

Sprouting eco-cities turn urban landscape green

The eco-city concept of car-free, mixed-use development that puts green space at its heart is taking root in Asia, despite doubts about the commercial viability of some projects

Sustainable development is a field filled with buzzwords and 'eco-city', while not the latest, has become a concept that many developments in Asia aspire to.

"Even while the term eco-city may not yet be wholly, comprehensively or consistently defined, it has entered the mainstream and is used extensively as the backdrop for a wide range of activities in urban sustainability," says Rosemary Feenan, head of Jones Lang LaSalle's global research programme.

The debate over what constitutes an eco-city has been gathering momentum since the early 1990s, although the word was coined in the later 1980s. Bi-annual world summits on the topic have been held, the latest taking place in Montreal last year, while the next will be in Nantes in 2013.

Richard Register, the planner who coined the term eco-city, puts a significant focus on developing car-free cities and more mixed-use, dense developments, as a reaction to the car-dependent urban sprawl that characterises much of his homeland the US.

With land at a premium in Asia, many of his ideas are already in place, but driven by necessity, not philosophy. Unfortunately, the example of many cities across Asia shows that dense, mixed-use development can be just as unsustainable as urban sprawl.

Making Hong Kong more 'liveable'

Last year, the Urban Land Institute commissioned a study group to produce *Ten Principles for a Sustainable approach to New Development* for Hong Kong, which the ULI hopes will encourage and advise future developments to be more integrated within the city, more sustainable and more 'liveable'.

Recent mixed-use developments in Hong Kong typically comprise a number of office or residential towers and podium retail, which takes much of the development's public space above street level, leaving the street itself isolated.

With up to 50 towers in some developments, they no longer relate to their surrounding environment and appear as islands. The podiums form narrow, deep street canyons,

which trap air pollutants and worsen the heat-island effect suffered by Hong Kong.

The ULI report suggests a number of ways to make developments on a more human scale, to offer more open and public space and to better fit in with their surrounding environment and transport infrastructure.

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Rosemary Feenan, Jones Lang LaSalle

"Although developers are motivated to build commercially successful developments, they should also pay attention to the scale and design of the development, respect the surrounding area and integrate the project," the report recommends.

In the past five years or so, the likes of the ambitious and high-profile Masdar City in the United Arab Emirates and the Sino-Singapore Tianjin Eco-city (see panel) have gained the headlines. These showcase examples are rich in intelligent use of new

technologies, innovative urban planning processes, 21st century mobility, and funding mechanisms.

Commercial challenge

They also demonstrate the deep challenges of combining carbon neutrality with the need for commercial returns.

China has adopted the eco-city buzzword fairly recently. Parker White, head of energy and sustainability services, JLL Greater China, says: "There are emerging standards, and within China the framework for that has really been the 12th Five-Year Plan, which has refined further what government has already been doing with eco-cities.

"There's no one-size-fits-all approach in China; there rarely is for any major economic policy. In some cases the mayor of a city may set environmental parameters around a development that is already in place."

Some of the projects in place are funded by developers, such as Langfang eco-city, south of Beijing, and some by the public sector, such as the Hongqiao transportation hub, led by Shanghai Airport Authority.

ECO FLAGSHIP LAUNCHES AT TIANJIN BEACH

Asia's most ambitious eco-city is the Sino-Singaporean Tianjin Eco-city, which is being developed 40km from Tianjin's city centre.

As well as being a flagship of sustainability, the project is also a flagship for cooperation between China and Singapore. When fully developed in the early-to-mid 2020s, the city will be home to about 350,000 residents.

Prior to development, the site of the eco-city was one-third saltpan, one-third deserted beach and one-third water, including a 270ha wastewater pond. It was a dumping ground for industrial waste and some reports suggest pollution levels remain high.

Ho Tong Yen, head of Sino-Singapore Tianjin Eco-city Development and Investment, says: "In the past, so-called eco-cities have been built in ecologically important areas or on useful arable land. We wanted to show

that it's possible to clean up a polluted area and make it useful and liveable."

The city will feature a central 'eco-core' of green open space, as well as waterways. A light railway, trams, buses and cycle paths are intended to replace the traffic that plagues most Chinese cities.

The development is intended to be on a more human scale – although it will also feature high-rise buildings – with 400m² 'eco-blocks' being the base unit of the city. A collection of these blocks will make up each of the city's four districts.

Both governments have made a public commitment to sustainability and have put their reputations on the line in Tianjin, so have a strong motivation to make the project work. But sceptics doubt that the project's aims can be achieved on a commercially viable basis.