

Implementing Industrial Symbiosis and Environmental Management Systems in Tianjin Binhai New Area



The Challenge

Tianjin Binhai New Area (TBNA) needs to tackle problems such as large quantities of industrial waste, lack of effective networks for creating waste exchange synergies between companies, and weak environmental management capacity. By creating an industrial symbiosis network, TBNA attempts to facilitate material, by-product, energy and logistic exchange among 800 SMEs to achieve sustainable production.

The Path to Improvements

- Recruit business intermediaries as partners for the industrial symbiosis network, engage with relevant organisations and public bodies, manage synergies; prepare quarterly programme advisory meetings and report successful case studies;
- Provide SMEs with ISO14001 certification training courses and walk-through audits;
- Form an industrial symbiosis network technical team; develop & deploy synergy management tools; train industrial symbiosis network practitioners;
- Organise policy study tours; develop encouraging policies & develop Chinese guidelines for industrial symbiosis network implementation.

In a Nutshell

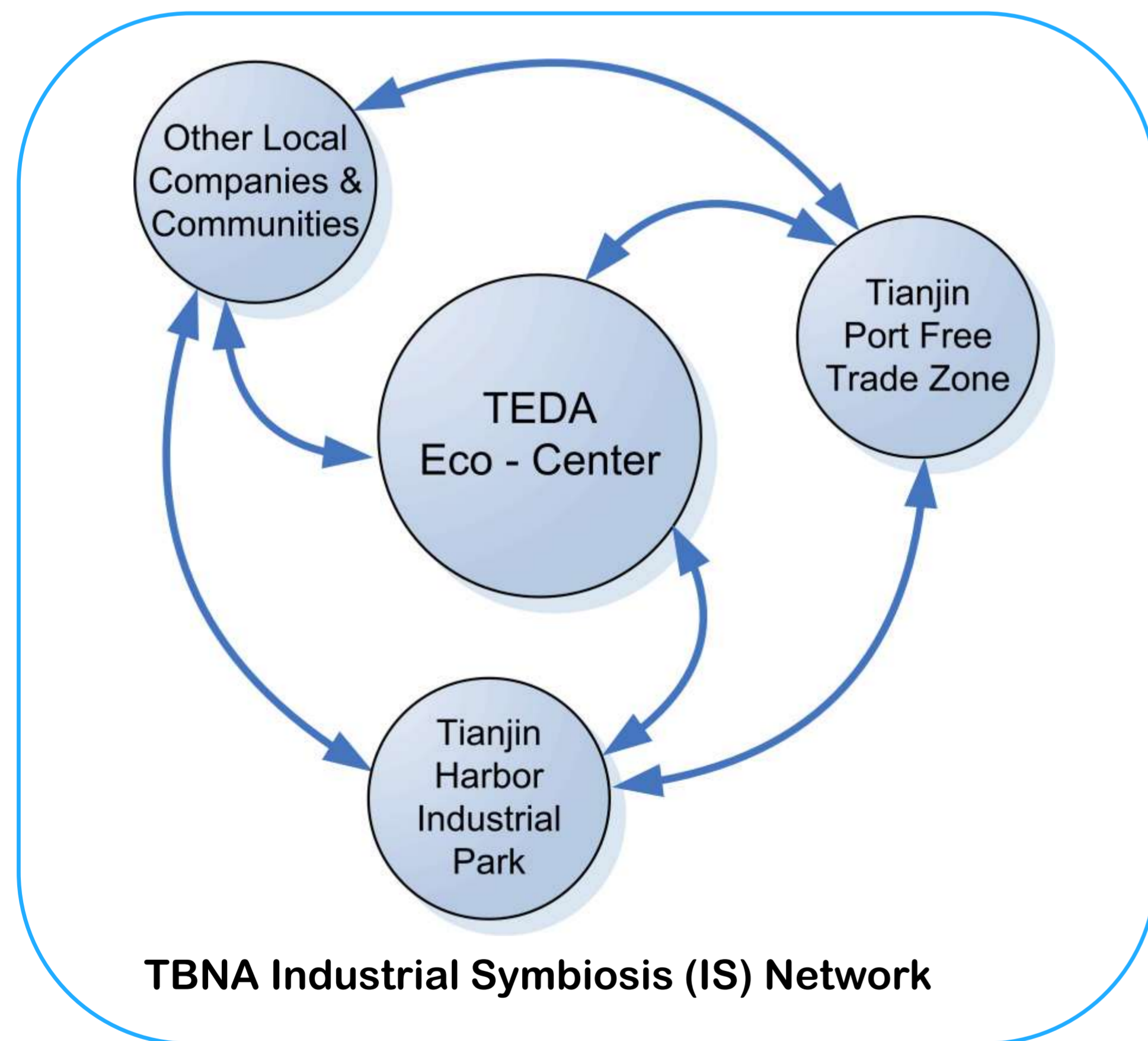
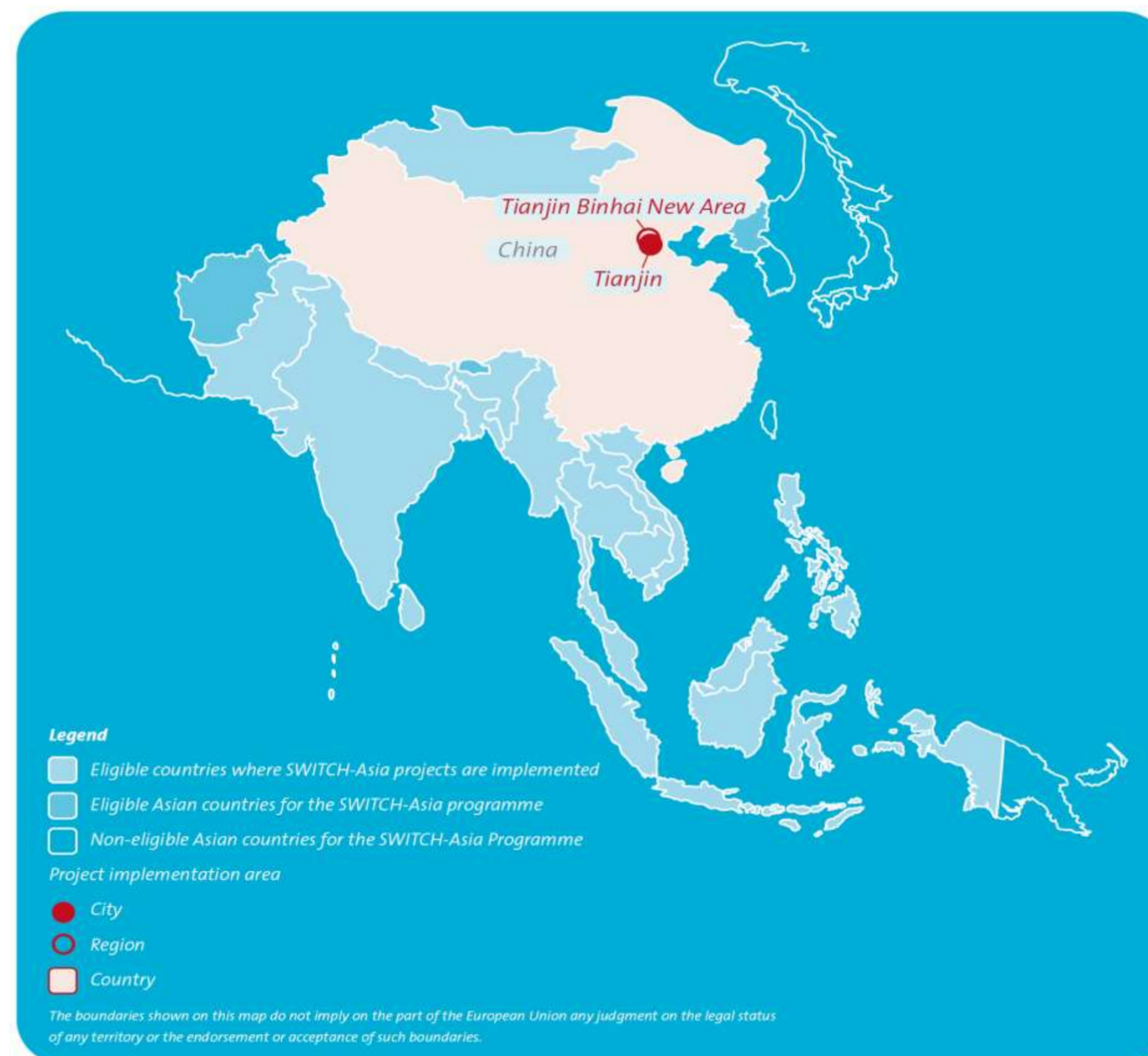
Going low-carbon is a response to mitigating worsening climate change. The SWITCH-ASIA “Industrial Symbiosis” project aims to promote sustainable production among SMEs in Tianjin Binhai New Area by demonstrating how to create a large number of industrial symbiosis synergies and environmental management systems, and by growing a large scale industrial symbiosis network.

The four-year project involves a total budget of 1.85 million Euros, of which 1.48 million will be funded by the EU. The project will build the industrial symbiosis network of TBNA, recruiting 800 member enterprises, and will facilitate 80 synergies (cases of industrial waste being diverted from landfill and replacing raw materials). The project will carry out capacity-building for a greener supply chain among big enterprises and offer training and education programs concerning environment management systems as well as swift environmental auditing among small and medium-sized enterprises. With its activities the project aims to pinpoint practical demands for environmental policy (circular economy in particular), and work to have such policies effected in TBNA.



The Project and its Objectives

- To create an industrial symbiosis network based on National Industrial Symbiosis Programme (NISP) methodologies in order to create 80 synergies.
- To promote ISO14001 certifications through dissemination materials, group training courses and 100 walk-through audits.
- To build adequate institutional and policy environments to ensure the overall sustainability of the industrial symbiosis network.



The Outreach Strategy

The project activities fit well with the Chinese concept of ‘circular economy’. Circular economy can be implemented at three basic levels: (i) reuse and recycling within individual firms; (ii) reuse and recycling within industrial parks and clusters; and (iii) reuse and recycling integrating consumption and production between industries and urban systems in a region. This project will address the individual firm level through embedding ISO14001 EMS, and address the latter two levels through the industrial symbiosis component. The NISP approach differs markedly from most top-down approaches currently employed in China, in that it is a business-driven, bottom-up type of approach, which is particularly suitable for effectively engaging SMEs.

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TEDA: Administrative Commission of Tianjin Economic and Technological Development Area



NISP: National Industrial Symbiosis Programme



UNIDO ITPO-China: United Nations Industrial Development Organization Investment and Technology Promotion Office China



THIP: Administrative Commission of Tianjin Harbour Industrial Park



TJFTZ: Administrative Commission of Tianjin Free Trade Zone



TMEC: Tianjin Municipal Economic and Information Commission