



## GBPN Case Study

### Achieving scale in energy-efficient buildings in China: A view from the construction and real estate sector

A report from the Economist Intelligence Unit (EIU), commissioned by the GBPN, in collaboration with The China Sustainable Energy Program (CSEP)

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China is the largest consumer of energy in the world, with economic growth and rapid urbanization pushing energy consumption even higher. According to the Chinese government, approximately 28% of China's carbon dioxide emissions now originate in buildings, up from 10% three decades ago. Energy demand in buildings is rising along with economic expansion and affluence. While the Chinese economy has cooled somewhat, GDP is expected to grow by a yearly average of 7.5% over the next five years; the World Bank projects a tripling of energy demand from buildings over the next two decades. CO<sub>2</sub> emissions are rising with energy consumption. China emits roughly 6bn tonnes of greenhouse gases a year—about 20% of total estimated global emissions of 36bn tonnes, according to PBL Netherlands Environmental Assessment Agency (the US is responsible for about 16%). Levels of pollution have become worrisome: they are suffocating China's urban populace and alerting government and businesses to the urgent need to curb emissions. Incentives for and demand for energy-efficient buildings remain low, but the Chinese government is now developing plans and programmes to promote green buildings. Although occurring mostly at the national level, demand is increasing at the state and local levels as well. If these efforts lead to greater awareness of cost savings, stronger legislation and greater access to capital and investment incentives, private companies along with state-owned enterprises (SOEs) could lead the charge to achieve scale in energy-efficient buildings.

The Chinese private sector is particularly open to change. Some 83% of executives from China's building sector accept reduction of carbon emissions as a corporate responsibility, compared with 60% of US executives, according to the Economist Intelligence Unit (EIU) June 2012 survey of global building executives, commissioned by the Global Buildings Performance Network (GBPN).

Key findings from the report include:

- **Low awareness of the potential cost savings restricts demand for energy-efficient building in China.** Chinese buyers are price-sensitive and don't yet understand the savings associated with energy-efficient buildings. Suffocating pollution in big cities, however, is starting to raise awareness about the need to reduce emissions and may increase consumer demand for energy efficiency.
- **Until recently, developers have had little incentive to spend extra for energy-efficient construction, but new government programmes are helping build a better business case.** While green building legislation oversight at the local level remains spotty, concrete government plans to promote green buildings are now in place. Last year, \$8.5m in government subsidies was made available to each "ecological" district that meets green building standards.

- **The private sector is helping fuel demand for energy-efficient buildings.** Companies are increasingly drawn to buildings that meet national and international green certification standards; they are also looking to meet their corporate social responsibility (CSR) objectives.
- **Increasing government subsidies and international funding compensate for scant sums provided by Chinese banks.** China's commercial banks are wary of lending for construction of energy-efficient buildings as such loans are roughly 10% larger than those for traditional buildings. Foreign architects, foreign developers and foreign capital are helping fill some of the financing gap, while government subsidies and

tax breaks in some regions are giving an opportunity to smaller domestic companies to ramp up investments in energy-efficient buildings.