

BCA Green Mark Score Calculator

***User Guide
Version 1.0***

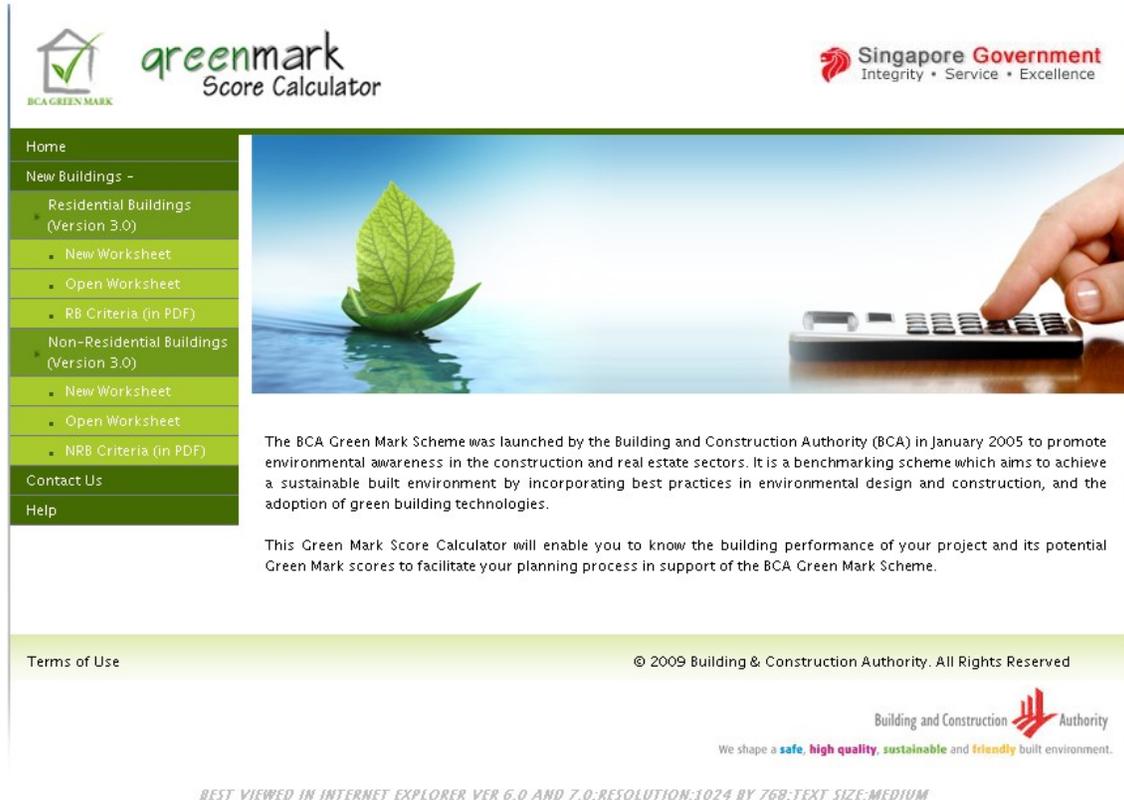
SUMMARY OF DOCUMENTATION CHANGES

Version No	Date Revised	Summary of Changes
1.0.0	06 th July 2009	-

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1 Green Mark Score Calculator – Home Page



The screenshot shows the home page of the Green Mark Score Calculator. At the top left is the Green Mark logo with the text 'greenmark Score Calculator'. At the top right is the Singapore Government logo with the tagline 'Integrity • Service • Excellence'. A navigation menu on the left lists: Home, New Buildings - Residential Buildings (Version 3.0) with sub-items 'New Worksheet', 'Open Worksheet', and 'RB Criteria (in PDF)'; Non-Residential Buildings (Version 3.0) with sub-items 'New Worksheet', 'Open Worksheet', and 'NRB Criteria (in PDF)'; Contact Us; and Help. The main content area features a large image of a hand using a calculator next to a green leaf on water. Below the image is a paragraph explaining the BCA Green Mark Scheme, launched in January 2005 to promote environmental awareness. A second paragraph states that the calculator will enable users to know building performance and potential scores. At the bottom, there is a footer with 'Terms of Use', '© 2009 Building & Construction Authority. All Rights Reserved', and the BCA logo with the tagline 'We shape a safe, high quality, sustainable and friendly built environment.' A note at the very bottom reads 'BEST VIEWED IN INTERNET EXPLORER VER 6.0 AND 7.0; RESOLUTION: 1024 BY 768; TEXT SIZE: MEDIUM'.



Notes:

- Clicking **Home** will show the home page
- Clicking **New Worksheet** will open the new work sheet section in a new window.
- Clicking **Open Worksheet** will open the Open Worksheet section in a new window.
- Clicking **RB Criteria (in PDF)** will open the PDF file containing the information about BCA Green Mark for Residential Building Version RB/3.0
- Clicking **NRB Criteria (in PDF)** will open the PDF file containing the information about BCA Green Mark for Non-Residential Building Version NRB/3.0
- Clicking Contact Us will show the Subject Matter along with Contact persons with contact details in a new window.
- Clicking **Help** will open the User Guide for BCA Green Mark Score Calculator

Please note that this website is **BEST VIEWED IN INTERNET EXPLORER VER 6.0 AND 7.0; RESOLUTION: 1024 BY 768; TEXT SIZE: MEDIUM**

Please note that pop-ups from this website should be allowed in order to generate PDF files.

2 Residential Buildings (Version 3.0)

2.1. New Worksheet



Residential Building Criteria
Version RB/3.0



Singapore Government
Integrity • Service • Excellence

Home
Green Mark Score Calculator ▾
Contact Us
Help

File Reference No.

Project Description

▲ Hide

0	0	0	0	0	0	Calculate Score
Energy Efficiency ▾	Water Efficiency ▾	Environmental Protection ▾	Indoor Environmental Quality ▾	Other Green Features ▾	Summary	

RB 1-1 Building Envelope – RETV Compute Points

Criteria Info [criteria](#)

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
RETV value <i>Green Mark Points : Points scored = 75 – (3 x RETV); Max Permissible RETV=25 W/m²; Max 15 points</i>	<input style="width: 50px;" type="text" value="0"/> W/m ² (key in RETV Value)	0	<input style="width: 100%;" type="text"/>

RB 1-2 Dwelling Unit Indoor Comfort Compute Points

Criteria Info [click here](#)

(a) Use of better energy efficient air-conditioners or good natural ventilation design as in item (a)(i) or item (a)(ii) respectively.

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
<input checked="" type="radio"/> (i) For development with provision of air-conditioners Use of energy efficient air-conditioners certified under the Singapore Energy Labelling Scheme. <i>Green Mark Points : 2 Ticks – 2 points; 3</i>	<input type="radio"/> ✓✓ <input type="radio"/> ✓✓✓ <input type="radio"/> ✓✓✓✓ <input checked="" type="radio"/> N/A	0	<input style="width: 100%;" type="text"/>

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Notes:

- Clicking **New Worksheet** from the home page will open this page.

2.2. Open Worksheet



The screenshot shows the 'Open Worksheet' page of the Greenmark Score Calculator. At the top left is the 'greenmark Score Calculator' logo, and at the top right is the 'Singapore Government' logo with the tagline 'Integrity • Service • Excellence'. Below the logos is a green navigation bar with links for 'Home', 'Contact Us', and 'Help'. The main content area features a file selection interface with a text input field labeled 'Select File Name', a 'Browse...' button, and a larger 'Import Existing Worksheet File' button. At the bottom, there is a green footer bar containing 'Terms of Use' on the left and '© 2009 Building & Construction Authority. All Rights Reserved' on the right.



Notes:

- Clicking **Open Worksheet** from the home page will open this page.

2.3. RB Criteria (in PDF)

History
greenmark
Score Calculator

Singapore Government
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Home
New Buildings -
Residential Buildings
(Version 3.0)
• New Worksheet
• **Open Worksheet**
• **RB Criteria (in PDF)**
New Residential Building
(Version 3.0)
• New Worksheet
• Open Worksheet
• NRB Criteria (in PDF)
Contact Us
Help

The BCA Green Mark Scheme was launched by the Building and Construction Authority (BCA) in January 2005 to promote environmental awareness in the construction and real estate sectors. It is a benchmarking scheme which aims to achieve a sustainable built environment by incorporating best practices in environmental design and construction, and the adoption of green building technologies.

This Green Mark Score Calculator will enable you to know the building performance of your project and its potential Green Mark scores to facilitate your planning process in support of the BCA Green Mark Scheme.

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Notes:

- Clicking **RB Criteria(in PDF)** from the home page will open the PDF file in new window from http://www.bca.gov.sg/GreenMark/others/gm_resiv3.pdf, this PDF file contains the information about BCA Green Mark for Residential Building Version RB/3.0

2.4. New Worksheet

Residential Building Criteria
Version RB/3.0

Singapore Government
Integrity • Service • Excellence

Home | Green Mark Score Calculator | Contact Us | Help

New Worksheet | Open Worksheet | Export Worksheet | Preview Worksheet | Print Worksheet | Close

Residential Building Criteria (Ver 3.0) | Non Residential Building Criteria (Ver 3.0)

Energy Efficiency | Water Efficiency | Environmental Protection | Indoor Environmental Quality | Other Green Features | Summary | Calculate Score

RB 1-1 Building Envelope - RETV → Compute Points
Criteria Info [criteria](#)
Green Mark Points Available

RETV value

Green Mark Points : Points scored = 75 (3 × RETV); Max Permissible RETV=25 W/m²; Max 15 points

Commentary Evidence / Value Evidence	Points Scored	Remarks
2 W/m ² (key in RETV Value)	15	

RB 1-2 Dwelling Unit Indoor Comfort → Compute Points
Criteria Info [click here](#)

(a) Use of better energy efficient air-conditioners or good natural ventilation design as in item (a)(i) or item (a)(ii) respectively.
Green Mark Points Available

Commentary Evidence / Value Evidence	Points Scored	Remarks
<input checked="" type="radio"/> ✓✓ <input type="radio"/> ✓✓✓ <input type="radio"/> ✓✓✓✓ <input checked="" type="radio"/> N/A	0	

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Notes:

- Hovering on **New Worksheet**, will display the criteria sections as sub menus, when click on any of these will open the page in new window.
- Initially, the page is loaded with all the sub sections under the section **Energy Efficiency**.

To view particular sub section

Residential Building Criteria
Version RB/3.0

Singapore Government
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Home Green Mark Score Calculator Contact Us Help

File Reference No. Project Description

27 0 0 0 0 27 Calculate Score

Energy Efficiency Water Efficiency Environmental Protection Indoor Environmental Quality Other Green Features Summary

All

1-1 Building Envelope - RETV

1-2 Dwelling Unit Indoor Comfort

1-3 Natural Ventilation in Common Areas

1-4 Lighting

1-5 Ventilation In Carparks

1-6 Lifts

1-7 Energy Efficient Features

1-8 Renewable Energy

Reset

Compute Points

Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
75	2 W/m ² (key in RETV Value)	15	

Points scored = 75 - Possible RETV=25

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Notes:

- Upon clicking **1-1 Building Envelope – RETV** in **Energy Efficiency** section, will display the particular sub section alone. This can be done for all sections and sub sections.

Calculate Score & Compute Points:



Home Green Mark Score Calculator Contact Us Help

File Reference No. Project Description

Hide

15	0	0	0	0	15	Calculate Score
Energy Efficiency	Water Efficiency	Environmental Protection	Indoor Environmental Quality	Other Green Features	Summary	

RB 1-1 Building Envelope – RETV Compute Points

Criteria Info [criteria](#)
Green Mark Points Available

RETV value

Green Mark Points : Points scored = 75 - (3 × RETV); Max Permissible RETV=25 W/m²; Max 15 points

Commentary Evidence / Value Evidence

2 W/m² (key in RETV Value)

Points Scored 15

Remarks

RB 1-2 Dwelling Unit Indoor Comfort Compute Points

Criteria Info [click here](#)

(a) Use of better energy efficient air-conditioners or good natural ventilation design as in item (a)(i) or item (a)(ii) respectively.

Green Mark Points Available

(i) For development with provision of air-conditioners Use of energy efficient air-conditioners certified under the Singapore Energy Labelling Scheme.

Commentary Evidence / Value Evidence

✓✓ ✓✓✓ ✓✓✓✓ N/A

Points Scored 0

Remarks

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Notes:

- Will have all the scores blank and can input values in Energy Efficiency, Water Efficiency, Environmental Protection, Indoor Environmental Quality, Other Green Features and can calculate GM Score by using **Compute Points** and / or **Calculate Score** button.
- **Compute Points** will calculate and show the GM score only for that particular section
- **Calculate Score** will calculate and show the GM score for all the sections

Summary Page:



Residential Building Criteria

Version RB/3.0



Home | Green Mark Score Calculator | Contact Us | Help

File Reference No. Project Description

▲ Hide

27	0	0	0	0	27	Calculate Score
Energy Efficiency	Water Efficiency	Environmental Protection	Indoor Environmental Quality	Other Green Features	Summary	

Category Items	Max Points Allocated	Points Scored
(I) Energy Related Requirements		
Part 1: Energy Efficiency		
RB 1-1 Building Envelope - RETV	15	15
RB 1-2 Dwelling Unit Indoor Comfort	16	12
RB 1-3 Natural Ventilation in Common Areas	2	0
RB 1-4 Lighting	15	0
RB 1-5 Ventilation in Carparks	8	0
RB 1-6 Lifts	2	0
RB 1-7 Energy Efficient Features	7	0
Sub-Total for Part 1 - For Items RB 1-1 to 1-7:	65	27
Sub-Total for Part 1 - For Items RB 1-1 to 1-7 (Max 50 points):		27
RB 1-8 Renewable Energy (Bonus Points)	20	0
Category Score for Part 1 - {Sub-Total for Part 1 (Max 50 points) Item RB 1-8(Bonus Points)}; (Min 30 points):		27

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Notes:

- When clicked “Summary” will present the scores obtained in each sub category under a particular category.

Reset Score for RB

Before Reset:



Notes:

- Upon clicking **Reset** in **Energy Efficiency** section, will reset all the inputs and outputs produced in the corresponding section and also the **Top Score** obtained for the corresponding section, which is also shown below. All the sections has got **Reset** to reset their corresponding sections.

After Reset:



Residential Building Criteria
Version RB/3.0



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Home | Green Mark Score Calculator | Contact Us | Help

File Reference No.	Project Description
<input type="text"/>	<input type="text"/>

▲ Hide

0	0	0	0	0	0	0	0	0
Energy Efficiency	Water Efficiency	Environmental Protection	Indoor Environmental Quality	Other Green Features	Summary	Calculate Score		

RB 1-1 Building Envelope – RETV Compute Points

Criteria Info [criteria](#)

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
RETV value <small>Green Mark Points : Points scored = 75 - (3 x RETV); Max Permissible RETV=25 W/m²; Max 15 points</small>	<input type="text" value="0"/> W/m ² (key in RETV Value)	0	<input type="text"/>

RB 1-2 Dwelling Unit Indoor Comfort Compute Points

Criteria Info [click here](#)

(a) Use of better energy efficient air-conditioners or good natural ventilation design as in item (a)(i) or item (a)(ii) respectively.

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
<input checked="" type="radio"/> (i) For development with provision of air-conditioners Use of energy efficient air-conditioners certified under the Singapore Energy Labelling Scheme.	<input type="radio"/> ✓✓ <input type="radio"/> ✓✓✓ <input type="radio"/> ✓✓✓✓ <input checked="" type="radio"/> N/A	0	<input type="text"/>

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Notes:

- After reset in **Energy Efficiency** section, the scores have been refreshed to zero.

2.4.1. Export Worksheet

The screenshot displays the 'Residential Building Criteria' software interface (Version RB/3.0) with the 'Green Mark Score Calculator' menu open. The 'Export Worksheet' option is highlighted. A 'File Download' dialog box is overlaid, showing file details and a security warning. The background interface includes a 'Project Description' field, a 'Calculate Score' button, and a table for criteria evaluation.

Criteria	Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
RB 1-1 Building Envelope – R			0	
RB 1-2 Dwelling Unit Indoor C			0	



Notes:

- When clicked **Export Worksheet**, will open a download window showing the encrypted file name, which contains the input entered in project details and criteria section. This file can be saved in local system and can be opened / imported when needed using “Open Worksheet” feature.

2.4.2. Preview Worksheet

The screenshot displays the 'Residential Building Criteria' software interface. At the top, there is a navigation bar with 'Home', 'Green Mark Score Calculator', 'Contact Us', and 'Help'. The main content area includes a 'File Reference No.' input field and a 'Project Description' dropdown. A 'File Download' dialog box is open in the center, showing a PDF icon and the following details: Name: RB_633806702704062500.pdf, Type: Adobe Acrobat Document, 140 KB, From: minds20. The dialog has 'Open', 'Save', and 'Cancel' buttons. Below the dialog, a warning message states: 'While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?'. The background interface shows a table with columns for 'Energy Efficiency', 'Water Efficiency', and 'En...'. The table contains two rows of criteria: 'RB 1-1 Building Envelope - R...' and 'RB 1-2 Dwelling Unit Indoor C...'. The 'RB 1-1' row shows a score of 15 and 0. The 'RB 1-2' row shows a score of 0 and 15. A 'Calculate Score' button is located on the right side of the interface.



Notes:

- Upon clicking **Preview Worksheet** will generate the PDF file containing the project detail section inputs and criteria section inputs and outputs.
- Above shown window, contains the download window containing the PDF file for RB, which can be saved in the local system.

2.4.3. Print Worksheet

Residential Building Criteria
Version RB/3.0

Singapore Government
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Home Green Mark Score Calculator Contact Us Help

New Worksheet
Open Worksheet
Export Worksheet
Preview Worksheet
Print Worksheet

Project Description

Close 0 0 0 0 Calculate Score

Energy Efficiency Water Efficiency Environmental Protection Indoor Environmental Quality Other Green Features Summary

RB 1-1 Building Envelope - RETV Compute Points

Criteria Info [criteria](#)
Green Mark Points Available

RETV value

Green Mark Points : Points scored = 75
(3 x RETV); Max Permissible RETV=25
W/m²; Max 15 points

Remarks

RB 1-2 Dwelling Unit Indoor Comfort Compute Points

Criteria Info [click here](#)

(a) Use of better energy efficient air-conditioners or good natural ventilation design as in item (a)(i) or item (a)(ii) respectively.

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
(i) For development with provision of air-conditioners Use of energy efficient air-conditioners certified under the Singapore Energy Labelling Scheme.	<input type="radio"/> ✓✓ <input type="radio"/> ✓✓✓ <input type="radio"/> ✓✓✓✓ <input type="radio"/> N/A	0	

Green Mark Points : 2 Ticks - 2 points; 3

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Notes:

- Upon clicking **Print Worksheet** will ask for confirmation, whether to print the worksheet.
- When clicked 'yes', will then calculate the GM score to check whether it meets minimum requirement score or not.
- When clicked 'No', will cancel the print option.
- When clicked 'yes', the system check is shown below.




Notes:

- This message describes that, the GM score in part 1 and part 2 to 5, does not meet minimum requirement, and has asked for the confirmation, whether to proceed printing the worksheet.
- Similarly, when part 1 score is < 30, then the message is prompted as “Green Mark Score for Residential Building Criteria (Ver. 3.0) does not meet the minimum requirement for Energy Efficient Features (Part 1), do you like to proceed?”
- Similarly, when part 2 to 5 score is < 20 then the message is prompted as “Green Mark Score for Residential Building Criteria (Ver. 3.0) does not meet the minimum requirement for Other Green Related Requirement (Part 2 to Part 5), do you like to proceed?”
- Whether both meet or do not meet the minimum requirement, system will generate the PDF file containing the project detail section inputs and criteria section inputs and outputs and opens the PDF file in a new window.

2.4.4. Close

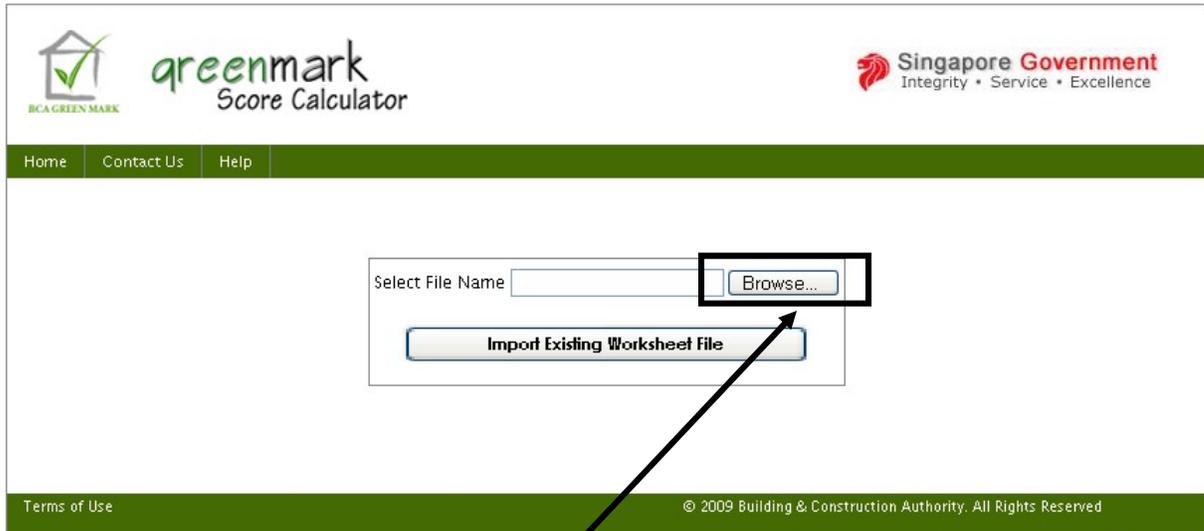
The screenshot shows the 'Green Mark Score Calculator' web application. The top navigation bar includes 'Home', 'Green Mark Score Calculator', 'Contact Us', and 'Help'. A dropdown menu is open under 'Green Mark Score Calculator', with 'Close' highlighted. A modal dialog box is displayed in the center, asking 'Do you want to save your Worksheet?' with 'Yes', 'No', and 'Cancel' buttons. The background interface shows the 'Energy Efficiency' section, specifically 'RB 1-1 Building Envelop - RETV' and 'RB 1-2 Dwelling Unit Indoor Comfort'. The 'Close' button is highlighted with a red box, and an arrow points from it to the 'Notes' section below.



Notes:

- Upon clicking **Close** will ask for saving the worksheet
- When clicked **Yes**, will export the worksheet by encrypting the project details section and criteria section.
- When clicked **No**, will redirect the page to **Home Page**.
- When clicked **Cancel**, will not perform any action, which means that the user has cancelled the “close” process.

2.5. Open Worksheet



greenmark
Score Calculator

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Home Contact Us Help

Select File Name

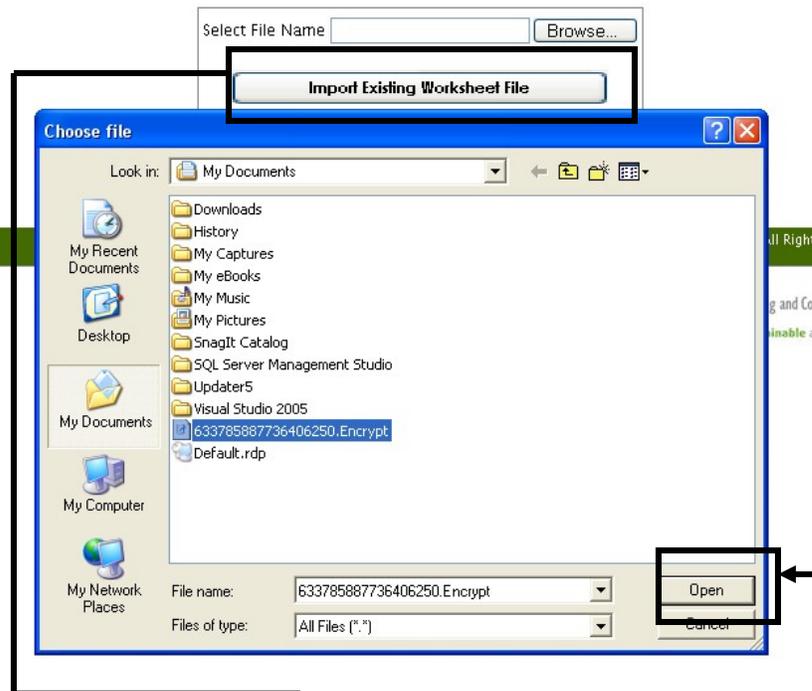
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Notes:

- Upon clicking **Browse** button will open the file open dialog, to fetch the encrypted file saved before, which is shown below.



Notes:

- Select the encrypted file from the location saved and then click **Open**. Then click **Import Existing Worksheet File**, upon clicking the **Import Existing Worksheet File** button, will determine the criteria section and opens the corresponding page by retrieving the inputs entered and scores obtained. Further data can be entered and exported again.

After “Import Existing Worksheet File”



Home	Green Mark Score Calculator ▾	Contact Us	Help
------	-------------------------------	------------	------

File Reference No.	Project Description
<input type="text"/>	<input type="text"/>
▲ Hide	

27	0	0	0	0	27	Calculate Score
Energy Efficiency ▾	Water Efficiency ▾	Environmental Protection ▾	Indoor Environmental Quality ▾	Other Green Features ▾	Summary	

RB 1-1 Building Envelope – RETV →

Criteria Info [criteria](#)

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
RETV value	<input type="text" value="2"/> W/m ² (key in RETV Value)	15	<input type="text"/>

Green Mark Points : Points scored = 75 - (3 × RETV); Max Permissible RETV=25 W/m²; Max 15 points

RB 1-2 Dwelling Unit Indoor Comfort →

Criteria Info [click here](#)

(a) Use of better energy efficient air-conditioners or good natural ventilation design as in item (a)(i) or item (a)(ii) respectively.

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
<input checked="" type="radio"/> (i) For development with provision of air-conditioners Use of energy efficient air-conditioners certified under the Singapore Energy Labelling Scheme.	<input type="radio"/> ✓✓ <input type="radio"/> ✓✓✓ <input checked="" type="radio"/> ✓✓✓✓ <input type="radio"/> N/A	12	<input type="text"/>

Green Mark Points : 2 Ticks – 2 points; 3

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Notes:

- RB page opens by retrieving the inputs given and the scores obtained for those inputs

3 Non-Residential Buildings (Version 3.0)

3.1. New Worksheet

 **Non-Residential Building Criteria**
Version NRB/3.0

 **Singapore Government**
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Home | Green Mark Score Calculator ▾ | Contact Us | Help

File Reference No. <input type="text"/>	Non-Residential Floor Area	Floor Area in m²	% Floor Area
Project Description <input type="text"/>	Air-conditioned spaces	<input type="text" value="1000"/>	<input type="text" value="50"/>
	Non Air-conditioned spaces	<input type="text" value="1000"/>	<input type="text" value="50"/>
	Total	2000	<input type="text" value=""/>

▲ Hide

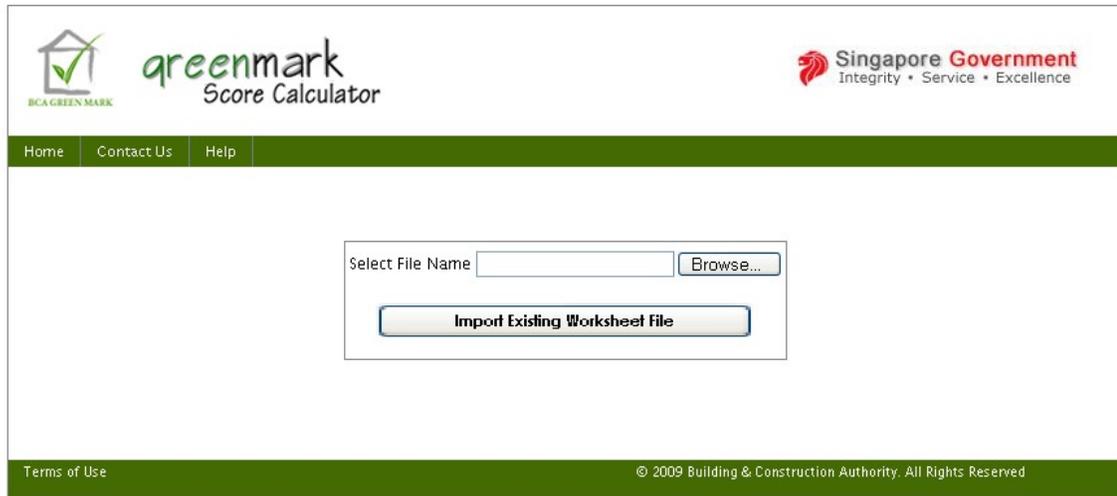
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Notes:

- Clicking **New Worksheet** from the home page will open this page.

3.2. Open Worksheet



The screenshot shows the 'Open Worksheet' page of the Greenmark Score Calculator. At the top left is the 'greenmark Score Calculator' logo, and at the top right is the 'Singapore Government' logo with the tagline 'Integrity • Service • Excellence'. Below the logos is a green navigation bar with links for 'Home', 'Contact Us', and 'Help'. The main content area features a file selection interface with a text input field labeled 'Select File Name', a 'Browse...' button, and a larger 'Import Existing Worksheet File' button. At the bottom, a green footer bar contains 'Terms of Use' on the left and '© 2009 Building & Construction Authority. All Rights Reserved' on the right.



Notes:

- Clicking **Open Worksheet** from the home page will open this page.

3.3. NRB Criteria (in PDF)

Home

New Buildings -

- Residential Buildings (Version 3.0)
 - New Worksheet
 - Open Worksheet
 - RB Criteria (in PDF)
- Non-Residential Buildings (Version 3.0)
 - New Worksheet
 - Open Worksheet
 - NRB Criteria (in PDF)**

History

greenmark
Score Calculator

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The BCA Green Mark Scheme was launched by the Building and Construction Authority (BCA) in January 2005 to promote environmental awareness in the construction and real estate sectors. It is a benchmarking scheme which aims to achieve a sustainable built environment by incorporating best practices in environmental design and construction, and the adoption of green building technologies.

This Green Mark Score Calculator will enable you to know the building performance of your project and its potential Green Mark scores to facilitate your planning process in support of the BCA Green Mark Scheme.

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Notes:

- When click on **NRB Criteria (in PDF)**, will open the PDF file in new window from http://www.bca.gov.sg/GreenMark/others/gm_nonresiv3.pdf, this PDF file contains the information about BCA Green Mark for Non-Residential Building Version NRB/3.0

3.4. New Worksheet



Non-Residential Building Criteria
Version NRB/3.0



Home | Green Mark Score Calculator | Contact Us | Help

File Reference No.

Project Description

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	<input type="text" value="1000"/>	50
Non Air-conditioned spaces	<input type="text" value="1000"/>	50
Total	2000	

▲ Hide

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Notes:

- NRB new worksheet, initially need to provide the air-conditioned spaces and non air-conditioned spaces and click Next will display the criteria section.

To view particular sub section

Home Green Mark Score Calculator Contact Us Help

File Reference No.

Project Description

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	<input type="text" value="1000"/>	50%
Non Air-conditioned spaces	<input type="text" value="1000"/>	50%
Total	2000m²	

▲ Hide

7.5	0	0	0	0	7.5	Calculate Score
Energy Efficiency	Water Efficiency	Environmental Protection	Indoor Environmental Quality	Other Green Features	Summary	

NRB 2-1 Water Efficient Fittings →
Criteria Info [click here](#)

Green Mark Points Available **Commentary Evidence / Value Evidence** **Points Scored** **Remarks**

Use of water fittings that are certified under the Water Efficiency Labelling Scheme (WELS). *Enter WELS Rating* 0

WELS Rating	Excellent	Very Good	Good	No Approved Rating
Total No. of Fittings (A)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Weightage (B)	8	6	4	0
Total	0	0	0	0

Green Mark Points : Max 8 points.

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Notes:

- Upon clicking NRB **2-1 Water Efficient Fittings** in **Water Efficiency** section, will display the particular sub section alone. This can be done for all sections and sub sections.

Calculate Score & Compute Points:

Home Green Mark Score Calculator Contact Us Help

File Reference No.

Project Description

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	<input type="text" value="1000"/>	50%
Non Air-conditioned spaces	<input type="text" value="1000"/>	50%
Total	2000m²	

[Edit Floor Area](#)

▲ Hide

7.5 0 0 0 0 7.5 **Calculate Score**

Energy Efficiency Water Efficiency Environmental Protection Indoor Environmental Quality Other Green Features Summary

NRB 1-1 Building Envelope - ETTV [Compute Points](#)

Criteria Info [click here](#)

Green Mark Points Available

ETTV value

Green Mark Points : Points scored = $100 - (2 \times \text{ETTV})$ Maximum Permissible ETTV=50 W/m²; Max 15 points

Commentary Evidence / Value Evidence W/m² (key in ETTV Value)

Points Scored

Remarks

NRB 1-2 Air-Conditioning System [Compute Points](#)

Criteria Info [click here](#)

Green Mark Points Available

Note : Where there is a combination of centralized air-con system with unitary air-con system, the computation is based on the air-conditioning system with the larger aggregate capacity - centralized air-con system or unitary air-con system.

(a)(i) Air-Conditioned Plant (Max 20 points)
% improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)

(key in % of improvement)

% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)

(key in % of improvement)

(a)(ii) Air Distribution System

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Notes:

- Will have all the scores blank and can input values in Energy Efficiency, Water Efficiency, Environmental Protection, Indoor Environmental Quality, Other Green Features and can calculate GM Score by using **Compute Points** and / or **Calculate Score** button.
- **Compute Points** will calculate and show the GM score only for that particular section
- **Calculate Score** will calculate and show the GM score for all the sections

Summary Page:

Home				Green Mark Score Calculator				Contact Us				Help									
File Reference No. <input type="text"/>				Non-Residential Floor Area				Floor Area in m²				% Floor Area									
Project Description				Air-conditioned spaces				<input type="text" value="1000"/>				50%									
				Non Air-conditioned spaces				<input type="text" value="1000"/>				50%									
				Total				2000m²				<input type="button" value="Edit Floor Area"/>									
▲ Hide																					
12.5				0				0				0				12.5				<input type="button" value="Calculate Score"/>	
Energy Efficiency				Water Efficiency				Environmental Protection				Indoor Environmental Quality				Other Green Features					
Category Items														Max Points Allocated		Points Scored					
(I) Energy Related Requirements																					
Part 1: Energy Efficiency																					
NRB 1-1 Building Envelope - ETTV														15		15					
NRB 1-2 Air Conditioning System														27		10					
Sub-Total (A) - For Items NRB 1-1 to 1-2:														42		25					
Prorate Sub-Total(A):																12.5					
NRB 1-3 Building Envelope - Design/Thermal Parameters														29		0					
NRB 1-4 Natural Ventilation (exclude carparks)														13		0					
Sub-Total (B) - For Items NRB 1-3 to 1-4:														42		0					
Prorate Sub-Total (B):																0					
NRB 1-5 Artificial Lighting														12		0					
NRB 1-6 Ventilation in Carparks														5		0					
NRB 1-7 Ventilation in Common Areas														5		0					
NRB 1-8 Lifts and Escalators														3		0					
NRB 1-9 Energy Efficient Practices & Features														12		0					
Sub-Total (C) - For Items NRB 1-5 to 1-9:														37		0					
Sub-Total for Part 1 - Prorate Sub-Total (A) + Prorate Sub-Total (B) + Sub-Total(C):														79		12.5					
Sub-Total for Part 1 - Prorate Sub-Total (A) + Prorate Sub-Total (B) + Sub-Total(C); (Max 50 points)																12.5					
NRB 1-10 Renewable Energy (Bonus Points)														20		0					
Category Score for Part 1 - {Sub-Total for Part 1 (Max 50 points)+ Item NRB 1-10 (Bonus Points)};(Min 30 points) :																12.5					
(II) Other Related Requirements																					
Part 2: Water Efficiency																					
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Notes:

- When clicked “summary” will present the scores obtained in each sub category under a particular category.

After Reset:

Home				Green Mark Score Calculator		Contact Us	Help
File Reference No. <input type="text"/>		Non-Residential Floor Area		Floor Area in m²	% Floor Area		
Project Description		Air-conditioned spaces		<input type="text" value="1000"/>	50%		
		Non Air-conditioned spaces		<input type="text" value="1000"/>	50%		
		Total		2000m²	<input type="button" value="Edit Floor Area"/>		
▲ Hide							
0		0		0		0	
Energy Efficiency		Water Efficiency		Environmental Protection		Indoor Environmental Quality	
Other Green Features		Summary		Calculate Score			
ETTV value		Evidence / Value Evidence		Score			
<input type="text" value="0"/> W/m ²		(key in ETTV Value)		0		<input type="text"/>	
Green Mark Points : Points scored = 100 - (2 x ETTV); Maximum Permissible ETTV=50 W/m ² ; Max 15 points							
NRB 1-2 Air-Conditioning System		<input type="button" value="Compute Points"/>					
Criteria Info click here							
Green Mark Points Available		Commentary Evidence / Value Evidence		Points Scored		Remarks	
Note : Where there is a combination of centralized air-con system with unitary air-con system, the computation is based on the air-conditioning system with the larger aggregate capacity - centralized air-con system or unitary air-con system.							
(a)(i) Air-Conditioned Plant (Max 20 points)		● <input type="text" value="0"/>		0		<input type="text"/>	
% improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)		(key in % of improvement)					
% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)		<input type="text" value="0"/>					
		(key in % of improvement)					
(a)(ii) Air Distribution System		<input type="text" value="0"/>		NA			
% improvement in efficiency of air distribution System (Green Mark points - 0.5 points for every percentage improvement; Max 5 points.)		(key in % of improvement)					
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Notes:

- After reset in **Energy Efficiency** section, the scores have been refreshed to zero.

3.4.1. Export Worksheet

The screenshot displays the 'Green Mark Score Calculator' application. The 'File' menu is open, highlighting the 'Export Worksheet' option. A 'File Download' dialog box is overlaid on the main interface, asking 'Do you want to open or save this file?'. The dialog shows the file name '633806888011562500.Encrypt', type 'Unknown File Type', and source 'minds20'. Below the dialog, a security warning states: 'While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?'. The background interface includes a table for 'Non-Residential Floor Area' and a 'Calculate Score' button.

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	1000	50%
Non Air-conditioned spaces	1000	50%
Total	2000m²	

File Download

Do you want to open or save this file?

Name: 633806888011562500.Encrypt
Type: Unknown File Type
From: minds20

Open Save Cancel

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. [What's the risk?](#)

Value Evidence

Criteria	Value	Score
(a)(i) Air-Conditioned Plant (Max 20 points) % improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)	5 (key in % of improvement)	7.5
% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)	5 (key in % of improvement)	
(a)(ii) Air Distribution System % improvement in efficiency of air distribution System	5	2.5



Notes:

- When clicked **Export Worksheet**, will open a download window showing the encrypted file name, which contains the input entered in project details and criteria section. This file can be saved in local system and can be opened / imported when needed.

3.4.2. Preview Worksheet

Home Green Mark Score Calculator Contact Us Help

File Reference No.

Project Description

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	<input type="text" value="1000"/>	50%
Non Air-conditioned spaces	<input type="text" value="1000"/>	50%
Total	2000m²	

[Edit Floor Area](#)

12.5 0

Energy Efficiency Water Efficiency En

NRB 1-1 Building Envelope - ETTV

Criteria Info [click here](#)

Green Mark Points Available

ETTV value

Green Mark Points : Points scored = 100 - Permissible ETTV=50 W/m²; Max 15 points

NRB 1-2 Air-Conditioning System

Criteria Info [click here](#)

Green Mark Points Available

Value Evidence

Note : Where there is a combination of centralized air-con system with unitary air-con system, the computation is based on the air-conditioning system with the larger aggregate capacity - centralized air-con system or unitary air-con system.

(a)(i) Air-Conditioned Plant (Max 20 points)

% improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)

7.5
(key in % of improvement)

% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)

(key in % of improvement)

(a)(ii) Air Distribution System

% improvement in efficiency of air distribution System

2.5

0 12.5 Calculate Score

Remarks

Remarks

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Notes:

- Upon clicking **Preview Worksheet** will generate the PDF file containing the project detail section inputs and criteria section inputs and outputs.
- Above shown window, contains the download window containing the PDF file for NRB, which can be saved in the local system.

To turn on “pop-up blocker”
(so as to allow Print worksheet)

The screenshot shows a Microsoft Internet Explorer browser window titled "Green Mark e-Planning Portal - Microsoft Internet Explorer". The address bar shows "http://www.bca.gov...". The "Tools" menu is open, with "Pop-up Blocker" selected, and a sub-menu showing "Turn On Pop-up Blocker" and "Pop-up Blocker Settings...".

The main content area displays the "Green Mark e-Planning Portal" interface. It includes a navigation bar with "Home", "Green M", "Contact Us", and "Help". Below this is a form with "File Reference No." and "Project Description" fields. A table below the form shows the following data:

Energy Efficiency	Water Efficiency	Environmental Protection	Indoor Environmental Quality	Other
27	0	0	0	

Below the table, there is a section for "RB 1-1 Building Envelope - RETV" with a "Compute Points" button. The "Criteria Info" section shows "Green Mark Points Available" and "Points Scored 15". The "Commentary Evidence / Value Evidence" section shows a value of "14" in a text box, with "W/m² (key in RETV Value)" below it. The "Points Scored" is "15".

Additional text below the table:

Green Mark Points : Points scored = 75 - (3 x RETV); Max Permissible RETV=25
W/m²; Max 15 points

3.4.3. Print Worksheet

The screenshot displays the Green Mark Score Calculator interface. The 'File' menu is open, highlighting the 'Print Worksheet' option. A VBScript dialog box is overlaid on the main content, asking for confirmation to print the worksheet. The main interface shows a table for 'Non-Residential Floor Area' and a table for 'Green Mark Points Available'.

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	1000	50%
Non Air-conditioned spaces	1000	50%
Total	2000m²	

Green Mark Points Available	Commentary	Points	Remarks
NRB 1-1 Building Envelope - ETTV			
ETT value			
Green Mark Points : Points scored = 100 - (2 x ETT value)			
Permissible ETTV=50 W/m ² ; Max 5 points			
NRB 1-2 Air-Conditioning System			
(a)(i) Air-Conditioned Plant (Max 20 points)			
% improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)	5	7.5	
% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)	5		
(a)(ii) Air Distribution System			
% improvement in efficiency of air distribution System	5	2.5	



Notes:

- Upon clicking **Print Worksheet** will ask for confirmation, whether to print the worksheet.
- When clicked 'yes', will then calculate the GM score to check whether it does not meet minimum requirement score.
- When clicked 'No', will cancel the print option.
- When clicked 'yes', the system check is shown below.

Home Green Mark Score Calculator Contact Us Help

New Worksheet
Open Worksheet
Export Worksheet
Preview Worksheet
Print Worksheet
Close

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	1000	50%
Non Air-conditioned spaces	1000	50%
Total	2000m²	

▲ Hide

12.5 0 0 0 0 12.5 Calculate Score

Energy Efficiency Water Efficiency Environmental Protection Indoor Environmental Quality Other Green Features Summary

NRB 1-1 Building Envelope - ETTV

Criteria Info [click here](#)

Green Mark Points Available	Commentary	Points	Remarks
ETTV value			
Green Mark Points : Points Available			
Permissible ETTV=50 W/m ²			

NRB 1-2 Air-Conditioning

Criteria Info [click here](#)

Green Mark Points Available	Commentary Evidence / Value Evidence	Points Scored	Remarks
<i>Note : Where there is a combination of centralized air-con system with unitary air-con system, the computation is based on the air-conditioning system with the larger aggregate capacity - centralized air-con system or unitary air-con system.</i>			
(a)(i) Air-Conditioned Plant (Max 20 points)			
% improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)	5 (key in % of improvement)	7.5	
% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)	5 (key in % of improvement)		
(a)(ii) Air Distribution System			
% improvement in efficiency of air distribution System	5	2.5	

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Notes:

- This message describes that, the GM score in part 1 and part 2 to 5, does not meet minimum requirement, and has asked for the confirmation, whether to proceed printing the worksheet.
- Similarly, when part 1 score is < 30, then the message is prompted as “Green Mark Score for Residential Building Criteria (Ver 3.0) does not meet the minimum requirement for Energy Efficient Features (Part 1), do you like to proceed?”
- Similarly, when part 2 to 5 score is < 20 then the message is prompted as “Green Mark Score for Residential Building Criteria (Ver 3.0) does not meet the minimum requirement for Other Green Related Requirement (Part 2 to Part 5), do you like to proceed?”
- Whether both meet the minimum requirement or not, system will generate the PDF file containing the project detail section inputs and criteria section inputs and outputs and opens the PDF file in a new window.

3.4.4. Close

Non-Residential Building Criteria
Version NRB/3.0

Singapore Government
Integrity • Service • Excellence

Home | Green Mark Score Calculator | Contact Us | Help

File | New Worksheet | Open Worksheet | Export Worksheet | Preview Worksheet | Close

Non-Residential Floor Area	Floor Area in m ²	% Floor Area
Air-conditioned spaces	1000	90.91%
Non Air-conditioned spaces	100	9.09%
Total	1100m²	

50 | 10.5 | 10.75 | 7 | 5 | 83.25 | Calculate Score

Energy Efficiency | Water Efficiency | Environmental Protection | Indoor Environmental Quality | Other Green Features | Summary

Green Mark Score Calculator

Do you want to save your Worksheet?

Yes No Cancel

NRB 1-1 Building Envelope - ETTV | Compute Points

Criteria Info [click here](#)

Green Mark Points Available

ETTV value

Green Mark Points : Points scored = 100 - (2 x ETTV); Maximum Permissible ETTV=50 W/m²; Max 15 points

NRB 1-2 Air-Conditioning System | Compute Points

Criteria Info [click here](#)

Green Mark Points Available

Note : Where there is a combination of centralized air-con system with unitary air-con system, the computation is based on the air-conditioning system with the larger aggregate capacity - centralized air-con system or unitary air-con system.

Commentary Evidence / Value Evidence	Points Scored	Remarks
(a)(i) Air-Conditioned Plant (Max 20 points) % improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)	10	15
% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)	10	



Notes:

- Upon clicking **Close** will ask for saving the worksheet
- When clicked **Yes**, will export the worksheet by encrypting the project details section and criteria section.
- When clicked **No**, will redirect the page to **Home Page**.
- When clicked **Cancel**, will not perform any action, which means that the user has cancelled the “close” process.

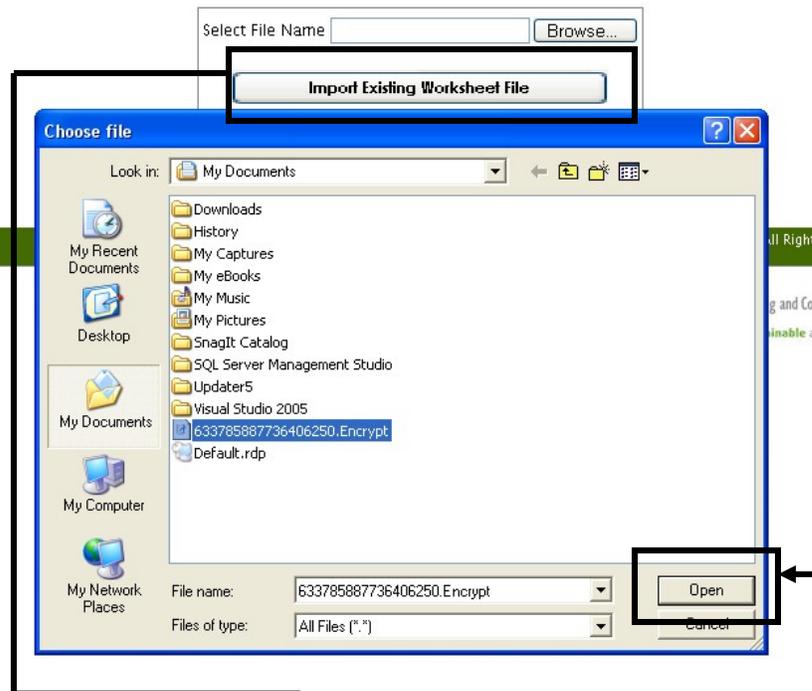
3.5. Open Worksheet

Open worksheet page will be opened in a new window.



Notes:

- Upon clicking **Browse** button will open the file open dialog, to fetch the encrypted file saved before. This is shown below.



Notes:

- Select the encrypted file from the location saved and then click **Open**. Then click **Import Existing Worksheet File**, upon clicking the **Import Existing Worksheet File** button, will determine the criteria section and opens the corresponding page by retrieving the inputs entered and scores obtained. Further data can be entered and exported again.

After “Import Existing Worksheet File”

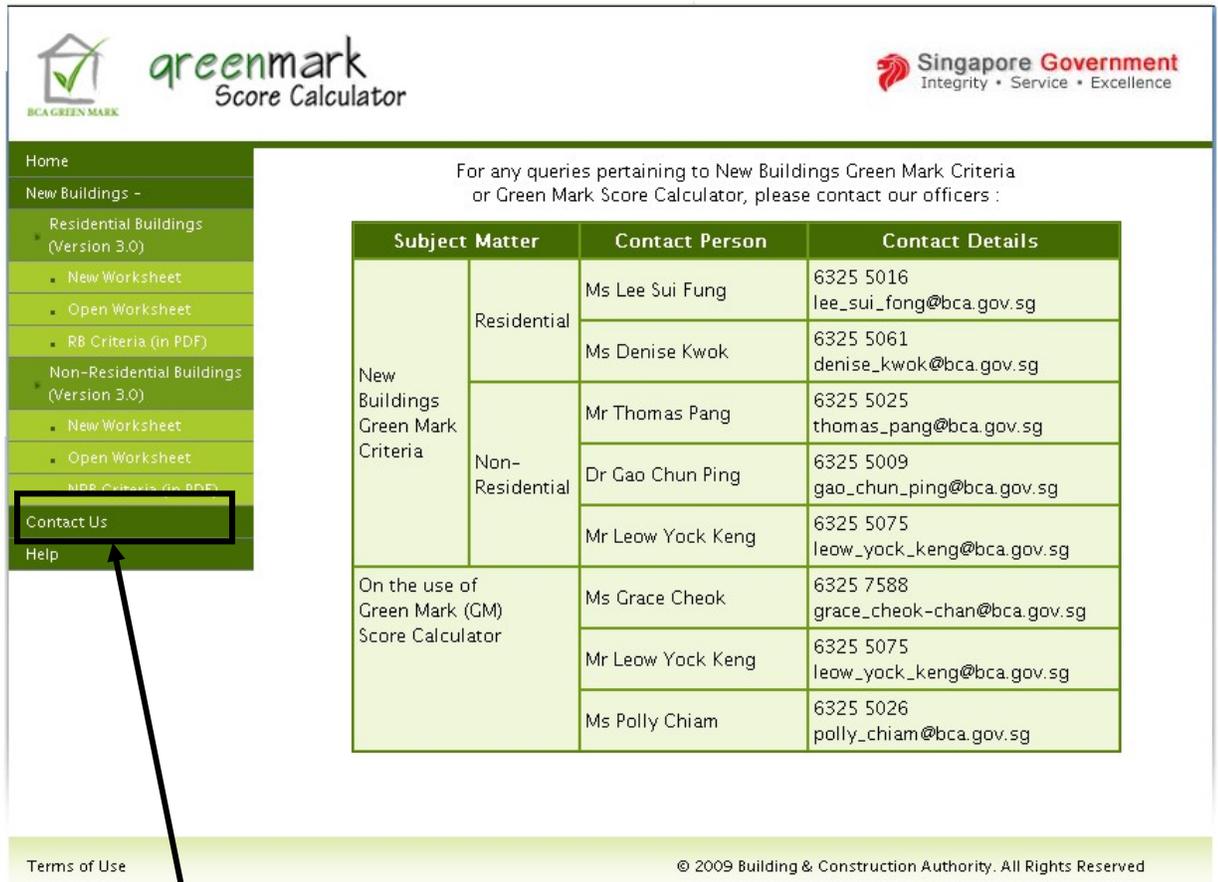
Home				Green Mark Score Calculator		Contact Us	Help
File Reference No. <input type="text"/>		Non-Residential Floor Area		Floor Area in m²	% Floor Area		
Project Description <input type="text"/>		Air-conditioned spaces		<input type="text" value="1000"/>	50%		
		Non Air-conditioned spaces		<input type="text" value="1000"/>	50%		
		Total		2000m²	<input type="button" value="Edit Floor Area"/>		
▲ Hide							
12.5	0	0	0	0	0	12.5	<input type="button" value="Calculate Score"/>
Energy Efficiency		Water Efficiency		Environmental Protection		Indoor Environmental Quality	
Other Green Features		Summary					
NRB 1-1 Building Envelope - ETTV <input type="button" value="Compute Points"/>							
Criteria Info click here							
Green Mark Points Available		Commentary Evidence / Value Evidence		Points Scored	Remarks		
ETTV value		<input type="text" value="2"/> W/m ²		15	<input type="text"/>		
<i>Green Mark Points : Points scored = 100 - (2 x ETTV); Maximum Permissible ETTV=50 W/m²; Max 15 points</i>							
NRB 1-2 Air-Conditioning System <input type="button" value="Compute Points"/>							
Criteria Info click here							
Green Mark Points Available		Commentary Evidence / Value Evidence		Points Scored	Remarks		
<i>Note : Where there is a combination of centralized air-con system with unitary air-con system, the computation is based on the air-conditioning system with the larger aggregate capacity - centralized air-con system or unitary air-con system.</i>							
(a)(i) Air-Conditioned Plant (Max 20 points) % improvement in equipment efficiency for chiller and pumps (1.45 points for every percentage improvement)		<input checked="" type="radio"/> <input type="text" value="5"/> (key in % of improvement)		7.5	<input type="text"/>		
% improvement in equipment performance for cooling tower (0.05 points for every percentage improvement)		<input type="text" value="5"/> (key in % of improvement)			<input type="text"/>		
(a)(ii) Air Distribution System % improvement in efficiency of air distribution System		...		2.5	<input type="text"/>		
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Notes:

- NRB page opens by retrieving the inputs given and the scores obtained for those inputs.

4 Green Mark Score Calculator – Contact Us



The screenshot shows the Green Mark Score Calculator website. The header includes the BCA Green Mark logo and the Singapore Government logo. The left sidebar contains a navigation menu with the following items: Home, New Buildings - Residential Buildings (Version 3.0) (with sub-items: New Worksheet, Open Worksheet, RB Criteria (in PDF)), Non-Residential Buildings (Version 3.0) (with sub-items: New Worksheet, Open Worksheet), and NRE Criteria (in PDF). The 'Contact Us' item is highlighted with a red box, and an arrow points from it to the contact details table. The table is titled 'For any queries pertaining to New Buildings Green Mark Criteria or Green Mark Score Calculator, please contact our officers :'. The table has three columns: Subject Matter, Contact Person, and Contact Details. The data is as follows:

Subject Matter	Contact Person	Contact Details
New Buildings Green Mark Criteria	Residential	Ms Lee Sui Fung 6325 5016 lee_sui_fong@bca.gov.sg
		Ms Denise Kwok 6325 5061 denise_kwok@bca.gov.sg
	Non-Residential	Mr Thomas Pang 6325 5025 thomas_pang@bca.gov.sg
		Dr Gao Chun Ping 6325 5009 gao_chun_ping@bca.gov.sg
		Mr Leow Yock Keng 6325 5075 leow_yock_keng@bca.gov.sg
On the use of Green Mark (GM) Score Calculator	Ms Grace Cheok 6325 7588 grace_cheok-chan@bca.gov.sg	
	Mr Leow Yock Keng 6325 5075 leow_yock_keng@bca.gov.sg	
	Ms Polly Chiam 6325 5026 polly_chiam@bca.gov.sg	

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Notes:

- Clicking **Contact Us** will show the Subject Matter along with Contact persons with contact details in a new window.

