Big players’ co2-busting drive changes property climate

While Asia’s carbon footprint is growing as rapidly as its economies and populations, its leading real estate companies – and multinational occupiers – are pushing the green building agenda forward.

Sustainability is part of every developer’s marketing package, but more and more players in the Asian real estate markets are taking both a philosophical and practical approach to the environment, with minimal environmental challenges that face the region in this area.

Asia’s largest developers seem genuinely committed to sustainability: the biggest developers in Hong Kong, Tokyo and Singapore all look for green certification, China Vanke publishes a corporate social responsibility report every month and ‘eco’ projects are springing up all over the region, with passive air cooling, water recycling and on-site food waste composting.

However, the Asia Pacific carbon footprint continues to grow and the region’s cities are struggling to manage the sheer numbers of people they contain, the pace of growth and the changing urban environment.

Speaking at last month’s ULI conference in Beijing, architect and urban planner Peter Calthorpe said: “Only 12% of journeys in China are undertaken by car, yet many of the city streets are gridlocked.”

It also remains the case that while the biggest and best in the property industry are moving forward, the majority of developers have minimal environmental concerns.

Richard Marriot, head of EIC Harris’s asset and investment advisory business in Asia, says: “Asia does not take sustainability as seriously as the US and Europe does.”

Sarah Lee, a senior associate director at architect Benoy, says: “We see more interest in sustainable development from our clients, but it is really only a handful of developers, such as Swire, CapitaLand and Sun Hung Kai, that are driving green development.”

Missing the bigger picture

Furthermore, developers are inevitably more concerned with their projects’ performance than with the bigger picture. Tim Shui, director of sustainability for Asia at CBRE, says: “Most developers look at sustainability on a project-by-project basis, although they may take a more ‘placemaking’ approach for a large, mixed-use development. However, the community fabric is more than just an agglomeration of buildings.”

Hsing Kong-listed China developer Shui On Land has an unusually strong commitment to sustainability and community-building in its large, mixed-use developments in mainland China.

Director of planning and development Albert Chan led the development of Xintiandi in Shanghai, which was one of the first attempts at ‘placemaking’ in modern China and one of the first to reuse historic buildings, rather than flatten them.

Shui On now has a swathe of Tiandi branded schemes across China and the format – which includes pedestrian areas, a mix of building heights and densities, and public transport links – has been copied all over China.

Some architectural commentators have criticised the Tiandi concept for being a historical pastiche for shoppers; however, the car-free environment of Xintiandi makes it one of Shanghai’s most pleasant areas – and a tourist attraction in its own right – in sharp contrast to the unfriendly blocks surrounded by traffic that comprise many Chinese developments.

“It’s more common in China to raze and build new, but 4,000 years of continuous history is important to preserve,” says Chan. Chan is a keen advocate of sustainable development and says sustainability is part of Shui On’s developments from the beginning; “It is less expensive and more effective to be sustainable from the beginning. If you weave these ideas into the concept stage then it drives the efficiency of the whole project. It’s harder and more expensive if you do it post-construction.”

US data suggests it costs 2% extra to develop a building to LEED gold standard. Chan reckons Shui On’s costs are lower than that, but admits that it is hard to judge because “sustainability is ingrained in the process; we don’t have an ‘unsustainable’ plan to compare it with”.

One of Shui On’s latest projects, Foshan Linqian Tiandi, is being developed on a 650,000m² site including 22 historic buildings, which need to be protected and integrated into the development.

Chan says Shui On has become much better at sustainable development as it has gained experience and adds that “progress is incremental”.

Designing in sustainability

CBRE’s Shen points out that it is cheaper and more efficient to take an integrated approach to design and to incorporate sustainable development practices right from the start of a project, rather than to take the traditional phased approach. “It’s best to start with everyone in the room,” he adds. “You spend longer at the planning stage but there is a positive trade-off.”

Of course, even in a region growing as strongly as Asia Pacific, new buildings make up only a tiny proportion of the total stock, so the overall improvements to environmental standards they make are marginal. ▶

COOL SOLUTIONS FOR SAVING ENERGY

In much of Asia, the biggest challenge in creating an energy-efficient building is managing heat and light.

Sarah Lee, a senior associate director at architect Benoy, says: “Air-conditioning can account for up to half a building’s energy use,” so any techniques that reduce the need for air-conditioning will inevitably save money in the long run.

Another factor, particularly in hotter countries in Asia, is the heat-island effect, where large and tall buildings become significantly warmer than the rest of their surrounding area.

In many buildings, there is a forced trade-off between light and heat: too much glass and the building heats up unacceptably, too little and it is gloomy and forced to rely on artificial light.

Permanent shades on the outside of buildings, known as brise-soleils, reduce heat build-up while still allowing reasonable amounts of light in.

At CapitalLand’s Raffles City mixed-use development in Shenzhen, Benoy has designed a number of features to mitigate heat effects. These include: energy efficient lamps with low wattage bulbs, which produce less heat; green roofs on buildings, to mitigate the heat-island effect; and a significant proportion of planted open space.

The building also uses solar panels, a requirement driven by the Shenzhen government, although sustainability professionals disagree as to whether solar paneling is in fact particularly green, because of the materials used in its production. Nonetheless, 80% of the roof area is covered in solar panels.

Large blocks of development also cut down a city’s sky, so the individual buildings in the project sit on pillars to allow wind to move through the development.

At Swire Properties’ and Beijing Sino Ocean Land’s Indigo project in Beijing, chillers have been installed that use cheaper night-time electricity to make ice, which then cools the building during the day.

Meanwhile, heat recovery devices will be installed to capture residual heat energy from return air ducts, thus maximising energy efficiency.
However, it would be wrong to consider older buildings a lost cause. Shen says CBRE in the US has advised on a green refit for a 30-year-old building.

“While the amount of new construction in Asia is phenomenal, we can help owners of that vast amount of existing stock to enhance asset value through better building performance, and via LEED for existing buildings certification, which positions properties to compete for tenants seeking green building occupancies.

“This is crucial to helping the real estate industry make meaningful reductions to its environmental impact and move our cities towards a more sustainable future.”

Other green retrofit projects in recent years have included fitting New York’s 80-year-old Empire State Building with new windows that retain heat better, which will contribute to a 40% cut in energy use. In Asia, the Taipei 101 tower last year received LEED Platinum status, seven years after completion. Retrofitted energy-saving measures will save $1.2m a year.

Being greener is not necessarily more expensive if developers refresh rather than rebuild. In Hong Kong, China Resources Land has sustainably refurbished the China Resources Building in Wan Chai at a cost of HK$600m (S$77.3m), much less than the cost of redeveloping the site and without the loss of rental income during construction. The refit will cut energy costs by around 15% and water usage by a third.

**Multinationals drive demand**

While sustainable development is in the hands of the developers, demand for green buildings continues to come from occupiers and governments. Multinationals with US and European headquarters demand energy efficient buildings. There are conflicting data about whether they will pay a premium to occupy green space, but data from the US suggests that energy efficient buildings do have better occupancy rates (see chart above). Real estate investors are also more concerned about sustainability than they were previously, although few insist on energy-efficient buildings and none are prepared to pay a premium for them.

EC Harris’s Marriott says: “If two otherwise equal buildings have differing green credentials, the green building will sell quicker, but if it produces less income, the sustainability will not matter so much.” However, he adds that in practical terms, investors appreciate that sustainability is the avoidance of obsolescence.

**AUSTRALIAN FIRMS PAY THE PRICE FOR BEING GREENEDEST IN ASIA**

Australia is one of Asia Pacific’s leaders in terms of sustainability, but the weight of legislation has become both a burden and a confusion for the real estate industry.

Dale O’Toole, national sustainability manager at Savills Australia, says: “Sustainability is always in the news but is a particularly hot topic in Australia at present, with a number of major changes and initiatives on the horizon.

“The introduction of a carbon tax next month has provoked fierce debate inside and outside of Australian politics. The top 500 companies are emitting more than 25,000 tonnes of CO2 per year – equating to around 60% of Australia’s emissions – and will be required to purchase permits at a cost of $23 per tonne of CO2.

“An increase in the cost of electricity in the order of 10% is likely shortly after the introduction of the carbon tax, with a knock-on effect for the price of most goods.”

Naturally, says O’Toole, the property and construction industry will feel the effect, with the cost of building materials and waste costs expected to rise. For landlords, there could be an associated increase of 2% in building operation costs.

In a drive to further reduce emissions, the Australian government last year launched the Commercial Building Disclosure (CBD) programme. Since November, owners of office buildings larger than 2,000m² have been required to obtain and disclose a Building Energy Efficiency Certificate (BEEC), including an energy rating, an assessment of tenancy lighting and general energy saving guidance.

Shopping malls are expected to be added to the programme in the future.

But Australian legislators are offering a carrot as well as the stick; in the push to improve the environmental performance of existing buildings, there is no shortage of rebates, incentives and low-interest green loans on offer to commercial property landlords and managers.

The concern over expected increases in energy costs and the associated potential loss of tenants to greener buildings is driving landlords to consider sustainability initiatives on low-performing buildings.

“However, many would argue that it is difficult to keep up to date with these initiatives due to their multiplicity at local, state and federal government levels, and their complexity and changing nature,” says O’Toole.

Australia is taking a lead in embracing the broader aspects of sustainability. The Green Star-Communities rating tool, soon to be launched by the Australian Green Building Council, will deliver a set of national principles for sustainable communities, examining elements such as infrastructure, buildings, public areas, people, ecology, economy, governance and services.