

Our Ref: APPBCA-2004-11

Technology Development Group

Date: 4 Sep 2014

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Dear Sir /Madam

CIRCULAR TO PROFESSIONAL INSTITUTES / ASSOCIATIONS

(A) AMENDMENT TO BUILDING CONTROL (ENVIRONMENTAL SUSTAINABILITY) REGULATIONS 2008 – MANDATORY GREEN MARK GOLD^{PLUS} RATING FOR GOVERNMENT LAND SALE (GLS) SITES IN THE WOODLANDS REGIONAL CENTRE AND PUNGGOL ECO-TOWN

(B) ALTERNATIVE SCORING METHODOLOGY FOR PROVISION OF AIR-CONDITIONERS IN RESIDENTIAL BUILDING DEVELOPMENTS

Objective

1 This circular is to inform the industry of the following :

- (A) Mandatory Green Mark Standard of Gold^{Plus} rating for new developments located on land sold under Government Land Sales (GLS) Programme in two other strategic areas, namely Woodlands Regional Centre and Punggol Eco-town.
- (B) Alternative scoring methodology for the provision of air-conditioners for residential building developments

(A) GREEN MARK STANDARD OF GOLD^{PLUS} RATING FOR GLS SITES IN THE WOODLANDS REGIONAL CENTRE AND PUNGGOL ECO-TOWN

2 Currently, any new development located on land sold under the GLS Programme in selected strategic areas will be required to be designed and certified to meet a higher prescribed Green Mark rating provided under the Building Control (Environmental Sustainability) Regulations 2008.

3 To further enhance the sustainability performance of the built environment, the Building Control (Environmental Sustainability) Regulations 2008 have been amended to include two new areas, namely Woodlands Regional Centre and Punggol Eco-town. That is, any new development located on **land areas as shown in the table below which is sold on or after 1 September 2014** under the GLS Programme will be required to be designed and certified to meet the prescribed Green Mark rating stated.

Additional Strategic Land Areas <i>Exact Location to refer to the Building Control (Environmental Sustainability) Regulations 2008</i>	Minimum Green Mark Standard for building located wholly or partly within land areas sold under the GLS Programme
Woodlands Regional Centre	Green Mark Gold ^{Plus} Rating
Punggol Eco-Town	

4 The details of the amendment to the Building Control (Environmental Sustainability) Regulations 2008 can be found through the following link :
http://www.bca.gov.sg/EnvSusLegislation/others/building_control_env_sus_regulations_rev.pdf

Submission and Verification Audit Requirement

5 As highlighted in the earlier circulars issued on 6 May 2010 and 2 August 2012, QPs should ensure that, prior to their building plan submission, an application has been made to BCA for the project to obtain the prescribed rating via the Green Mark certification process. It is important for QPs to inform BCA early to initiate the necessary verification process. The details of the verification requirements can be downloaded from http://www.bca.gov.sg/GreenMark/others/verificationauditchecklist_rev.pdf. Please note that the completion of the verification audit and receipt of the letter of clearance are pre-requisites to the grant of a Temporary Occupation Permit (TOP)/ Certificate of Statutory Completion (CSC).

(B) ALTERNATIVE SCORING METHODOLOGY FOR PROVISION OF AIR-CONDITIONERS FOR RESIDENTIAL BUILDING

6 In the current scoring methodology for residential buildings, points can be accorded for the provision of air-conditioners with 3 or 4-tick rating as determined under the Mandatory Energy Labelling Scheme (MELS) administered by the National Environmental Agency (NEA).

7 With the recent revision of MELS, a number of air-conditioners' models would have to be re-calibrated and rated with different tick ratings. To facilitate this transition to the new tick rating system, BCA has reviewed the relevant requirements and will consider compliance to be based on the prescribed energy performance standards set, in place of the tick rating. In other words, the relevant compliance and point scoring can be achieved for the provision of air-conditioners with Coefficient of Performance (COP) that meets the alternative scoring methodology.

8 The alternative scoring methodology can be adopted with effect from **1 September 2014** for all residential building projects that are subject to the Building Control (Environmental Sustainability) Regulations 2008. The alternative scoring methodology has been incorporated in the **Addendum to the Code on Environmental Sustainability** and **BCA Green Mark Certification Standard**. A brief description of the alternative scoring methodology has been provided in Annex A and B.

9 You are advised to refer to the Addendums to the Codes (1st, 2nd and 3rd Edition) and BCA Green Mark Certification Standards (GM Version 3.0, GM Version 4.0 and GM Version 4.1) at the following link for more details:

http://www.bca.gov.sg/EnvSusLegislation/Environmental_Sustainability_Legislation.html

For Clarification

10 We would appreciate it if you could convey the contents of this circular to the members of your organization. For clarification, you may email to bca_enquiry@bca.gov.sg or contact the following officers:

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Thank you.

Yours faithfully



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Table A1 - Code for Environmental Sustainability of Buildings (1 st Edition) Residential Building Criteria RB 1-2	
Prescribed Energy Performance Standards for Air-Conditioning Systems and Scoring	
Coefficient of Performance (COP) range	Point Allocation
3.34 > Weighted COP ≥ 2.92	2
COP _{100%} ≥ 3.06 & 3.76 > Weighted COP ≥ 3.34	6
COP _{100%} ≥ 3.34 & Weighted COP ≥ 3.76	12

Table A2 - Code for Environmental Sustainability of Buildings (2 nd and 3 rd Edition) Residential Building Criteria RB 1-2	
Prescribed Energy Performance Standards for Air Conditioning Systems and Scoring	
Coefficient of Performance (COP) range	Point Allocation
COP _{100%} ≥ 3.06 & 3.76 > Weighted COP ≥ 3.34	4
COP _{100%} ≥ 3.34 & Weighted COP ≥ 3.76	8

Note : (1) Coefficient of Performance or COP refers to the ratio of the total cooling capacity expressed in Watts to the total effective input power expressed in Watts, and as specified in the test report.

(2) Weighted COP refers to the sum of 0.4 × COP at full-load cooling capacity and 0.6 × COP at part-load cooling capacity i.e. $Weighted\ COP = 0.4 \times COP_{100\%} + 0.6 \times COP_{50\%}$

Table B1 - BCA Green Mark Certification Standard for New Buildings GM Version 3.0 – Residential Building Criteria RB 1-2	
Prescribed Energy Performance Standards for Air-Conditioning Systems and Scoring	
Coefficient of Performance (COP) range	Point Allocation
$3.34 > \text{Weighted COP} \geq 2.92$	2
$\text{COP}_{100\%} \geq 3.06$ & $3.76 > \text{Weighted COP} \geq 3.34$	6
$\text{COP}_{100\%} \geq 3.34$ & $\text{Weighted COP} \geq 3.76$	12

Table B2 - BCA Green Mark Certification Standard for New Buildings GM Version 4.0 and Version 4.1 - Residential Building Criteria RB 1-2	
Prescribed Energy Performance Standards for Air-Conditioning Systems and Scoring	
Coefficient of Performance (COP) range	Point Allocation
$\text{COP}_{100\%} \geq 3.06$ & $3.76 > \text{Weighted COP} \geq 3.34$	4
$\text{COP}_{100\%} \geq 3.34$ & $\text{Weighted COP} \geq 3.76$	8

Note : (1) Coefficient of Performance or COP refers to the ratio of the total cooling capacity expressed in Watts to the total effective input power expressed in Watts, and as specified in the test report.

(2) Weighted COP refers to the sum of $0.4 \times \text{COP}$ at full-load cooling capacity and $0.6 \times \text{COP}$ at part-load cooling capacity i.e. $\text{Weighted COP} = 0.4 \times \text{COP}_{100\%} + 0.6 \times \text{COP}_{50\%}$

(3) For projects that are to be certified under GM Version 4.0 and Version 4.1, to be eligible for Green Mark Gold^{Plus} and Green Mark Platinum, the air-conditioning system provided for all dwelling units must meet the minimum $\text{COP}_{100\%}$ of 3.34 and weighted COP of 3.76 or more.