# Re-certification of Green Mark Buildings

"Re-certification of Green Mark Buildings" is a process for qualified Green Mark-certified buildings to be recognised for sustained performance in the area of energy and water efficiency, operations and management, and indoor environment quality. By satisfying a checklist of performance metrics, such buildings can be re-certified to its most recent Green Mark scheme and rating.

Prospective buildings will find this process more user friendly and of greater value with the option to use the BCA's smart chiller efficiency portal – a dynamic tool that continually testify that its cooling system performs efficiently.

## Eligibility

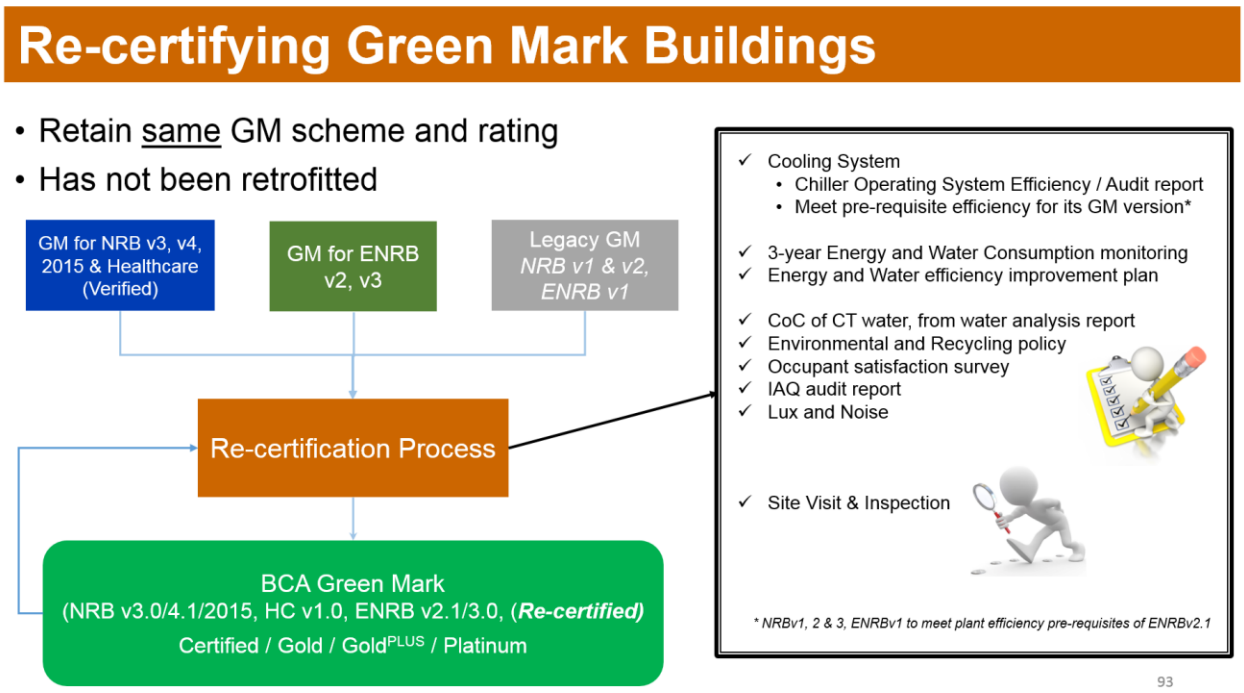
1. The building has not been retrofitted since its last Green Mark assessment
2. It intends to retain the same Green Mark scheme and rating
3. It was certified with the following schemes:
    a. Green Mark for New Non-residential Buildings (GM-NRB)
    b. Green Mark for Existing Non-residential Buildings (GM-ENRB)
    c. Green Mark for Healthcare Facilities (GM-HC)

## Assessment Process

"GM Recertified" process provides a framework of requirements enabling Green Mark certified buildings to:

1. Use data to better understand and make decisions concerning energy and water use
2. Develop a policy for more efficient use of resources
3. Set targets and objectives to meet the policy
4. Monitor and measure the results
5. Review the effectiveness of the policy
6. Account for its waste footprint and recycling
7. Continually meet occupants' satisfaction

While it resembles some aspects of a management system, it should not be seen as a substitute or equivalence of the latter.




Referring to the above diagram, building performance metrics and policy statements are submitted in a prescribed spreadsheet comprising worksheets to facilitate data entry and document attachment:

1. Building information such as Green Mark application details, GFA, cooling load
2. Energy audit report for the cooling system by an BCA-accredited Energy Auditor or Professional Mechanical Engineer
3. Temperature readings from the chiller measurement and verification (M&V) instrumentation (to be filled in by the assessor, not applicable to early versions of Green Mark)
4. 3-year energy and water use
5. Energy and water improvement plan
6. Cycle of concentration of cooling tower water, derived from a water analysis report
7. Occupant satisfaction survey (see "Annex B: POE Questionnaire for Indoor Environment Survey" of GM ENRB:2017)
8. Corporate environmental and recycling policy
9. Indoor Air Quality (IAQ) audit report by an accredited firm, and noise and light levels in various areas of the building

The spreadsheet template to facilitate the submission of the above is available on the BCA website.

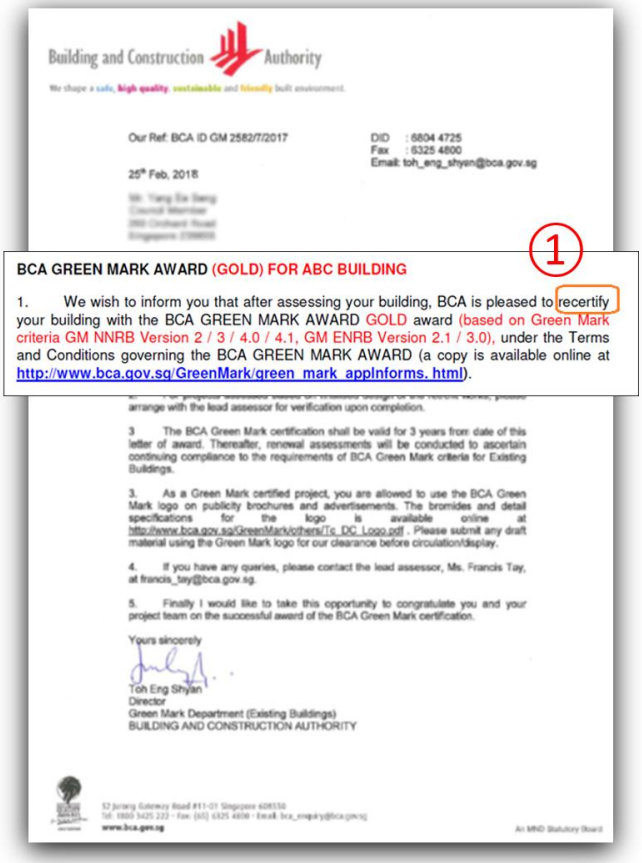
This will be followed by an on-site verification of the temperature sensors used for chiller M&V; and visual inspection of key installations and equipment such as AHU, filters, M&V instrumentations, cooling towers, waste management, building automation system and water and electrical sub-meters. Attention will also be paid to symptoms of indoor environmental quality issues such as moisture and condensation, thermal comfort, indoor pollutant control etc.

The assessment will be based on the checklist as described above. There will not be any point scoring for the recertification assessment. Projects previously certified to Gold$^{PLUS}$ and Platinum, and wish to

retain the same rating under the recertification process do not have to go through the Board presentation.

## Award

Successful applicant will be awarded the Green Mark certificate with its previous GM scheme and rating, next to which is the word “Re-Certified” to publicly acknowledge the building’s continued performance and commitment. Legacy versions of Green Mark, i.e. GM-NRB v1 & 2 and GM-ENRB v1, will be re-certified as GM-ENRB v2.1.


Building and Construction Authority

We shape a safe, high quality, sustainable and friendly built environment.

Our Ref: BCA ID GM 2582/7/2017

DID : 6804 4725
Fax : 6325 4800
Email: toh_eng_shyan@bca.gov.sg

25th Feb, 2018

[redacted]

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**BCA GREEN MARK AWARD (GOLD) FOR ABC BUILDING**

1. We wish to inform you that after assessing your building, BCA is pleased to recertify your building with the BCA GREEN MARK AWARD GOLD award (based on Green Mark criteria GM NNRB Version 2 / 3 / 4.0 / 4.1, GM ENRB Version 2.1 / 3.0), under the Terms and Conditions governing the BCA GREEN MARK AWARD (a copy is available online at http://www.bca.gov.sg/GreenMark/green_mark_applnforms. html).

arrange with the lead assessor for verification upon completion.

3 The BCA Green Mark certification shall be valid for 3 years from date of this letter of award. Thereafter, renewal assessments will be conducted to ascertain continuing compliance to the requirements of BCA Green Mark criteria for Existing Buildings.

3. As a Green Mark certified project, you are allowed to use the BCA Green Mark logo on publicity brochures and advertisements. The bromides and detail specifications for the logo is available online at http://www.bca.gov.sg/GreenMark/others/Tc_DC_Logo.pdf . Please submit any draft material using the Green Mark logo for our clearance before circulation/display.

4. If you have any queries, please contact the lead assessor, Ms. Francis Tay, at francis_tay@bca.gov.sg.

5. Finally I would like to take this opportunity to congratulate you and your project team on the successful award of the BCA Green Mark certification.

Yours sincerely

Toh Eng Shyan
Director
Green Mark Department (Existing Buildings)
BUILDING AND CONSTRUCTION AUTHORITY

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An MND Statutory Board


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The scheme this project originates

BCA GREEN MARK

(Re-certified based on New Building for Non-Residential Buildings - Version 4.1)

3

2017

AWARD

**Gold Plus**

presented to

**A Certain Building**

Chairman
Building and Construction Authority

Chairman
Green Mark Advisory Committee

Date of Original Issue:
26 March 2017

Date of Expiry:
31 March 2020

Building and Construction Authority

We shape a safe, high quality, sustainable and friendly built environment.

**FAQ about the Re-certification Process**

1) *My building's Green Mark certificate has lapsed. Is the building still eligible to use this process to renew its Green Mark certification?*

   Yes, if it meets the eligibility criteria.

2) *My building was certified as a Green Mark for New Non-residential Building v4.1 (GM-NRB v4.1 Gold) in 2012. Can I used this process to re-certify it to Green Mark for Existing Non-residential Building v3 (GM-ENRB v3 Gold)?*

   No, this process may not be used to "port" a building across GM schemes. Your building will be re-certified to GM-NRB v4.1.

3) *My building is still subject to verification for New Development / committed features. Is it still eligible for this process?*

   The building should have been verified or in its final stage of verification. Discuss with your assigned assessor to work out an action plan.

4) *How do I apply for my building to use this process?*

   You may do so online at http://www.bca.gov.sg/GreenMarkOnline as you would with all other Green Mark application.

5) *Where may I download a copy of the submission templates?*

   They are available from http://www.bca.gov.sg/GreenMark/green_mark_criteria.html

6) *What are the efficiency pre-requisites for the chiller plant?*

   The chiller plant efficiency benchmark is as required in the respective Green Mark scheme and rating that the building will be re-certified to, e.g. for a GM-ENRB v3 Platinum building, its plant efficiency should not exceed 0.65 kW/Rt.

7) *Earlier versions of Green Mark did not have chiller plant efficiency pre-requisite. Must a buildings certified with one of these versions meet a minimum efficiency for its chiller plant?*

   Yes, the minimum efficiency is 0.9 kW/RT, pegged to that required in GM-ENRB v2.1. Earlier versions of Green Mark that did not stipulate a minimum plant efficiency are NRB v1, 2 & 3, and ENRB v1.

   And to retain Gold$^{PLUS}$ or Platinum rating, buildings certified with these versions must also meet the corresponding minimum efficiency in GM-ENRB 2.1 for these ratings at 0.75 and 0.70 kW/RT respectively.

8) *The building's chiller plant is not equipped with permanent M&V instruments. How shall its efficiency be determined?*

   A plant energy audit report by a BCA-registered Energy Auditor or a professional Mechanical Engineer is required. This entails using temporary instruments to trend the plant's performance for a period of one or more weeks.

9) *My building's energy/water consumption has increased by more than 5% in recent years. How are such deviation evaluated?*

   A building's energy or water consumption may increase for various reasons such as change of use in certain areas or a new tenant's operation. Discuss with your assigned assessor to account for these causes.

10) *Will the re-certified building be awarded a Green Mark certificate? And how long will it be valid for?*

    Yes, and it is valid for 3 years from the date of Letter of Award.