

The Chinese Experience

Case 14 Dongtan Eco-City.

Chongming District, Shanghai

The first eco-city project to be announced in the PRC in 2003, Dongtan eco-city was also proclaimed as the world's first purpose-built carbon neutral eco-city. The first phase of the project was targeted for completion in 2010, in time for the Shanghai World Expo. In fact, Dongtan was presented at the 3rd UN-HABITAT World Urban Forum in 2006 as a demonstration project for eco-city development.

	Primary Tools: →Tool CUD 1, →Tool CUD 2, →Tool CUD 4
	Secondary Tools:
	✓ pedestrian friendly design,
	✓ small ecological footprint, low energy demand,
	✓ waste recycling,



Artist visualization of Dongtan Eco-City

Source: Arup 2008



Planning targets. Aside from the Chongming Island Bridge 13 which links to Shanghai mainland and a wind farm, the Dongtan eco-city has since largely failed to materialize for a number of reasons (discussed below) and there is no mention of the eco-city at the Shanghai World Expo. The Dongtan site is located on an estuary tidal flat at the east end of Chongming Island at the mouth of the Yangtze River, about an hour's ferry ride from Shanghai. Phase one of the eco-city which was scheduled to be completed in 2010 was expected to accommodate up to 10,000 residents in an area of 1 km². The start-up phase was expected to house 80,000 people, intended for completion in 2020, while the completed eco-site was to have consisted of a population of 500,000 by 2050. The eco-city envisaged to have a "compact" → pedestrian friendly self-contained and → ecological footprint of 2.6 global hectares per person which is 60% smaller than that of conventional Chinese cities, 66% → lower energy demand with 40% energy supplied from bio-energy, 83% → reduction of waste going to landfills and almost zero co₂ emissions.



Bottlenecks. The project was perhaps ill-considered at the onset.ⁱⁱ Chongming Island is the most rural area of Shanghai and the economic sustainability of the eco-city was questionable. The eco-city would most likely have had to rely on Shanghai for most of the employment opportunities. In addition, displaced farmers were not likely to be able to afford housing at the eco-city site, even with 20% of dwelling units designated as affordable housing. Management problems contributed to the demise of the project. According to one report, there was confusion between the city design firm, ARUP and the state-owned developer, Shanghai Industrial Investment as to the source of funding for the project estimated at US\$1.3 billion. Political backing for the project also evaporated when the former Shanghai Communist Party chief, Chen Liangyu was imprisoned on corruption charges in 2008.ⁱⁱⁱ Mistakes sometimes provide more substance for learning towards the future compared to glossy success stories.^{iv}



Projected residential quarter in Dongtan^v



Dongtan: Town of three villages, clusters and centres^{vi}

Outlook. The proposed eco-city was sited next to the Dongtan National Nature Reserve, a Ramsar Convention wetland site and the construction of an eco-city would likely have significant adverse impact on the protected wetlands next-door. The Dongtan site did however have the potential to tap on renewable energy sources such as solar and wind and a wind farm started operations at Dongtan in June 2008. Eco farming activities have also taken root at Dongtan. Participation and consultation of the local community was also lacking in the process, although this problem is not unique to the Dongtan project. The land use regulations also posed some difficulties as the land on Chongming Island was originally intended as compensation for agricultural land lost to urbanization in Shanghai and should have been used for agricultural production, rather than further urban development.^{vii}

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 July 2018

Sources and Further Reading:

ⁱ Source: Adapted from Chia, J. 2010. *How Can ADB Better Support the PRC's Sustainable Urban Development? Selected Themes in Sustainable Urban Development in PRC*. Intern Report. Asian Development Bank, Manila.

ⁱⁱ <https://waterfrontcities.wordpress.com/2015/01/10/criticisms-and-failures-of-the-dongtan-ecocity-proposal-version-1-0-excerpts-from-the-media/>

ⁱⁱⁱ McGirk, J. 2015. Why eco-cities fail, in: *China Dialogue*. 7.05.2015. <https://www.chinadialogue.net/books/7934-Why-eco-cities-fail/en>; <http://www.spiked-online.com/newsite/article/7330#.W2llldlzZ3c>

^{iv} <http://journals.sagepub.com/doi/pdf/10.1177/0308518X16685092>; <http://blogs.reuters.com/great-debate/2015/09/22/chinas-eco-cities-are-often-neither-ecologically-friendly-nor-functional-cities/>

^v Source:

http://1.bp.blogspot.com/_HFwJw58JbFs/S7ikRLAOWbl/AAAAAAAAAdA/jggv38LWbrY/s1600/Dongtan.jpg

^{vi} Source: Arup, http://www.newtowninstitute.org/newtowndata/NTmaps/Dongtan-130402-m2_masterplan.jpg

^{vii} Adapted from Chia, J. 2010. *How Can ADB Better Support the PRC's Sustainable Urban Development? Selected Themes in Sustainable Urban Development in PRC*. Intern Report. Asian Development Bank, Manila.