

MEDIA RELEASE

BCA'S 2ND GREEN BUILDING MASTERPLAN - 80% OF BUILDINGS WILL BE GREEN BY 2030

“At least 80% of the buildings in Singapore to achieve the BCA Green Mark Certified rating by 2030,” is the target that the Inter-Ministerial Committee on Sustainable Development (IMCSD) has set for Singapore’s built environment. To achieve this, the Building and Construction Authority (BCA) is rolling out its 2nd Green Building Masterplan, a roadmap that sets out specific initiatives to achieve a truly sustainable built environment in Singapore by 2030. When fully implemented, the 2nd Green Building Masterplan will result in annual savings of \$1.6 billion in terms of energy cost reductions.

2 The sharp increase in the number of BCA Green Mark Certified new buildings in 2007 is a testament to the success of the BCA’s 1st Green Building Masterplan launched in 2006 that placed emphasis on new buildings and those undergoing major retrofitting. To maximise the potential for cost-effective energy savings in our built environment, BCA’s 2nd Green Building Masterplan will be broadened to cover three development areas, namely (i) New Buildings (ii) Existing Buildings and (iii) Beyond Buildings. In particular, with the large existing building stock consuming a third of our national end-use electricity, BCA’s 2nd Green Building Masterplan places special emphasis on ‘greening’ existing buildings.

\$100 million Incentive for Private Building Owners to Retrofit Existing Buildings

3 Recognising financial considerations as one of the key barriers for building owners to upgrade the building energy performance, BCA is introducing a bold S\$100 million Green Mark Incentive Scheme for Existing Buildings

(GMIS-EB) to jumpstart the ‘greening’ of existing buildings in the private sector. This cash incentive scheme aims to encourage private owners of existing buildings to undertake retrofitting works to achieve improvement in energy efficiency. When the co-funding scheme is fully implemented, private building owners would be able to enjoy collective energy savings of about \$120 million per year.

Bonus GFA for New Private Buildings that Attain Higher Green Mark Ratings

4 To encourage private developers to construct new buildings that attain higher tier Green Mark ratings (i.e. Green Mark Platinum or Green Mark Gold^{Plus}), BCA and the Urban Redevelopment Authority (URA) will offer incentives in the form of bonus Gross Floor Area (GFA). For developments attaining Green Mark Platinum or Gold^{Plus}, URA will grant additional floor area over and above the Master Plan Gross Plot Ratio (GPR) control. Mr Han Yong Hoe, URA’s Group Director of Development Control adds that “the bonus GFA scheme is a mechanism used by URA to incentivise the provision of desirable building features like balconies in residential buildings. We are happy to extend this to BCA Green Mark to contribute to the vision of making Singapore a more green and sustainable city.”

Higher Green Mark Standards for Land Sales Conditions at Strategic Growth Areas

5 To achieve higher Green Mark standards (i.e. Green Mark Platinum or Green Mark Gold^{Plus}) for projects developed on government sales sites, the higher Green Mark standards will also be set as land sales conditions for all new developments in selected new strategic growth areas to ensure that these land sales projects are truly green, high quality and distinctive. Mr Tan Tian Chong, BCA’s Director of the Technology Development believes that “this will help to accelerate the adoption of environmentally-friendly green building technologies and building design practices to enable the development of more economically viable green buildings in the long haul.”

6 These new strategic growth areas include the Marina Bay and Downtown Core, Jurong Gateway in Jurong Lake District, Kallang Riverside and Paya Lebar Central. These growth areas represent the key commercial and mixed-use hubs that are being developed over the next 10 to 15 years, as outlined in URA's Master Plan 2008. New developments in the designated areas will have to achieve either Green Mark Platinum or Gold^{Plus} rating. This will drastically reduce the energy consumption by at least 25%. This initiative will also tie in with URA's objective to make these growth areas more sustainable.

Public Sector Taking the Lead

New public sector buildings to achieve Green Mark Platinum standard

7 The Government will continue to lead the way forward in environmental sustainability as outlined in the IMCSD's vision for the built environment. As all new public sector buildings and those undergoing major retrofitting works were required to meet minimum standards of environmental sustainability equivalent to the Green Mark Certified level since 1 April 2007, the public sector will now demonstrate even stronger commitment and leadership by requiring all medium or large new air-conditioned public sector buildings to achieve the highest Green Mark accolade, i.e. the Green Mark Platinum award.

Existing public sector buildings to achieve Green Mark Gold^{Plus} standard

8 Besides new buildings, Government is also committed to have all large existing buildings owned by government agencies to attain the Green Mark Gold^{Plus} standard by 2020. The estimated retrofitting cost to upgrade all existing buildings owned by government agencies will be about \$500 million over the next ten years, and this will lead to substantial energy savings of \$120 million per year.

Spin-offs for Green Collar Workforce

9 Dr John Keung, CEO of BCA, reiterates that "BCA's 2nd Green Building Masterplan will not only result in more of our buildings being able to achieve substantial savings in energy costs, but it also provides a boost to the 'green collar' job market. Some 18,000 green specialists at the PMET level are expected to be trained over the next 10 years in the development, design,

construction, operation and maintenance of green buildings. This will include upgrading of existing personnel and bringing in new entrants for this high growth area to develop a highly skilled 'green collar' workforce to support our vision towards a more sustainable built environment."

Issued by the Building and Construction Authority on 21 April 2009

For media queries, please contact the Communications Department:

- | | |
|----------------|--|
| Annex 1 | BCA 2nd Green Building Masterplan |
| Annex 2 | S\$100 million Green Mark Incentive Scheme for Existing Buildings (GMIS-EB) |
| Annex 3 | GFA Incentive for Achieving Higher BCA Green Mark Ratings |
| Annex 4 | Setting Higher Tier Green Mark Ratings in Government Land Sales |
| Annex 5 | Public Sector Taking the Lead for Higher Green Mark Ratings |

About BCA

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

At BCA, our 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, we aim to differentiate Singapore's built environment from those of other cities and contribute to a better quality of life for everyone in Singapore. Hence, our vision is to have "the best built environment for Singapore, our distinctive global city".

Together with our education and research hub, 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 BCA Green Mark scheme

The BCA Green Mark Scheme was introduced and launched in January 2005. It is a green building rating system, promoting the adoption of green building design and technologies to reduce the impacts of buildings on the environment. Under the BCA Green Mark scheme, buildings are assessed for energy and water efficiency, indoor environmental quality and environmental protection, and the adoption of other green features. Depending on the overall assessment, a building will be awarded one of the four Green Mark ratings; Green Mark certified, Gold, Gold^{plus} or Platinum. The scheme is open to both new and existing buildings.

Annex 1 - BCA 2nd GREEN BUILDING MASTERPLAN

1. The Inter-Ministerial Committee on Sustainable Development (IMCSD)'s was formed in early 2008 to formulate a national framework and strategy for Singapore's sustainable development (SD) in the context of emerging domestic and global challenges. "At least 80% of the buildings in Singapore to achieve the BCA Green Mark Certified rating by 2030," is the target that the Inter-Ministerial Committee on Sustainable Development (IMCSD) has set for Singapore's built environment.

2. In support of the IMCSD and BCA's mission, BCA has formulated the 2nd Green Building (GB) Masterplan, a roadmap that sets out specific initiatives to achieve a truly sustainable built environment in Singapore by 2030. Following the successful implementation of the 1st GB Masterplan formulated in 2006 to spearhead the delivery of Green Buildings with emphasis on new buildings and those undergoing major retrofitting, BCA's 2nd Green Building Masterplan focuses on existing buildings. With the large existing building stock consuming a third of our national end-use electricity, BCA's 2nd Green Building Masterplan places special emphasis on 'greening' existing buildings.

3. The 2nd GB Masterplan is structured into a total of six strategic thrusts (see table below).

| | |
|---------------------------|---|
| Strategic Thrust 1 | Government taking the lead in embracing higher Green Mark ratings |
| Strategic Thrust 2 | Incentives for private sector to accelerate greening of new and existing buildings |
| Strategic Thrust 3 | Further Development of Green Mark Scheme and Green Building Technologies |
| Strategic Thrust 4 | Building industry capabilities through training and education |
| Strategic Thrust 5 | Raising industry and public awareness to generate sustained demand Profile Singapore as a Hub for Green Building Development in the region |
| Strategic Thrust 6 | Monitor and review the need to set minimum performance standards |

The key initiatives to be launched include:

STRATEGIC THRUST 1: GOVERNMENT TAKING THE LEAD IN EMBRACING HIGHER GREEN MARK (GM) STANDARDS

New public sector buildings to achieve GM Platinum rating

4. Under the 1st GB Masterplan, all new public sector buildings and those undergoing major retrofitting works were required to meet minimum standards of environmental sustainability equivalent to the Green Mark (GM) Certified level from 1 April 2007. To show the continued commitment and leadership by the public sector towards a sustainable built environment, all larger new air-conditioned public sector buildings will go beyond the current mandatory requirement of GM Certified rating to achieve the highest GM accolade, i.e. the GM Platinum award.

To achieve higher GM ratings for strategic development projects within key growth areas

5. To demonstrate government's commitment in taking the lead in sustainable development and to further encourage private developers to achieve outstanding design, quality and sustainability objectives in their projects on sale sites, higher GM standards (i.e. GM Platinum or GM Gold^{Plus}) will be set as land sales conditions for selected new growth areas to ensure that they are truly green, high quality and distinctive.

Existing public sector buildings to take the lead to achieve GM Gold^{Plus} by 2020

6. To spearhead the movement to 'green' the existing building stock, the government will lead the way by achieving GM Gold^{Plus} standard by 2020 for all existing buildings owned by government agencies.

STRATEGIC THRUST 2: INCENTIVES FOR PRIVATE SECTOR TO ACCELERATE GREENING OF NEW AND EXISTING BUILDINGS

Bonus GFA to further encourage developers to target higher-tier GM ratings

7. The current \$20million Green Mark Incentive Scheme for New Buildings, or GMIS(NB) has received good response from our private developers. Going forward, BCA and URA are launching the Green Mark Bonus GFA Scheme in

the form of additional Gross Floor Area (GFA) for higher-tier Green Mark projects to encourage developers to target for higher GM ratings for new buildings and reconstruction projects.

\$100 million incentive for building owners to retrofit

8. A comprehensive building refurbishment programme for existing buildings will increase significantly the energy efficiency of Singapore's building stock. Recognising financial considerations as one of the key barriers for building owners to upgrade the building energy performance, BCA is introducing a bold S\$100 million Green Mark Incentive Scheme for Existing Buildings (GMIS-EB) to jumpstart the 'greening' of existing buildings in the private sector. This cash incentive scheme aims to encourage private building owners of existing buildings to undertake retrofits to achieve significant improvement in energy efficiency.

STRATEGIC THRUST 3: DEVELOPMENT AND COLLABORATIVE WORK IN GREEN MARK SCHEME AND GREEN BUILDING TECHNOLOGIES

9. It is vital to intensify our developmental and collaborative efforts in building up the industry's technological capabilities and expertise. This will eventually make the wide application of green building designs and technologies more viable and cost-effective. The upcoming Zero Energy Building (ZEB@BCA Academy) will be a useful platform to test bed and showcase new technologies/designs for the built environment. BCA will also be collaborating with suitable partners to embark on R&D and pilot projects that can lead to even greater energy savings of 50% or more.

STRATEGIC THRUST 4: BUILDING INDUSTRY CAPABILITIES THROUGH TRAINING

Building up a green collar workforce

10. It is essential to develop the industry's capabilities in green building design at all levels and ensure an adequate supply of green building professionals to meet the expected strong demand for green buildings. A comprehensive training framework is being put in place to nurture a core group of green building professionals. Some 18,000 green specialists at the PMET level are expected to be trained over the next 10 years in the development, design, construction, operation and maintenance of green buildings. This will

include upgrading of existing personnel and bringing in new entrants for this high growth area to develop a highly skilled 'green collar' workforce.

STRATEGIC THRUST 5: INTERNATIONAL PROFILING AND RAISING AWARENESS TO GENERATE SUSTAINED DEMAND

11. We plan to raise greater awareness on green buildings, energy efficiency and the need for a sustainable built environment within the industry and community at large by international profiling and outreach programmes on environmental sustainability. To promote Singapore as an international hub for sustainable development, we are launching the Singapore Green Building Week in Oct 2009. As part of the Green Building Week 2009, we are organising the International Green Building Conference (IGBC) to showcase our achievement in shaping a sustainable built environment and to engage foreign experts to share their experiences in green building with the industry and local and foreign participants. We will also launch our Zero-energy Building officially and create greater international awareness of Singapore's iconic Green Mark projects through a Green Mark Tours for Showcase Projects.

STRATEGIC THRUST 6: REVIEW THE NEED FOR MINIMUM STANDARDS

12. The sixth strategic thrust focuses on the regulatory front. After studying implementation approaches of other countries (e.g. Germany, Denmark and the UK), we have mapped out a phased approach to tackle the challenge of "greening" existing buildings to meet with minimum environmental sustainability standards equivalent to Green Mark Certified rating. We will firstly be exploring the feasibility of requiring energy consumption disclosure by building owners as this will help establish energy benchmarks for various categories of buildings.

CONCLUSION

13. The formulation of the 2nd Green Building Masterplan will help consolidate our various environmental sustainability efforts under a common comprehensive framework. This will help us to better leverage on our sustainable built environment to meet the expectations of Singaporeans, attract investors, visitors and foreign talent, export our green building expertise, and bolster Singapore's international profile at the forefront of the global movement towards environmental sustainability.

14. The progress made under the 1st Masterplan has formed the bedrock for a sustainable built environment in Singapore. In formulating the 2nd Masterplan and taking a phased approach in launching the initiatives, we will continue to champion a pro-active and holistic approach to tackle the emergence of new challenges such as 'greening' our existing building stock, building industry capabilities in green building design and technology, and realise our vision of the best built environment for Singapore, our distinctive global city.

Annex 2 – S\$100 MILLION GREEN MARK INCENTIVE SCHEME FOR EXISTING BUILDINGS (GMIS-EB)

1 The Green Mark Incentive Scheme for Existing Building (GMIS) (EB) aims to encourage developers and/or building owners to adopt energy efficient retrofitting design, technologies and practices in their existing building to achieve a significant improvement in the building energy efficiency.

2 Through this scheme, developers and/or building owners will be able to enjoy a cash incentive for retrofitted projects which meet at least a BCA's Green Mark Certified rating with 20% energy savings or higher.

3 The incentive scheme is applicable to all private, existing non-residential developments (with gross floor area of 2,000 sqm and above) undergoing building energy-related retrofits. The scheme will focus mainly on the four main categories of energy intensive buildings. They are Shopping Malls, Hotels, Office Buildings and Hospitals that are mainly centrally air-conditioned.

Annex 3 – GFA INCENTIVE FOR ACHIEVING HIGHER BCA GREEN MARK RATINGS

1 BCA launched the BCA Green Mark (GM) Scheme in January 2005 to promote the sustainable development of our built environment. It encourages the adoption of an integrated design approach incorporating passive design and various green building technologies to achieve greater energy efficiency and a more sustainable built environment.

2 To accelerate the adoption of environmentally-friendly green building technologies and building design practices that will contribute towards making Singapore a more sustainable city, BCA and URA have jointly launched the Green Mark Bonus GFA scheme to grant additional GFA above the Master Plan Gross Plot Ratio (GPR) control for development attaining Green Mark Platinum or Green Mark Gold^{Plus} standards.

3 The Green Mark Bonus GFA scheme is extended to all new private developments, redevelopments and reconstruction developments. The quantum of bonus GFA is up to 1% for Green Mark Gold^{Plus} and up to 2% for Green Mark Platinum, subject to a cap 2,500 sqm for Gold^{Plus} and 5,000 sqm for Platinum.

4 Eligible developers would have to submit their applications that include development's green building concept proposals to BCA for endorsement. Once endorsed, developers and project teams can incorporate the bonus GFA into their development plans and submit to URA for planning approval. Developments will be subjected to further assessment and performance verification after completion by BCA.

Table 1: Quantum of GFA Bonus for higher BCA Green Mark ratings

| Green Mark Rating | GM GFA Incentive Scheme |
|--------------------------|--|
| Platinum | Up to 2% additional GFA beyond MP control (subject to cap of 5,000 sqm) |
| Gold ^{Plus} | Up to 1% additional GFA beyond MP control (subject to cap of 2,500 sqm) |

Annex 4 - SETTING HIGHER TIER GREEN MARK RATINGS IN GOVERNMENT LAND SALES

1 URA and BCA have identified four new strategic growth areas, namely Marina Bay and Downtown Core, Jurong Lake District, Kallang Riverside and Paya Lebar Central, to be developed in an environmentally sustainable manner to achieve a significant impact of energy saving and to help profile Singapore as a leading global city for sustainable development.

2 Marina Bay (MB) and Downtown Core will have high density developments with offices and hotels which consume the most energy among the various building types. Setting the Green Mark Platinum/Gold^{Plus} rating for the area will help drastically reduce the energy consumption by 30% or more.

3 The other districts in Jurong, Kallang and Paya Lebar will be developed for commercial, hospitality and residential uses where the consumption of the energy is expected to be high. By setting the Green Mark Gold^{Plus} rating for these areas will ensure reduction of energy consumption by at least 25%.

4 URA will include the higher Green Mark requirement (i.e. Green Mark Platinum or Green Mark Gold^{Plus}) in the Land Sale tender documents for all new sites within the designated zones of these areas. In the meantime, building control regulations will be amended to gazette the selected areas for higher Green Mark requirements.

Table 2: Minimum GM standard for the four districts:

| District | Minimum GM Standard |
|--|-------------------------------|
| Marina Bay and Downtown Core | Platinum/Gold ^{Plus} |
| Jurong Gateway in Jurong Lake District | Gold ^{Plus} |
| Kallang Riverside | Gold ^{Plus} |
| Paya Lebar Central | Gold ^{Plus} |

Annex 5 – PUBLIC SECTOR TAKING THE LEAD FOR HIGHER GREEN MARK RATINGS

1 Under BCA's 1st Green Building Masterplan, all public sector developments with gross floor area (GFA) of 5,000 sqm or more had to attain the Green Mark Certified rating or higher, as a sign of the government's commitment to sustainability for our built environment. Since April 2008, BCA has also mandated a minimum standard on environmental sustainability for all new buildings and existing buildings undergoing major retrofitting above 2,000 sqm, to be equivalent to the Green Mark certified level.

2 To show the continued commitment and leadership by the public sector towards a sustainable built environment, the government will require public sector buildings to go beyond the current mandatory requirement. From FY09 onwards, all new public sector buildings with more than 5,000 sqm air-conditioned gross floor area (GFA), including buildings whose development cost is fully or partly funded by the government (e.g. new universities and hospitals), will be required to attain GM Platinum rating.

3 In addition, all existing public sector buildings with more than 10,000 sqm air-conditioned GFA must meet GM Gold^{Plus} rating by 2020.