they reflect the commitment of national and trans-national government bodies to demonstrate the power of reinvestment in existing buildings when it comes to the environment. The Edith Green-Wendell Wyatt project is a dramatic conversion of a concrete-frame, 1970s office building into a light-filled, strategically shaded contemporary facility that engages its surroundings. Meanwhile, the UN Secretariat project restored the external appearance of one of the Modern movement's greatest icons, while substantially improving the mechanical, safety and communications systems, light penetration, and arrangement of the internal spaces.

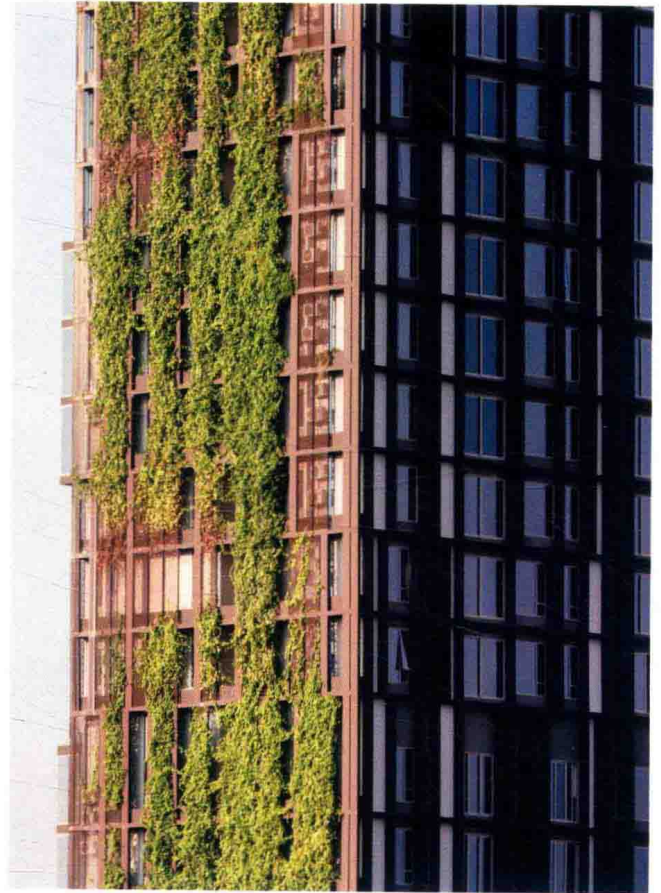
Private industry has often railed against government regulation of its activities in the name of curbing climate change and greenhouse gases, and it's no secret that some of the suppliers of raw materials and hardware for tall buildings have been first to the front lines in such protests. As such, it is critical that governments take the steps to show that they are willing to undertake the degree of change they seem to be demanding of private concerns. And this isn't just a case of "self-sacrifice" for the betterment of the environment. In retrofit cases such as Edith Green-Wendell Wyatt, once-dismal and outdated real estate has become more valuable, and begins paying — for itself almost immediately, not just in lower energy



bills, but in the higher productivity of its occupants. For all the exposure that operating energy costs get in the building industry, for most companies it is staff/salaries that are the number-one cost. Thus, if they're happier, healthier, and more productive, that's a bottom-line argument that is hard to counter.

Just as importantly, there now exists the beginning of a template for dealing with aging tall building stock. Many commercial mid-century office buildings share characteristics with this year's modernization awardees – low floor-to-ceiling heights, poor insulation, poor natural light penetration, outdated cellular office plans, and embedded, poorly performing HVAC systems. Many property owners are now facing a crisis in how to convert their underperforming assets from the Modernist era into contemporary Class-A office space that meets today's high occupant and regulatory standards. Through projects such as Edith Green-Wendell Wyatt and the UN Secretariat, governments now have shown that the “talk” can be “walked.” Now it's the corporates' turn to do similar.

And so it is that “green” building design and retrofits have entered the architectural vanguard, and have been working their way up in scale to the tall buildings we are accustomed to working on and in. An even more recent, and sometimes even more sensually stunning development, is the incorporation of vertical greenery in tall buildings. Early pioneers from the 1990s include Germany's Commerzbank and Chile's Consorcio, and many of the CTBUH Best Tall Buildings regional winners of the past few years incorporate some form of sky lobby with planted greenery, such as The Bow, Calgary, or planted, habitable roof areas, such as the Pinnacle @ Duxton, Singapore. But in recent years, green walls have been taken, quite literally, to new heights, particularly in Southeast Asia, where the tropical climate is exceptionally conducive to plant growth. In fact, the CTBUH has researched this trend extensively, and released a comprehensive technical guide on the subject, *Green Walls in High-Rise Buildings*, this year.



Bangkok's Ideo Morph 38 project, included both in the Green Walls guide and in this volume, for instance, actually uses a panelized system of mesh with creeping vines as an element of architectural enclosure, providing aesthetic, shading, and cooling benefits up to the 32nd floor of one of the towers.

At One Central Park, Sydney, the 2014 Best Tall Building Asia & Australasia, technological sophistication in the form of directional heliostats cantilevering from the tower's peak regulates the sunlight that reaches the ground as well as the greenery-festooned shelves that cover all faces of the tower. This is not mere window-dressing; the unprecedented level of green implementations on this project not only provide shading, driving reductions in energy consumption, they also facilitate an intangible but critical new asset in the form of a public park. This inverts the traditional interpretation of tall buildings as constructions that are additive to, rather than subtractive from, the public realm. To



**Opposite:** Asia & Australasia Finalist Ideo Morph 38, Bangkok; creeping vines grow up the side of the building to the 32nd floor

**Top:** Asia & Australasia Winner One Central Park, Sydney; extensive use of greenery on all façades of the building

**Bottom:** Asia & Australasia Finalist Abeno Harukas, Osaka; the tallest building in Japan provides public green spaces throughout the building

add needed new housing and new public space that consumes an exemplarily low amount of energy – that is an achievement worth celebrating and studying.

Asia & Australasia Finalist Abeno Harukas, Osaka, the tallest building in Japan, takes a different approach; less obvious perhaps, but just as valid. Its green assets are very much “inside” the building, yet they are also shared with the public. At the top levels is a public garden and peripheral walkway, open to fresh air but also protected from stiff winds by a glass façade, thus combining a fantastic view with a stellar green asset. Elsewhere in the building, intermediate setbacks are similarly outfitted with refreshing, open, and yet protected patches of greenery. This is in addition to the amazing concentration of such a diverse range of amenities as retail, museum, hotel, office, school, hospital, and park in one small urban footprint over a busy railway station. Abeno Harukas pushes the boundaries of what tall buildings can achieve on several different levels.

As design technology has advanced over the years, it has become increasingly common to see new interpretations of the skyscraper form. Not all of these can be justified; many proposed during the building boom in advance of the financial crisis of 2008 carried little merit other than being sculptural curiosities. In today’s more chastened climate, however, we now see a resurgence of unusual shapes, the best of which are elegant, distinctive,

