

# **Green Mark Incentive Scheme for Existing Buildings 2.0 (GMIS-EB 2.0)**

## **Frequently Asked Questions (FAQs)**

### **Eligibility**

#### **Q1. What types of buildings are eligible for the GMIS-EB 2.0 scheme?**

- A. The scheme is applicable to the following types of privately-owned existing buildings with a GFA of at least 5,000m<sup>2</sup>, and will be undergoing green retrofits:
- a. Commercial and institutional developments (e.g. hotels, office buildings, retail buildings, healthcare facilities, community institutions);
  - b. Light industrial buildings<sup>1 2</sup>; and
  - c. Residential buildings<sup>3</sup>.

Privately-owned buildings that are fully or partially funded by the Government are not eligible for the scheme.

#### **Q2. Are Data Centres eligible for the GMIS-EB 2.0 scheme?**

- A. The GMIS-EB 2.0 Scheme will not be applicable for Data Centres.

#### **Q3. Can buildings that are participating in other Government incentive schemes apply for GMIS-EB 2.0 concurrently?**

- A. Buildings that have applied for GMIS-EB 2.0 are not allowed to apply for other sustainability-related incentive schemes funded by the Government (e.g. BCA's Green Building Innovation Cluster Demo funding (GBIC) or EDB's Resource Efficiency Grant for Energy (REG(E))). Building owners will be required to declare upfront during the application stage if their buildings had participated or is participating in any incentive schemes under BCA or other agencies.

Buildings that have benefitted from the previous Green Mark Incentive Schemes (GMIS), namely Green Mark Incentive Scheme for Existing Buildings (GMIS-EB) and Green Mark Incentive Scheme for Existing Buildings and Premises (GMIS-EBP) can apply for GMIS-EB 2.0. However, any scope of works previously funded under GMIS and still within the period of useful life at point of application for GMIS-EB 2.0, will be excluded in the determination of grant amount under GMIS-EB 2.0.

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<sup>1</sup> Only applicable to light industrial buildings where the company's business activity is classified under building sector Singapore Standard Industrial Classification (SSIC) codes, beginning with 41-43, 46-47, 55-56, 59-62, 64-66, 68-75, 77-82, 84-88, 90-97 and 99.

<sup>2</sup> Energy savings from manufacturing, industrial and commercial processes shall be excluded from the energy savings calculation.

<sup>3</sup> Only energy savings from common areas/services shall be included in the energy savings calculation.

**Q4. Would buildings that have an existing Green Mark rating be able to apply for the GMIS-EB 2.0 scheme?**

- A. Buildings that have attained Green Mark Letter of Award for meeting Green Mark Platinum, Super low Energy, and Zero Energy standards under the Green Mark 2021(GM: 2021) criteria can apply for the GMIS-EB 2.0 scheme provided that the Letter of Award is still within its validity and the actual physical on-site works related to the proposed Energy Improvement Works have not commenced.

Building that have an existing Green Mark rating under the older criteria can apply for the GMIS-EB 2.0 scheme if the building is undergoing Energy Improvement Works to meet the qualifying criteria under the scheme and the actual physical on-site works related to the proposed Energy Improvement Works have not commenced.

Buildings that have already completed verification and attained Green Mark Letter of Clearance for meeting Green Mark Platinum, Super low Energy, and Zero Energy standards under the GM: 2021 criteria will not be eligible for the scheme.

**Scheme Requirements**

**Q5. Which version of the Green Mark criteria will be used to evaluate applications under the GMIS-EB 2.0 scheme?**

- A. Buildings under the GMIS-EB 2.0 scheme must be certified under the [Green Mark 2021 \(GM: 2021\)](#) criteria. Both GM: 2021 and GM: 2021 In-Operations are applicable. However, in the case where there are major retrofits or major energy use change that involve chiller replacement as part of the work scope, it will need to be assessed and certification under the main GM: 2021 criteria and GM: 2021 In-Operation will not be applicable.

If you have applied for Green Mark certification earlier and wish to make changes to the criteria category, please contact Ms Tracy Liu at [Tracy LIU@bca.gov.sg](mailto:Tracy_LIU@bca.gov.sg) or Ms Yeong Sok Ming at [YEONG Sok Ming@bca.gov.sg](mailto:YEONG_Sok_Ming@bca.gov.sg) to effect the changes. On the [Green Mark assessment fees](#), should the fees previously paid be lower than the new fees, the applicant will be required to top up the shortfall.

**Q6. Would demonstrating the energy performance levels that is equivalent to Green Mark Platinum/ Super Low Energy/ Zero Energy be sufficient to qualify for the scheme?**

- A. As part of the scheme requirement, the project would need to make application to Green Mark, attain the targeted Green Mark certification and complete the verification.

**Q7. Which Energy Improvement Works (EIWs) would require Measurement & Verification (M&V)?**

- A. Permanent M&V instrumentations must be installed in respect of all EIWs for purposes of verifying and determining the Actual Energy Savings attributable to such EIWs and hence the corresponding Actual Carbon Abated. This is also to allow building owners to monitor the building's energy performance and ensure their building continue to operate efficiently.

## **Application**

### **Q8. How do building owners apply for the GMIS-EB 2.0 scheme?**

- A. Owners who are interested to participate in the Scheme can apply via the [Application Form](#). As part of the application, applicants will be required to submit a list of documents including a Retrofit Proposal as endorsed by a third-party Qualified Professional<sup>4</sup>. The Retrofit Proposal provides technical details of the proposed EIWs and Estimated Qualifying Costs of the EIWs, M&V methodology used to determine the baseline energy consumption, proposed M&V methodology to determine the Actual Energy Consumption, and the Estimated Carbon Abatement from the EIWs and the corresponding Maximum Grant Amount. More details on the documents required can be found on BCA's webpage for [GMIS-EB 2.0](#).

Applicants will be informed of the results of their application within 3 weeks from BCA's receipt of a complete application. If the application is approved, BCA will issue a letter of acceptance ("LOA") to the Owner.

### **Q9. We have just awarded a chiller replacement contract, but the work has not commenced, can we still apply for GMIS-EB 2.0?**

- A. Yes, building owners can apply for GMIS-EB 2.0 prior to commencement of any physical on-site work related to the EIWs (including but not limited to the demolition and installation works related to the EIWs that are proposed to be co-funded under the Scheme). Applicants are advised not to issue Purchase Orders before receiving the LOA from BCA.

## **Establishing Grant Amount and Qualifying Cost**

### **Q10. How do applicants compute the Maximum Grant Amount for their project?**

- A. The maximum amount of grant that an Owner can receive under the Scheme shall be determined by the estimated carbon abated attributable to the EIWs, 50% of the estimated cost to be incurred by the Owner in relation to the purchase and installation of the EIWs and procurement of professional services for the project or the applicable Funding Cap for the project, whichever is lowest. BCA has prepared a Retrofit Proposal template to guide building owners in the determination of the Maximum Grant Amount. An example on how the Maximum Grant Amount is to be calculated can be found in [Appendix 1](#).

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<sup>4</sup> A third-party Qualified Professional refers to Professional Engineer in the branches of mechanical or electrical engineering, Registered Energy Auditor with BCA or Green Mark Advanced Accredited Professional or Green Mark Advanced Accredited Professional (Facilities Management).

**Q11. What scope of works are included under the GMIS-EB 2.0 scheme?**

- A. Any works that improves the building's energy performance can be considered under the GMIS-EB 2.0 scheme. The grant amount is determined by the energy savings, and thus carbon abatement, attributable to these energy improvement works. Some examples include retrofits to cooling systems, conversion of air-conditioned areas to natural ventilation and installation of on-site photovoltaics. A non-exhaustive list of eligible equipment can be found in Appendix 2.

**Q12. For light industrial buildings where the chiller plant system supplies to both production and space cooling, how do we account for the energy savings from retrofit works for the chiller plant system?**

- A. In the event where the energy consumption used for production cannot be differentiated from those used for space cooling, the total energy savings from retrofitting of the chiller plant system can be proposed for the calculation of grant amount, subject to BCA's approval.

**Q13. Do buildings need to achieve Green Mark Gold<sup>PLUS</sup> SLE or Green Mark Platinum SLE to qualify for the GMIS-EB 2.0?**

- A. As long as the building attains any form of SLE certification under Green Mark (i.e. Green Mark SLE, Green Mark Gold<sup>PLUS</sup> SLE or Green Mark Platinum SLE), the building will be deemed to have met the Green Mark SLE criteria under the GMIS-EB 2.0 scheme.

**Disbursement**

**Q14. How will the grant amount be disbursed in GMIS-EB 2.0?**

- A. The grant will be disbursed in two tranches:

First Tranche Application: Owners can submit the application for disbursement under the first tranche of the Scheme upon receiving the LOA from BCA and after the commencement of the EIWs.

The quantum of the first tranche shall be determined based on the costs incurred by the Owner in relation to the EIWs of the project as at the date of the First Tranche Application and shall be subject to a maximum cap of 30% of the Maximum Grant Amount as indicated in the LOA. Supporting documents including but not limited to certified true copy invoices and signed payment receipts issued by the vendor/supplier must be provided for consideration.

If the First Tranche Application is approved, BCA shall issue its approval to the Owner within 3 weeks from BCA's receipt of the complete First Tranche Application from the Owner. Applicants can expect to receive the disbursement amount credited into the bank account registered with Vendors@Gov within 3 months from the approval date.

Second Tranche Application: Owners can submit the application for disbursement under the second tranche of the Scheme after the completion of the EIWs and in any case no later than 36 months from the date of the LOA.

At the point of application, the development shall have achieved the Green Mark certification and completed the Green Mark verification. The quantum of the second tranche shall be calculated based on the (i) Actual Carbon Abated; (ii) 50% of the Actual Qualifying Costs incurred by the Owner for the project; or (iii) the applicable Funding Cap, whichever is lowest, and shall not exceed an amount equal to the Maximum Grant Amount less the amount of the first tranche. Supporting documents including but not limited to a retrofit report endorsed by a third-party Qualified Professional setting out updates on the technical details of the project and the Actual Carbon Abated attributable to the EIWs, certified true copy invoices and signed payment receipts issued by the vendor/supplier for costs incurred by the Owner for the period between the First Tranche Application and the Second Tranche Application must be provided for consideration.

If the Second Tranche Application is approved, BCA shall issue its approval to the Owner within 3 weeks from BCA's receipt of the complete Second Tranche Application from the Owner. Applicants can expect to receive the final disbursement amount credited into the bank account registered with Vendors@Gov within 3 months from the approval date.

BCA has prepared a Retrofit Report template to guide building owners in the determination of the second tranche amount. More details on the documents required for First Tranche and Second Tranche Application can be found on BCA's webpage for [GMIS-EB 2.0](#).

### **Target ≠ Actual**

#### **Q15. What happens if a project is unable to meet their commitments of the scheme (i.e. Targeted Green Mark Rating or Estimated Energy Savings)?**

- A. Building owners who are unable to attain the targeted Green Mark certification level or the Estimated Energy Savings will have their funding rate and Actual Grant Amount adjusted according to the actual Green Mark certification level and energy savings attained.

Building owners will be required to pay to BCA the difference between the First Tranche and the Actual Grant Amount if the Actual Grant Amount is less than the First Tranche already disbursed.

#### **Q16. Would the funding rate and Maximum Grant Amount be adjusted if a project attains a higher Green Mark certification level or higher energy savings as compared to the estimated figure after completion of works?**

- A. To facilitate grant management and ensure equal opportunities for other projects, the funding rate and Maximum Grant Amount will remain at the initial agreed upon figure as stipulated in the grant LOA. Nonetheless, when a project attains a better energy performance than the initial target, the building owner will be able to reap more savings through better energy performance from the retrofitted building over the building's life.

**Q17. What if the realised carbon abatement is different from the expected carbon abatement?**

- A. If realised  $\geq$  expected, the building owner will receive the Maximum Grant Amount, as stipulated in the grant LOA. The Second Tranche will be the Maximum Grant Amount less the First Tranche already paid out.

If realised  $<$  expected, the Actual Grant Amount will be lower than the Maximum Grant Amount stipulated in the grant LOA as it will be adjusted based on the realised carbon abatement, subject to the Funding Cap or 50% of Actual Qualifying Costs, whichever is lower.

- If the Actual Grant Amount  $\geq$  First Tranche, the Second Tranche amount will be the Actual Grant Amount less the First Tranche already paid out.
- If the Actual Grant Amount  $<$  First Tranche, the building owner will be required to pay to BCA the difference between the Actual Grant Amount and First Tranche already disbursed. The building owner will not be entitled to any further disbursements.

**Q18. What if the Owner is unable to complete the EIWs within 36 months from the LOA (“Completion Date”)?**

- A. Projects that encounter significant delays in the project timeline can appeal for a time extension providing the necessary justifications, subject to BCA’s approval. The Owner may send a written request to BCA at least 30 days prior to the Completion Date setting out the reasons for its inability to complete the said works by the Completion Date for BCA’s consideration. BCA reserves the right to withhold the disbursement under the Second Tranche or to terminate the Agreement if the Owner fails to comply with any terms and conditions of the Agreement. In the event of termination of the Agreement, BCA shall be entitled to recover from the Owner part or all the monies that have been disbursed to the Owner pursuant to this Agreement.

**Others**

**Q19. What are the possible technologies that can help my building become a Super Low Energy Building (SLEB)?**

- A. A list of such successful technologies is published and shared in the [SLEB Smart Hub](#) as part of the resources to facilitate gap analysis, benchmarking and adoption of these technologies. There are also smart tools in the webpage that would help analyse the energy impact of these technologies that building owners could consider and adopt to green their buildings.

**Example:**

An office building, with a Gross Floor Area of 18,000 sqm, targets to achieve **Green Mark SLE** certification by retrofitting the following equipment:

Proposed Measure 1: Replacement of 2nos. of 400RT Chiller Plant System, Estimated Qualifying Cost \$1,800,000

Proposed Measure 2: Replacement of 23nos. of AHUs with VSD, Estimated Qualifying Cost \$1,400,000

Proposed Measure 3: Replacement to LED Lightings, Estimated Qualifying Cost \$70,000

**Calculation of Maximum Grant Amount:**

Based on scheme guidelines, the following applies for this project:

- Funding factor: \$35 / tonne
- Funding cap: \$900,000 or up to 50% of qualifying cost, whichever is lower

	A	B	C	D
Measures	Baseline Energy Consumption/yr based on energy audit (kwh/yr)	Estimated Energy Consumption/yr (kwh/yr)	Estimated Energy Savings/yr (kwh/yr) [A – B]	Estimated Carbon Abated/yr (tonnesCO <sub>2</sub> e/yr) [C x 0.408*/1000]
1: Replacement of Chiller Plant	992,342	439,426	552,916	225.59
2: Replacement of AHU	839,098	225,908	613,190	250.18
3: Replacement of Lightings	53,453	5,880	47,574	19.41
*Using 0.408 kgCO <sub>2</sub> e/kWh as the conversion factor (CF) for this scheme on the average CO <sub>2</sub> emissions abated per kWh of electricity saved.			<b>Total Carbon Abated/yr (tonnesCO<sub>2</sub>e/yr)</b>	<b>495.18</b>

$$\begin{aligned}
 \text{Estimated Grant Amount from Estimated Carbon Abated} &= \text{Sum of Estimated Carbon Abated for All Measures} \times \text{Funding Factor} \times \text{Equipment Useful Lifespan} \\
 &= 495.18 \text{ tonnesCO}_2\text{e/yr} \times \$35/\text{tonnes} \times 15\text{yrs} \\
 &= \$259,969.50
 \end{aligned}$$

$$\begin{aligned}
 \text{Total Estimated Qualifying Cost} &= \$1,800,000 + \$1,400,000 + \$70,000 = \$3,270,000 \\
 \text{50\% of total Estimated Qualifying Cost} &= \$1,635,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Hence, Maximum Grant Amount} &= (\text{Estimated Grant Amount from Estimated Carbon Abated}) \text{ or } (50\% \text{ of total Estimated Qualifying Cost}) \text{ or } (\text{Funding Cap of } \$900,000), \text{ whichever is lowest} \\
 &= \mathbf{\$259,969.50}
 \end{aligned}$$

## Eligible Equipment

S/N	Examples
1	Energy Efficient Lighting (e.g. LED)
2	High Energy Efficient Chillers
3	Chilled Water Pumps
4	Condenser Water Pumps
5	Cooling Towers
6	Chiller Plant Energy Optimization System
7	Chiller Auto Condenser Tube Cleaning System
8	Building Automation System (BAS)
9	Variable Speed Drives (VSD)
10	Air-conditioning Systems using Alternative Cooling Technologies (e.g. evaporative cooling)
11	Unitary Air-Conditioning System (e.g. 5-ticks VRV/VRF)
12	Efficient Air Handling Units (AHU) and Fan Coil Units (FCU)
13	CO2 Sensors for AHU System
1414	CO Sensors for Carpark Ventilation Control System
15	Photo Sensors
16	Motion Sensors
17	Heat Pipe & Energy Recovery Wheel
18	Energy Efficient Lifts and Escalators
19	Regenerative Drives for Lifts
20	On-site Photovoltaics (PV) or other renewable energy sources

*Note: Equipment not in the above list will be subject to review and approval from BCA.*