

Annex C

FACTSHEET ON GREEN BUILDINGS

Background

1. Climate change is a global concern. In Singapore, buildings account for over 20% of Singapore's emissions. The greening of buildings is one of our key efforts in building more sustainably and in mitigating our emissions. We have set a national target to green 80% of our total gross floor area (GFA) in buildings by 2030. As of December 2019, more than 40% of Singapore's GFA has been greened.
2. The BCA Green Mark scheme was introduced in 2005 as a rating tool to assess the environmental performance of buildings. The Green Building Masterplan has been continually updated since its inception in 2006. The first edition targeted new buildings, to embed sustainability as part of a building's life cycle from the onset. As the Built Environment (BE) sector began to embrace the idea of sustainable buildings, the Building and Construction Authority (BCA) expanded its ambition to green the larger stock of existing buildings and engage building occupants to change their energy consumption behaviour.
3. BCA also launched the Super Low Energy (SLE) Building programme in 2018 to encourage firms to go beyond the existing Green Mark Platinum standards and achieve best-in-class building energy performance in a cost-effective manner.

The Next Lap for Green Buildings

Co-creation for the next Singapore Green Building Masterplan (SGBMP)

4. While considerable progress has been made, we must do more to address the existential threat posed by global warming, something which many Singaporeans are also concerned about. Hence, BCA and the Singapore Green Building Council (SGBC) will co-create the next Singapore Green Building Masterplan (SGBMP 2020) with stakeholders from the public, private and people sectors. The co-creation process will encourage stakeholders to co-own and co-deliver the SGBMP, recognising the shared responsibility in raising building performance and to sustain it over the life cycle of the building.
5. Apart from traditional industry stakeholders, such as the Trade Associations and Chambers (TACs), BCA and SGBC will bring onboard other stakeholders, including tenants, home-buyers, youths and activists, to generate broader mind share for the SGBMP.

Raising Minimum Energy Performance Standards

6. As part of the key initiatives under the previous Green Building Masterplans, BCA introduced a mandatory minimum standard of environmental sustainability for new buildings in 2008 and for existing buildings in 2014.

7. To support the push towards more energy efficient buildings, BCA plans to raise the minimum energy performance standards for both new and existing buildings in the coming years. A recent consultancy study has shown that there is a clear business case to do so from the building life cycle perspective.¹ BCA will engage stakeholders to work on the details through the SGBMP 2020 co-creation process.

Publication of Building Energy Performance Data

8. In 2013, BCA required all building owners to submit their energy performance data. In 2017, BCA gave building owners the option of voluntarily having their energy data disclosed to the public. Moving forward, BCA will publish buildings' energy performance data to facilitate benchmarking and spur building owners to undertake retrofitting measures to improve the energy efficiency of their buildings. Implementation will be rolled out in phases according to building type, starting with commercial buildings.

9. There will be no additional effort nor cost to the building owners beyond the current requirement to complete the annual mandatory submission. Building owners will be given a 1-year notice before the 2020 energy performance data is released publicly in 2021.

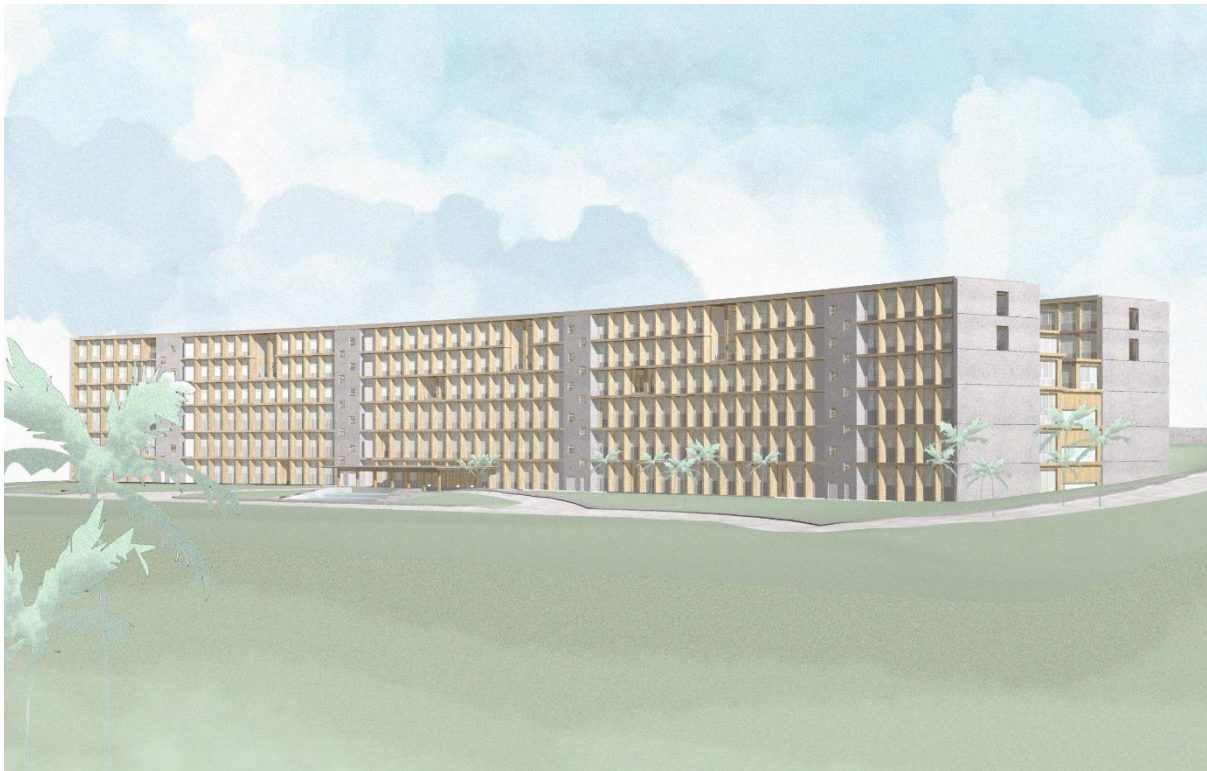
¹ A consultancy study was conducted to examine the robustness and cost effectiveness of the BCA Green Mark Scheme: <https://www1.bca.gov.sg/buildsg/sustainability/green-mark-for-independent-consultancy-study-on-bca-green-mark-schemes>

Example: Building System & Diagnostics (BSD) Pte Ltd

Building System and Diagnostic Pte Ltd (BSD) is a leader in the field of Green Built Environment consultancy. Since 2003, it has been providing specialised advisory services in the fields of sustainable building design, construction and operations, energy optimisation solutions, to improve the overall energy performance of buildings. Over the years, BSD's consultancy teams in Singapore, Malaysia, Myanmar and China have contributed to more than 200 Green Mark projects. BSD also develops Energy Masterplans at the township and estate level, leads research and innovation projects into frontier building related solutions, and conducts building physics analysis and simulations to improve our built environment.

Being one of the pioneers in Singapore's green building movement, BSD recognises that for a greener future to materialise, there is a need to constantly push boundaries on energy efficiency to achieve best-in-class building energy performance in a cost-effective manner. Hence, BSD is now actively participating in Super Low Energy and Zero Energy building projects, to design buildings that are both resource-efficient and comfortable for occupants using computer simulations and performance modelling.

[Artist's impression of NTU Academic Building South]



One example is the new Academic Building South project that is currently being developed by the Nanyang Technological University (NTU), a champion in Singapore's green building movement and the first recipient of the Green Mark

Platinum^{STAR} Champion award. The building uses environmentally friendly materials and adopts energy efficient features such as Mass Engineered Timber (MET), Passive Displacement Ventilation (PDV), coupled with efficient water-cooled air-conditioning systems, LED lights and powered by solar photovoltaic panels, which aim to offset up to 100 per cent of the building's energy consumption.