


The Chinese Experience

Case 1 Tianjin:

The Sino-Singapore Tianjin Eco City (SSTEC)

	Primary Tools: →Tool CUD 1, →Tool CUD 2, →Tool CUD 3, →Tool CUD 4
	Secondary Tools:
	→low GHG emissions, →energy efficient building standards
	→renewable energy use
	→affordable public rental houses, →high population density
	→clean, energy efficient public transport, on foot or on bike
	→social harmony



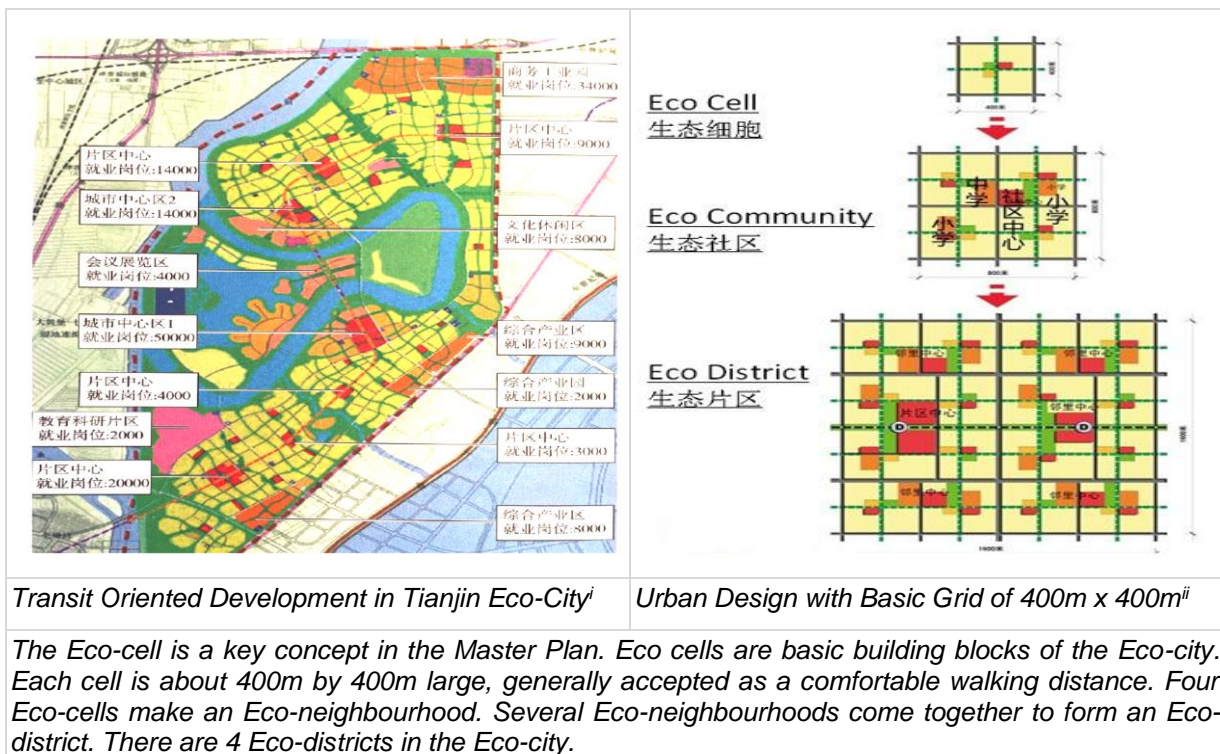
View of Scale Model of Tianjin Eco-City

Foto: Source: Florian Steinberg



The Sino-Singapore Tianjin Eco City (SSTEC).

This project represents China's eco-city programme, and is probably the most advanced national case as of today. Tianjin, China's third largest city is developing SSTEC in collaboration with Singapore. The site of the SSTEC is non-arable salt land, located in the Tianjin Binhai New Area (TBNA), the power house of Tianjin's economic and demographic growth, which has been experiencing one of the fastest growth rates in China. It is planned that 350,000 people will live in the 34.2 km² SSTEC area by 2020. SSTEC has adopted a mixed land use plan to accommodate not only housing but also service-oriented and high technology/environment-related industries which will create 190,000 jobs (about 80 percent of the working population). As a part of its economic development plans, SSTEC is developing, in its Phase 1 area, a large scale National Animation Center where 12,000 people will work. The preliminary estimated investment cost for public infrastructure and facilities for the entire SSTEC area is to be RMB 25.5 billion (US\$ 3.8 billion). The construction of SSTEC was started in September 2008 and the completion of Phase 1 (7.8 km²) is scheduled for 2015. SSTEC is intended to be a model eco-city that is energy/resource efficient with →low GHG emissions, while it maintains economic viability and →social harmony.¹²



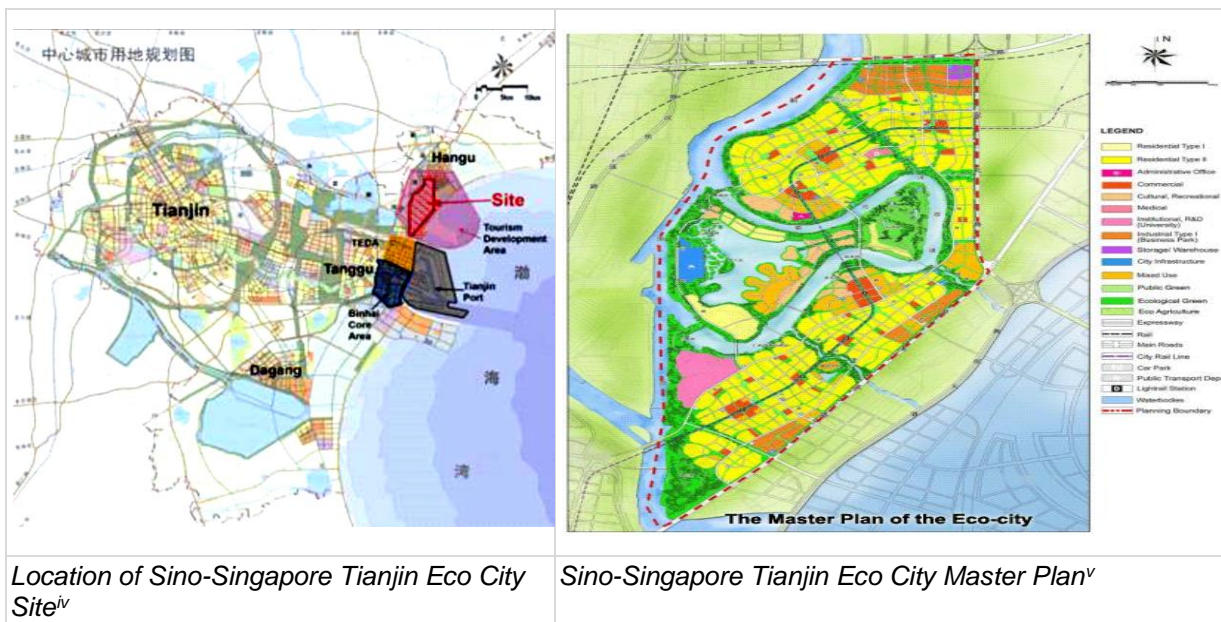
Features of Tianjin Eco-City.

SSTEC has many notable features as an "eco-city", among others: (a) was selected among four candidate cities and obtained strong political support from the Prime Minister; (b) converted non-arable salt land into urban land with high economic value, without sacrificing scarce agricultural land; (c) introduced global experience and knowledge through the part-

¹ Wolfrum, S. (ed.). 2014. *Platzatlas der Stadträume in Europa*, Lehrstuhl für Städtebau und Regionalplanung. München.

² Wolfrum, S. (ed.). 2014. *Platzatlas der Stadträume in Europa*, Lehrstuhl für Städtebau und Regionalplanung. München.

nership with Singapore; (d) adopted the Transit Oriented Development (TOD) plan, integrating the transport plan and land use, including higher Floor Area Ratio (FAR) allocation around the metro stations, which has led to →high population density at about the same level as the city center of Tianjin; (e) adopted →mixed land use plan, reducing the commuting transport needs outside SSTEAC; (f) adopted →energy efficient building standards higher than the national standard and promoting →renewable energy use; (g) planned low per capita water consumption (not exceeding 120 liters per day per capita) and a high rate of water provision (exceeding 50 percent) from non-conventional water sources; and (h) maintained social harmony by providing →affordable public rental houses at least 20 percent of total housing stock. The Eco-City in Tianjin aims to demonstrate that →90% of all trips will be made either in clean, energy efficient public transport, on foot or on bike.ⁱⁱⁱ



Promising potentials of Tianjin Eco-City.

The Tianjin Eco-City is located in the vibrant Tianjin Binhai New Area (TBNA), 45 km away from Tianjin City Centre. It is also the nearest eastern starting point of Asia-Euro Continental Bridge and key access to the sea for the neighboring inland countries. With a planned area of 2270 square kilometers, TBNA has a coastal line of 153 kilometers. TBNA has a rather favorable ecological environment and abundant natural resources and wetlands of 700 square kilometers. There are still 1200 square kilometers salt and alkali wasteland remained for development and the verified reserves of oil reach over 10 billion tons and those of natural gas reach 193.7 billion cubic meters. As the 3rd economic growth pole in China, TBNA is one of the fastest growing regions with an average of 22.9% GDP growth over the last 10 years. It's GDP clocked RMB 503 billion in 2010 and surpassed Shanghai Pudong. Currently TBNA has a population base of 1.2 million residents, with its non-agriculture population making up some 80%.



Social Housing in Tianjin Eco-City.



Commercial housing in Tianjin Eco-City

Photos: Florian Steinberg

Limitations of the Tianjin experience. Despite these promising overall economic prospects of the Tianjin region, SSETC's population had reached only about 20,000 inhabitants of its programmed 350,000 population. 10,000 of the inhabitants are said to be working within the SSETC area itself.



Solar Energy Farm in Tianjin Eco-City^{vi}



Commercial housing in Tianjin Eco-City

Photos: Florian Steinberg

Authors:

Principal author: Dr. Florian Steinberg

Edited by Kosta Math y

July 2018

Sources and Further Reading:

ⁱ Source: China Development Bank Capital (CBDC). 2015. *12 Green Guidelines. CDBC's Green and Smart Urban Development Guidelines*. Beijing (draft). p.20. <http://energyinnovation.org/wp-content/uploads/2015/12/12-Green-Guidelines.pdf>

ⁱⁱ Source: www.tianjinecocity.gov.sg

ⁱⁱⁱ ADB.2011. *Green Cities* (brochure).Regional Sustainable Development Department. Manila

^{iv} Source: www.tianjinecocity.gov.sg

^v Source: www.tianjinecocity.gov.sg

^{vi} Source: Pouille, J. 2015. Die Stadt von morgen – vielleicht, in: *Stadtbauwelt* 206, Vol. 106. pp. 55-59