

## **Annex B**

### **FACTSHEET ON BCA GREEN MARK**

(as at 4 August 2011)

The BCA Green Mark scheme was launched in 2005 as a yardstick to rate the environmental sustainability of buildings in the tropics. A comprehensive suite of initiatives was subsequently introduced through BCA's first Green Building Masterplan in 2006 and the second Green Building Masterplan in 2009 to stimulate the growth of green buildings.

Over the past few years, the Green Building Masterplan and its host of initiatives are continually reviewed and enhanced towards achieving the national target of greening 80% of our buildings by 2030, and to maximise the potential for cost-effective energy savings in our built environment.

#### **BCA Green Mark Schemes**

The Green Mark scheme assesses buildings for:

- Energy Efficiency
- Water Efficiency
- Environmental Protection
- Indoor Environmental Quality
- Other Green Features and Innovation

There are four ratings under the scheme:

- Platinum
- Gold<sup>Plus</sup>
- Gold
- Certified

During the first year, there were only 17 Green Mark building projects in Singapore. Now, six years down the road, and with various green policies and incentives put in place by BCA, the number of Green Mark projects has grown to more than 800. This translates to more than 23 million m<sup>2</sup> of Gross Floor Area (or 11% of the total Gross Floor Area) in Singapore.

As buildings account for about one-third of the total national electricity consumption, with existing buildings making up a large bulk of this stock, the 2<sup>nd</sup> Green Building Masterplan places special emphasis on the greening of these buildings. Besides commercial buildings, existing residential buildings, which contribute to more than half of the total Gross Floor Area in Singapore, is another area that BCA is focusing on.

Besides developing Green Mark schemes for buildings, BCA has also collaborated with various government agencies such as the National Parks Board (NParks) and the Land Transport Authority (LTA) to tailor Green Mark schemes to assess the environmental performance of areas beyond buildings, such as parks and rail transit systems. In addition,

the Green Mark has been extended to other types of developments, sub-developments as well as multi-developments within a location. The BCA Green Mark schemes now include the following:

#### BCA Green Mark Schemes for Buildings

- BCA Green Mark for Non-Residential Buildings (New and Existing)
- BCA Green Mark for Residential Buildings (New and Existing)
- BCA Green Mark for Landed Houses
- BCA Green Mark for Existing Schools

#### BCA Green Mark Scheme for Beyond Buildings

- BCA-NParks Green Mark for Existing Parks
- BCA-NParks Green Mark for New Parks
- BCA Green Mark for Office Interiors
- BCA Green Mark for Infrastructure
- BCA Green Mark for Districts
- BCA-LTA Green Mark for Rail Transit System

### **Green Mark Incentive Schemes**

To encourage building owners to build green buildings and to retrofit their existing buildings to achieve greater energy efficiency, BCA has rolled out several incentive schemes for both new buildings and existing ones, as well as mandated minimum Green Mark Standards for Government Land Sales sites in selected strategic areas.

#### \$100 million Green Mark Incentive Scheme for Existing Buildings (GMIS-EB)

The \$100 million GMIS-EB provides:

- (a) A cash incentive for upgrading and retrofitting scheme that co-funds up to 35% (capped at \$1.5 million) of the costs of energy efficient equipment installed to improve the energy efficiency of existing buildings, and;
- (b) A 'health check' scheme, which is an energy audit to determine the efficiency of the air-conditioning plants. BCA will co-fund 50% of the cost for conducting this Health Check and the remaining 50% will have to be borne by the building owner.

### Green Mark Gross Floor Area (GM GFA) Incentive Scheme

To encourage the private sector to develop buildings that attain higher Green Mark ratings (i.e. Green Mark Platinum or Green Mark Gold<sup>PLUS</sup>), BCA and the Urban Redevelopment Authority (URA) introduced a set of Gross Floor Area (GFA) incentives in 2009. For developments attaining Green Mark Platinum or Gold<sup>PLUS</sup>, URA will grant additional floor area over and above the Master Plan Gross Plot Ratio (GPR) control (up to 1% additional GFA for Gold Plus and up to 2% for Platinum).

### \$5 million Green Mark Incentive Scheme – Design Prototype (GMIS-DP)

The GMIS-DP scheme is aimed at encouraging developers and building owners to strive for greater energy efficiency in buildings by placing more emphasis at the design stage. The scheme provides funding support for the engagement of Environmentally Sustainable Design (ESD) consultants to conduct collaborative design workshops and assist in simulation studies early in the project to achieve a breakthrough and optimal design for green buildings.

### Higher Green Mark Standards for Government Land Sales Sites in Selected Strategic Areas

To maximise the potential for cost-effective energy savings in our built environment, projects developed on Government Land Sales (GLS) sites in Marina Bay and Downtown Core, Jurong Gateway in Jurong Lake District, Kallang Riverside and Paya Lebar Central are required to meet higher Green Mark standards as shown in the table below.

<b>Selected Strategic Areas</b>	<b>Green Mark Certification for GLS Sites</b>
Marina Bay	Green Mark Platinum
Downtown Core, including areas within the CBD located next to Marina Bay	Green Mark Gold <sup>PLUS</sup>
Jurong Lake District	
Kallang Riverside	
Paya Lebar Central	

### **Public Sector Taking the Lead**

The public sector will be leading the way to achieve the highest Green Mark Platinum accolade for public sector buildings but more will still have to be done for us to achieve our greater goal of greening Singapore's built environment. We would require the strong collaboration of government agencies and stakeholders – to develop resource-efficient new buildings and to provide best solutions to retrofit the existing stock of buildings to improve their energy efficiency.

## **Building a Green Workforce**

To meet the increasing demand for more green professionals and more advanced technologies in the oncoming years, we would need to develop a holistic training framework to build up our capabilities in this area. BCA Academy, the training arm of BCA, has put in place a range of training and development programmes ranging from certification courses like the Green Mark Manager Course and Green Mark Professional Course to post-graduate programmes offered in collaboration with renowned universities overseas.

Our aim is to train some 18,000 to 20,000 green specialists at the PMET level by 2020, in the development, design, construction, operation and maintenance of green buildings. These professionals will be the core competency leading Singapore towards a more sustainable future.

## **Why Green Buildings?**

So why should we green our buildings? As part of the global community, Singapore must play its role to reduce the overall carbon footprint, particularly in our buildings. This is also in line with our national objective to achieve a 35% improvement in energy efficiency from 2005 levels.

For the private sector, there is also strong business case and a string of long term benefits for green buildings, especially if an integrated design approach is adopted from Day One. In general, the cost premium of new green building projects over the past years is about 0.3 to 1.0% for a basic Green Mark building and 2 to 8% for a Green Mark Platinum building. This premium is gradually decreasing with some economy of scale and more familiarity in the industry with green building design. This cost premium can be easily recovered through energy savings with a payback period of 2 to 8 years.

For building owners and occupants, the benefits of green buildings are clear for all to see. Energy and water efficient buildings not only translate to higher cost savings but Green Mark certified buildings also provide better indoor air quality and environments.

## **Gaining International Recognition**

In a short span of five years, BCA has put in place two Green Building Masterplans consisting of policy levers, initiatives and incentives to drive Singapore's green building movement and have developed South-East Asia's first Zero Energy Building, which was retrofitted from an existing building.

Our greening efforts and policies are not only known locally but are also lauded overseas. In 2010, BCA became the first government agency outside North America to be conferred the prestigious Aspen Institute's Energy and Environment Award (Government) for our comprehensive policies and programmes in steering the industry towards the development

of green buildings and sustainable construction in Singapore. Earlier this year, in a study conducted by a private consultancy firm on Asia-Pacific cities, Singapore was also ranked first in green building policies, before advanced cities like Tokyo, Sydney and Seoul.

BCA's Green Mark scheme has also extended its reach beyond Singapore and is gaining popularity in over 10 countries within the region. To date, more than 120 projects in countries like China, Malaysia, Vietnam, Brunei, India, Thailand, Middle East, Indonesia. The Philippines and Africa have applied for the Green Mark certification.

More information on the Green Mark incentive schemes is available at  
[http://www.bca.gov.sg/GreenMark/green\\_mark\\_buildings.html](http://www.bca.gov.sg/GreenMark/green_mark_buildings.html).

More on the 2<sup>nd</sup> Green Building Masterplan is available at  
<http://www.bca.gov.sg/GreenMark/others/gbmp2.pdf>