

Green building certification: The sustainability movement’s secret weapon

Hong Kong Green Building Council head Sr Wong Bay explains how green building rating systems are an essential tool in the fight to achieve a net zero emissions built environment.



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In Hong Kong, buildings account for about 90 per cent of electricity use and more than 60 per cent of energy-related carbon emissions. Image: Pixabay

The global buildings sector is at a critical juncture. If the warming of the planet is to be kept below the two-degree Celsius limit enshrined in the 2015 Paris climate accord, the sector will have to cut carbon emissions drastically, peak them by 2020, and achieve “net zero carbon” by 2050, according to the World Green Building Council (WorldGBC).

It will be challenging. In cities, buildings are responsible for the bulk of electricity use and waste generation. Globally, they account for a third of energy consumption and about a fifth of energy-related emissions. The need for buildings – new and existing – to be built or retrofitted to greener standards should be obvious; but how can sustainable building practices be incentivized?

One key solution to drive a “race to the top” among property developers could be rating tools, which assess the sustainability of buildings. The WorldGBC recognizes the power that rating tools have to raise building standards and transform built environments. About half of all green building councils now administer some sort of rating system in their respective countries.

Globally, rated buildings now encompass 1.04 billion square meters of space. In the US, buildings certified under their [LEED system](#) use 25 percent less energy and 11 percent less water. Buildings certified under the UK-based [BREEAM](#) tool have been found to help reduce CO2 emissions by 22 per cent.

Simple solution, huge impact

A green building rating system is a simple solution, but it has huge impact. In heavily built-up Hong Kong where buildings account for about 90 per cent of electricity use and more than 60 per cent of energy-related carbon emissions, an independent and robust rating system has been able to benefit the city not just environmentally, but socially and creatively too.

Certified by the Hong Kong Green Building Council, the Building Environmental Assessment Method (BEAM) Plus scheme was introduced in 2010 as a set of quantifiable measurements for gauging the sustainability of a building over its life cycle. BEAM Plus tools now cover new and existing buildings as well as interiors and neighborhoods.

BEAM Plus certification is voluntary. Some may consider this a limitation, but the benefits seen in Hong Kong have been tangible and manifold.

In a mere seven years, over 1,320 buildings in Hong Kong have been certified. BEAM Plus has helped Hong Kong offset over 300,000 tonnes of carbon emissions annually – the equivalent effect of planting 14 million trees.

Facilitating market change

Though young, the BEAM Plus rating tool has proven to be an effective facilitator for Hong Kong’s market transformation. Its roots span back to the 1990s when a group of private developers believed it prudent to move ahead of the game and set standards for self-regulation in the industry. BEAM was established in 1996 as the second localized green building tool in the world, after the UK’s BREEAM.

The system has undergone several enhancements since, the most significant being the 2010 upgrade of BEAM to BEAM Plus. By then, it was already shifting private and public thinking. In 2011, the Hong Kong government included BEAM Plus as one of the prerequisites for granting developers concessions on extra gross floor area for all new projects that had achieved or were pursuing certification.

Private sector participation in the scheme has been strong. As of 2014, half of all new private building projects apply for assessments annually. BEAM Plus was included in the Hong Kong Government’s 2015 Energy Saving Plan to reduce energy use and carbon emissions of the built sector and the toolkit will continue to play a vital role in mobilizing behavioral change among stakeholders. Incorporating green building tools into mainstream standard design and city planning will help facilitate these changes.

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Empowering behavioral change

The December 2016 launch of BEAM Plus Neighbourhood – an upgraded version of BEAM Plus has induced wider behavioural change. The new rating tool encourages developers to think holistically about the impacts of a project on the immediate community and environment at the masterplanning stage and places particular focus on traffic, ecology, public space and quality of outdoor environment, with the aim of promoting urban sustainability at neighbourhood-level and fostering a liveable, low-carbon lifestyle and environment.

Imagine this: an 811-unit, 41-storey subsidized housing block in Cheung Sha Wan, an old, densely-built up neighborhood in Kowloon. What could simply have been a drab vertical concrete block, is instead L-shaped with a three-storey void at the entrance to facilitate better wind permeability and visual links to surrounding areas. Residents and pedestrians enjoy covered walkways and footpaths through open public spaces, segregated from noisy, polluted vehicular roads.

This project was one of three subject to a pilot-testing scheme of BEAM Plus Neighborhood last year, along with the Electrical and Mechanical Services Department Headquarters and the West Kowloon Cultural District. All three have attained the highest Platinum rating under BEAM Plus Neighborhood.

Driving innovations

Because BEAM Plus gives more weighting to designs that strive for higher environmental performance than required, it drives innovation. Hong Kong’s green buildings are showrooms for various sustainable applications and technologies ranging from biodiesel tri-generation systems and regenerative drives in lifts to storm water management and food waste composting. Building Information Modeling (BIM) and electric vehicle charger installations are also becoming increasingly popular.

A prime example is Hong Kong’s first zero carbon building, the platinum-rated ZCB, which itself has been an incubator for various innovative building designs. Outfitted with a multiple renewable energy system comprising photovoltaic panels and biodiesel generation, some of its technology will even be incorporated in the latest green developments in town, such as the Taikoo Place redevelopment project in the Eastern district.

Climate change is here and now. The built sectors of cities will have a significant role to play in mitigating it. As an Established Member of the WorldGBC, Hong Kong will continue to capitalize on its local rating system to raise and popularize green building standards and further ingrain the concept of sustainability into the ethos of mainstream building design.

Christiana Figueres, the former United Nations climate chief, seems to have put it best. Sustainability, the diplomat said at the World Sustainable Built Environment Conference (WSBE17) in Hong Kong in June, should no longer be seen as “icing on the cake but the cake itself.” Rating tools have helped drive the point home in this city. They will likely do the same for others.

Sr Wong Bay is Chairman of Hong Kong Green Building Council. This article was written exclusively for Eco-Business.

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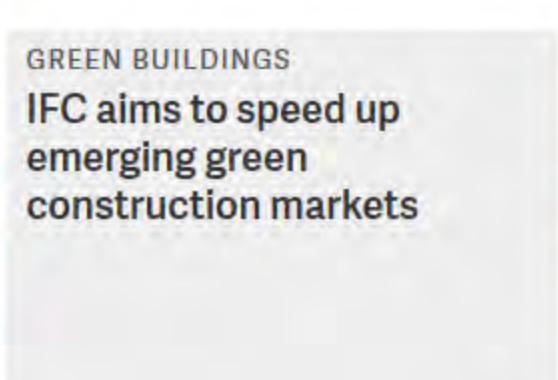
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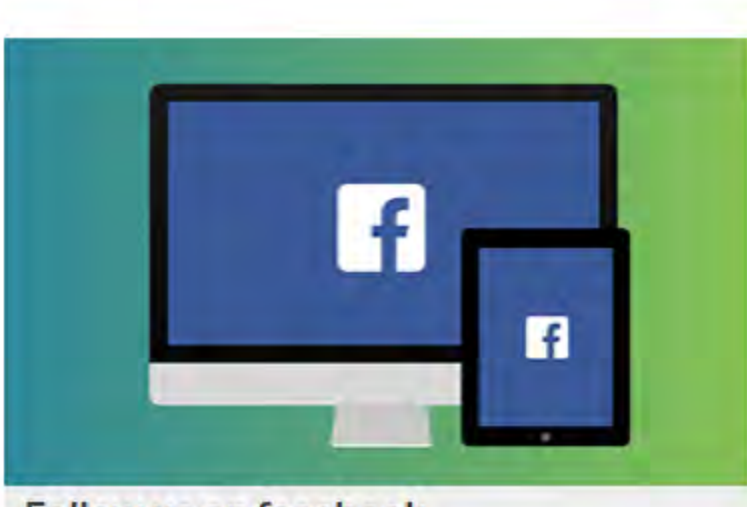
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