

## **Background information on green building developments in the Eco-city**

The planning and development of the Sino-Singapore Tianjin Eco-city is guided by a comprehensive set of key performance indicators (KPIs) covering its ecological, economic and social development, jointly formulated by experts from Singapore and China, and endorsed by the Ministerial-level Sino-Singapore Tianjin Eco-city Joint Working Committee. The Building and Construction Authority of Singapore (BCA) has been overseeing the KPIs of achieving 100% green buildings and 100% barrier-free buildings.

2 BCA was involved in the site selection process and discussion between China and Singapore governments, and thereafter when Tianjin was selected as the collaboration platform, BCA has been actively involved in the project, including:

- i. Formulating the Green Building Standards for the Eco-city, covering the Green Building Design Standard, Green Building Evaluation Standard, Green Construction Technical Specification, Green Building Operation and Maintenance Standard;
- ii. Facilitating joint research between Singapore and Chinese research institutes and companies, covering the areas of ecological planning, green building design and maintenance, sponge city, and smart city;
- iii. Co-hosting green building training for stakeholders in the Eco-city project with five runs for 173 local professionals;
- iv. Co-hosting technical workshops covering green building standards, high-end residential project design, vertical greenery, BIM, and prefabricated construction;
- v. Acting as design advisor for landmark buildings including Low Carbon Living Lab Building, and Public Housing Display Centre (a zero energy building).

## Green Building Evaluation Standard (GBES)

3 In 2009, BCA jointly developed the Green Building Evaluation Standards (GBES) for the Sino-Singapore Tianjin Eco-city with the ECAC and the PRC Ministry of Housing & Urban-Rural Development. GBES adopts the best practices from both countries, and is a hybrid system of Singapore's BCA Green Mark and China's National Green Building Evaluation Standard (the 'Three-star System'), and has been set as the mandatory requirements for building projects in the Eco-city.

4 In 2015, BCA and ECAC jointly revised the standard to incorporate new technologies and new national guidelines. The revised GBES was approved by the Tianjin Municipal Urban-Rural Development & Transport Commission (TMURDTC) in 2016. Since 20 October 2016, GBES has been recognised by the Chinese government as the equivalent of its national standard for the Sino-Singapore Tianjin Eco-city. Three runs of GBES assessment have been conducted in June and December 2017, and June 2018. In total, 10 projects have been assessed to meet higher GBES awards. These projects will receive the awards at a ceremony at the China-Singapore International Green Building Conference.

## Green Building Operation and Maintenance Standards (GBOMS)

5 As all new buildings in the Eco-city are designed to be green, it is important for building owners and facility managers to ensure these buildings remain green during operation and maintenance.

6 In 2013, BCA and ECAC jointly develop a Green Building Operation and Maintenance Standard (GBOMS) to promote best practices in green building operation and management. Technical experts from Singapore and China were invited to join the team and the drafting work commenced in November 2013. GBOMS was finalised in 2017 and approved by the Tianjin Municipal Government to be a standard for the Eco-city with its effective date of 1 July 2018. GBOMS is the first standard in this category across the whole country.

7 BCA and ECAC will pilot the implementation of GBOMS for the buildings in the Eco-city and conduct training for government officials and facilities management professionals in 2018.

## Green Building Conference

8 The China-Singapore International Green Building Conference (CSIGBC), an event highlight for the Eco-city's 10<sup>th</sup> anniversary, will be held on 28 and 29 September 2018. The conference is jointly organised by the ECAC, the China

Society of Urban Studies (CSUS) and BCA, to showcase the progress and achievements of the Sino-Singapore Tianjin Eco-city over the past decade.

9 The CSIGBC's theme is *From Green Building to Green Urban Area* (从绿色建筑迈向绿色城区). The plenary session will be held in the morning of 28 September 2018 and there will be three sub-forums focusing on Green Building, Passive House<sup>7</sup> and Sponge City<sup>8</sup> in the afternoon.

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<sup>7</sup> Passive House is an energy efficient building where a comfortable interior climate can be achieved and maintained while minimising the use of active heating and cooling system.

<sup>8</sup> Sponge cities refer to cities which are able to effectively mitigate flood risks, manage storm flows and collect rainwater for use. The Eco-city is one of China's national pilot demonstration Sponge Cities.