

URBANIZING ASIA AND GREEN URBAN GROWTH

*Image Source: Inhabitat.com

WHAT IS THE INSIGHT?

With the need to accommodate growing population densities while mitigating environmental challenges, developing cities across Asia are responding by implementing strategies to promote green urban growth. Asia's urban population is expected to grow to 2.7 billion people from the current 1.9 billion by 2030 creating a massive influx of new urban residents. Some countries like China are actively encouraging and accelerating the process of rural dwellers moving into smaller 'Tier 2' (e.g. Dalian, Wuhan, Chongqing) and 'Tier 3' cities (e.g. Shijiazhuang, Changzhou and Lanzhou). Given constrained resources and worsening environmental challenges, such as water scarcity and air pollution, governments and businesses are pioneering new energy-efficient and eco-friendly facilities, habitats and practices in the form of urban renewal and green cities. China and Singapore have invested C\$10.24 million to develop the Sino-Singapore Tianjin eco-city in China while Japan has invested C\$140 million in Keihanna eco-city. These green cities are providing models for innovative water and energy conservation technologies as well as sustainable living and transportation options.

WHY IS IT IMPORTANT?

The influx of new urban residents within Asian countries will bring numerous challenges to Asian governments in that they will need to maintain high rates of economic growth while also dealing with water scarcity, air pollution, rising energy consumption, increased traffic congestion, and waste management concerns. Promoting urban green growth will be critical to fostering continued social stability, economic growth and development while preserving the natural environments that underpin well-being and quality of life.

HOW WILL IT IMPACT ASIA?

The growing urban populations are spurring an array of policy measures, standards measurements, green city projects and urban renewal which will accelerate in the next decade.

Singapore is at the forefront of green building and green urban renewal in Asia with the number of green buildings increasing from 17 in 2006 to over 1,600 in 2013, covering 20% of the built environment. Singapore aims to retrofit 80% of its buildings by 2030.

Other parts of developing Asia are catching up, focusing on adopting more stringent green policies and developing new green buildings. In China, ambitious targets to reduce carbon emissions are leading to more green building labeling policies and subsidies for the adoption of energy efficient technologies. In cities like Jakarta, stronger policies are being advanced to reduce traffic congestion and pollution by implementing electronic road pricing systems and low cost green car programs.

The next decade will bring continued growth in intra-regional trade, transfer of knowledge and best practices on environmental technologies, recycling know-how and sustainability practices between more developed 'green' cities



Government
of Canada

Policy Horizons
Canada

Gouvernement
du Canada

Horizons de politiques
Canada

Canada

Asia Pacific
Foundation
of Canada

Fondation Asie
Pacifique du
Canada



and those emerging in developing Asia. Building codes such as the LEED (US), BCA Green Mark (Singapore) and Three-Star (China) help to reduce energy consumption and integrate renewable wind and solar energy production on site to provide local sources of energy. These codes are moving in the direction of becoming a standard practice for new buildings. For example, under the BCA Green Mark scheme, constructing energy efficient buildings can lead to up to 30% savings in energy consumption though it only costs five percent more. Retrofitting commercial buildings can yield average savings of nearly 20% in energy consumption. However, even though more developers in China are applying for green building labels, many overlook the value of investing in better quality materials, such as insulation and sealed windows, in favour of immediate cost-savings.

New planned cities, such as the Sino-Singapore Tianjin eco-city, Jieyang metal eco-city, and the Pluit City in Jakarta, Indonesia, are green cities being built from scratch on previously unused or reclaimed areas. These cities will have buildings with greater energy efficiency than conventional buildings and a low to zero carbon footprint, thus potentially having a substantial impact on energy conservation.

Yet given the fact that many of the 'green city' projects are still happening on a relatively small scale in Asia, policymakers also need to focus on urban renewal through the retrofitting of existing megacities and buildings, such as Chongqing or Shenyang in China. New planned city projects are appealing because they incorporate sustainable planning policies and take advantage of the latest energy and water-saving technologies. However, retrofitting is an important alternative in the face of constraints to 'start from scratch' in an already heavily urbanized region. Projects such as the Yokohama Smart City Project and the Toyota City Low-Carbon Verification Project are urban renewal projects that seek to assess existing populated urban areas and optimize their energy efficiency. Transforming existing cities into green cities has the potential to reduce consumption of energy on a larger scale than the currently planned new green city projects.

The green building market shows signs of growth, but it remains to be seen whether several enabling factors will allow for large-scale, transformational change. These factors include political will on the part of Asian governments (including the ability to battle corruption in granting large construction contracts), access to affordable and effective technologies to meet infrastructure needs, proper incentive structures for new ventures, and a broader and deeper level of public knowledge and engagement.

HOW WILL IT IMPACT CANADA?

The growth of green cities and buildings in Asia offers Canada the opportunity to participate in development projects in that region. Currently three Ontario-based architecture firms are involved in the design of the Shobuj Pata Eco Community Development in Dhaka, Bangladesh, a residential project planned for 10,000 inhabitants. The business opportunities are not limited to cooperation in new international building projects. There is also a window of opportunity in retrofitting the existing building stock in Asia as local businesses prefer focusing on new projects.

REFERENCES

Building and Construction Authority. *Snippets of 3rd Green Building Masterplan: Featuring the Business Case for Green Buildings*. International Green Building Conference 2013. Sept. 2013. http://www.bca.gov.sg/GreenMark/others/BGreen_4_2013.pdf

Korea Herald. "Green Growth: Korea`s New Strategy." 30 Oct. 2013. http://www.koreaherald.com/common_prog/newsprint.php?ud=20090319000080&dt=2

New Strait Times. "Low carbon cities -- the way forward for green." 25 Dec. 2011. <http://www.nst.com.my/nation/extras/low-carbon-cities-the-way-forward-for-green-technology-1.23852>

Tianjin: A model Eco-city in the Eastern World. *Danish Architecture Centre*. 26 Nov. 2012. <http://www.dac.dk/en/dac-cities/sustainable-cities/all-cases/master-plan/tianjin-a-model-eco-city-in-the-eastern-world/>

United Nations. Dept. of Economic and Social Affairs. *World Urbanization Prospects: The 2011 Revision*. UN, 2012. http://esa.un.org/unup/pdf/WUP2011_Highlights.pdf



Steinberg, Florian and Lindfield, Michael. "Spatial Development and Technologies for Green Cities." *Asian Development Bank*, 2012. <http://www.iadb.org/intal/intalcdi/PE/2012/10650.pdf>

McKinsey Global Institute. "India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth." McKinsey and Company. April 2010. http://www.mckinsey.com/insights/urbanization/urban_awakening_in_india

United Nations Human Settlements Programme. *UN Commission on Sustainable Development, 15th Session*. 30 April – 11 May 2007. http://sustainabledevelopment.un.org/content/documents/habitat_2may_cc.pdf

"High-Rises to Face Audits, Green Building Code." *The Jakarta Post* 1 May 2013. <http://www.thejakartapost.com/news/2013/05/01/high-rises-face-audits-green-building-code.html>

Ryser, Judith. "Asian Eco-Cities: A Critique." *FuturArc*. March-April 2013 (29). <http://www.futurarc.com/index.cfm/editorial/main-feature/mar-apr-2013-main-feature/>

Gou, Lu. "Home buyers cuing up for Tianjin Eco-City." *Global Times* 24 Mar. 2010. <http://www.globaltimes.cn/business/comment/2010-03/515382.html>

Lim, Kristine. "S'pore is a Strong Supporter of China's Development: ESM Goh." *Channel News Asia*. 15 Sept. 2013. <http://www.channelnewsasia.com/news/asiapacific/s-pore-is-a-strong/814040.html>

"The Building of Jieyang Eco City approved." *China Daily* 24 June 2013. http://www.chinadaily.com.cn/bizchina/2013-06/24/content_16652781.htm

New Energy Promotion Council. "The Yokohama Smart City Project (YSCP)." Japan Smart City Portal, 2013. <http://jscp.nepc.or.jp/en/yokohama/>

Energy Promotion Council. Toyota City Low-carbon Society Verification Project (Smart Melit). <http://jscp.nepc.or.jp/en/toyota/index.shtml>

Building and Construction Authority. "Reinforce Strategies on Green Buildings, Says BCA's Expert Panel." 26 June 2013. http://www.bca.gov.sg/Newsroom/pr26062013_IGBC.html

Reyes, Elga. New study shows strong business case for upgrading buildings. *Eco-Business.com* 13 September 2013. <http://www.eco-business.com/news/new-study-shows-strong-business-case-upgrading-buildings/>

United Nations Industrial Development Organization. "Japanese "Green City" to spread Environmental Technology, Recycling Know-How to Developing Countries." UNIDO. 14 June 2010. <http://www.unido.org/news/press/unido-developin.html>

Nelson, Christina. "China's Green Building Future." *China Business Review*. 2013. <http://www.chinabusinessreview.com/chinas-green-building-future/>

"ERP to Hit Jakarta Streets in 2014." *The Jakarta Globe* Oct.4, 2013. <http://www.thejakartaglobe.com/news/jakarta/erp-to-hit-jakarta-streets-in-2014/>