

Media release

Singapore's First Zero Energy Building Launched at the Inaugural Singapore Green Building Week

- Anchored by three-day inaugural International Green Building Conference, where leading local professionals and world's experts share their experience and expertise in greening the built environment

- Success of Zero Energy Building will spur industry partners towards integrating buildings with eco-friendly technology

1. Mr Mah Bow Tan, Minister for National Development, today officially opened Singapore's first retrofitted Zero Energy Building (ZEB) located at the BCA Academy. The ZEB is also the first existing building in Southeast Asia to be fully retrofitted with green building design features and technologies. It is BCA's flagship R&D project. Housing fully functioning classrooms, a library, multipurpose hall and offices, the ZEB is used as a test-bed for innovative building designs and energy efficient building solutions, especially for existing buildings.

2. Retrofitted at a cost of \$11m, the building underwent a very energy-efficient re-design of the façade, the roof, the M&E system and other building components to reduce its energy needs. At the same time, natural and renewable energy were harnessed from the environment. About 1,540 m² of solar energy (photovoltaic) panels have been installed on ZEB's roof and other prominent areas to tap on the sun's energy. These solar panels' combined area is bigger than an Olympic-sized swimming pool and will generate about 207,000 kWh of electricity a year – enough to supply power to 45 four-room HDB flats. The Zero Energy Building is expected to be about 40-50% more efficient than an office building of similar layout. Although the building is connected to the grid, it is expected to generate as much electricity as it consumes over a typical year.

3. In addition, to reduce utility bills that often go into air-conditioning, the building is fitted with an NUS invention - a single coil twin fan ventilation system – which works to reduce energy consumption on a ventilation on-demand concept. The system controls the flow of fresh and recycled air separately – according to demand – in the building. Fresh air is only channeled to rooms that are occupied as it consumes more energy to chill compared to recycled air.

4. The ZEB was launched to start off the inaugural **Singapore Green Building Week (SGBW)** which celebrates the achievements of Singapore's efforts towards sustainable development through a series of local and international activities.

5. Commenting on the launch of the SGBW and the opening of the Zero Energy Building, BCA's Chairman Mr Quek See Tiat said, "I am delighted by the progress we have made in transforming Singapore into a sustainable city. BCA has taken on the IMCSD's* challenge of developing a greener built environment for Singapore. We are also encouraged by how positive our partners are in supporting our efforts under the 2nd Green Building Masterplan."

6. Dr. John Keung, BCA's CEO, added that "The Singapore Green Building Week is not just about showing the fruits of our efforts but is also an opportunity for us to learn and share our experiences and knowledge in sustainable development. We hope that the success of the Zero Energy Building will spur the industry on towards incorporating green building design and technologies into their developments. All of us have a part to play in protecting the environment for future generations."

7. The ZEB project is a collaborative R&D effort among BCA, the National University of Singapore (NUS), the Solar Energy Research Institute of Singapore (SERIS) and partners from the private sector, DP Architects, Beca Carter and Davis Langdon & Seah. It received R&D funding from the MND Research Fund for the Built Environment and EDB's Clean Energy Research Test-bedding Programme,

8. As part of EDB's Clean Energy Research and Test-bedding Programme, the Zero Energy Building will be used as a test centre for clean energy technologies before they are introduced to the industry. Studies on the current batch of green building technology at Zero Energy Building will conclude in late 2010 and their results will be released shortly after.

For more information on ZEB and its green features, please refer to the attached brochure/factsheet.

Issued by the Building and Construction Authority on 26 October 2009

About the Building and Construction Authority (BCA)

The Building and Construction Authority (BCA) of Singapore champions the development of an excellent built environment for Singapore.

BCA's mission is to shape a safe, high quality, sustainable and friendly built environment, as these are four key elements where BCA has a significant influence. In doing so, it aims to differentiate Singapore's built environment from those of other cities and contribute to a better quality of life for everyone in Singapore. Hence, its vision is to have "the best built environment for Singapore, our distinctive global city".

Together with its education and research arm, the BCA Academy of the Built Environment, BCA works closely with its industry partners to develop skills and expertise that help shape the best built environment for Singapore.

For more information, visit www.bca.gov.sg.

About the Singapore Green Building Week (SGBW)

The Singapore Green Building Week was conceived to highlight Singapore's achievements in developing a sustainable city in the tropics on the international scene. It also aims to raise the awareness among built environment practitioners in sustainable development and create a global platform for learning and sharing ideas with leading experts.

This year, a series of activities, discussions and events will be held during the week starting from 26 to 30 October 2009. They include the inaugural International Green Building Conference – held over three days from 28 October 2009, the 2nd International Panel of Experts for Sustainability in the Built Environment and a workshop organized by UNEP-SBCI (United Nations Environment Protection – Sustainable Buildings and Climate Initiative).

About the Zero-Energy Building (ZEB)

The Zero-Energy Building is the first building in Singapore and Southeast Asia to be retrofitted with green building technologies. Converted from a three-storey school building, Zero-Energy Building now houses classrooms and offices, and is a testing centre for green building technology.

The 4,500 m² Zero-Energy Building generates its own electricity from solar power through 1,540m² of panels installed on its roof and other prominent places. It is expected to generate about S\$84,000 a year through energy savings by using green building technology, incorporating the building's natural cooling and lighting elements in its design, and tapping on solar energy.