



# **PRO-FORMA SUBMISSION**

ASEAN Energy Efficiency and Conservation (EE&C)  
Best Practice Competition for Energy Efficient Buildings  
ASEAN Energy Awards – 2026

**CATEGORY: RETROFITTED BUILDING**

## CERTIFICATION AND COVERING NOTE FROM ENTREE

Sample:

The (*name of building*) occupies a site area of about \_\_\_\_\_ square meters and was completed in \_\_\_\_\_. (Following is a brief description of the building, say). The building has 2 basements and 9-storeys (5 storey H-shaped ward tower block above the 4-storey podium block) with a total gross floor area of \_\_\_\_\_ square meters. The building has spent a total of USD \_\_\_\_\_ investment, and generate these amount of savings (energy savings, cost savings, CO<sub>2</sub> emission reduction, etc.)

The details of client and project consultants (as appropriate) are:

Client : ..... (*Name of Building*)  
 Architect : .....  
 M&E Engineers : .....  
 C&S Engineers : .....  
 Project Managers : .....

I T E M	D A T A	C O M P L I A N C E (P U T C H E C K)
<b>Submission Requirement</b>		
- Certification and Covering Note from Entree	1 page	
- Cover of Report	1 page	
- Actual/Measured Energy Savings	Max 2 pages	
- Active Design	Max 4 pages	
- Passive Design	Max 4 pages	
- Maintenance and Management	Max 4 pages	
- Environmental Impacts	1 page	
- Building Information	Max 6 pages	
- Drawings	Max 4 pages	
<b>Pre-Qualification</b>	<b>Data</b>	
- Energy Efficiency Index of Occupied Air-conditioned Area: Office: 128 kWh/m <sup>2</sup> /yr; Library: 160 kWh/ m <sup>2</sup> /yr; Retail/Shopping Malls: 154 kWh/ m <sup>2</sup> /yr; Hotels: 173 kWh/ m <sup>2</sup> /yr; Hospital: 230 kWh/m <sup>2</sup> /yr; School: 128 kWh/ m <sup>2</sup> /yr; Apartment: 100 kWh/ m <sup>2</sup> /yr; Others: 180 kWh/ m <sup>2</sup> /yr	___ kWh/m <sup>2</sup> /yr	
- Temperature and Other Settings: Not less than 21°C but not more than 26°C; RH: max 70% (applies to air-conditioning. Not pre-requisite - Higher score for having RH control system (below 65%).		
- Lighting Load: Office - Max 8 watts/m <sup>2</sup> ; Others - Max 15 watts/m <sup>2</sup>	___ watts/m <sup>2</sup> (GFA)	
- Operating hours/yr: 2,000 hours/year		
- At least 1 full-year of operation after retrofitting prior to nomination in national competition	___ years	
- Total Energy Savings: 20% of the total energy consumption for a/c retrofits; 10% of the total energy consumption for non-a/c retrofits	.....%	
<b>Type of Font and Size: Times Roman 12</b>		

The (name of building) hereby agreed to allow the Board of Judges to visit the building and verify the authenticity of the data. However, two weeks advance notice is required to allow for necessary arrangements.

The undersigned certified that the information given is true and accurate and prepared with the consent of the party/ies involved.

\_\_\_\_\_  
**Name of the Client**

Office, Position  
 Tel, fax, e-mail

\_\_\_\_\_  
**Name of Consultant**

Office, Position  
 Tel, fax, e-mail

\_\_\_\_\_  
**Name of Consultant**

Office, Position  
 Tel, fax, e-mail

\_\_\_\_\_  
**Name of Consultant**

Office, Position  
 Tel, fax, e-mail

\_\_\_\_\_  
**Endorsed by Focal Point**

Name, Office (*country*) & Position  
 Tel, Fax, e-mail

COVER OF REPORT (NAME OF BUILDING, PHOTO, ETC.)

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**ACTUAL/MEASURED ENERGY SAVINGS (2 PAGE WRITE-UP)**  
**[30 POINTS]**

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**Major change in:**

(For at least 1 full-year of operation)

**1. Actual/Measured Energy Savings [30 points]**

1.1. Total energy savings in overall building [12]  
\_\_\_\_\_ kWh \_\_\_\_\_% from baseline\*

1.2. Air conditioner [8]  
\_\_\_\_\_ kWh \_\_\_\_\_% from baseline\*

1.3. Lighting systems [6]  
\_\_\_\_\_ kWh \_\_\_\_\_% from baseline\*

1.4. Others (specify) [4]  
\_\_\_\_\_ kWh \_\_\_\_\_% from baseline\*

\* *Baseline from overall energy building consumption*

**(This introductory note must be deleted in the submission.)**

ACTUAL/MEASURED ENERGY SAVINGS (2 PAGE WRITE-UP)

**ACTIVE DESIGN (DISCUSSION OF 4 FEATURES IN MAX 4 PAGES)**  
**[25 POINTS]**

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- 1.1. Air-conditioning system (selection, layout and plant system design) [7]

<b>Chiller Plant</b>	<b>Efficiency (kW/ton)</b>
Chiller (A)	
Chilled water pump (B)	
Condenser water pump (C)	
Cooling tower (D)	
<b>System efficiency (A + B + C + D)</b>	

- Cooling Load: \_\_\_\_\_ W/m<sup>2</sup>
- Air conditioning system total annual electricity consumption \_\_\_\_\_ kWh
- Share of AC system energy consumption in overall building energy consumption \_\_\_\_\_ %

- 1.2. Lighting systems \_\_\_\_\_ W/m<sup>2</sup> [4]

- 1.3. Indoor air temperature, humidity, and quality [3]

- Air temperature: \_\_\_\_\_ °C
- Air Humidity: \_\_\_\_\_ g.m<sup>-3</sup>
- Air quality:

<b>Thermal Comfort m<sup>3</sup>/hour/person, etc.)</b>	<b>Ventilation) m<sup>3</sup>/hour/person, etc.)</b>	<b>Others m<sup>3</sup>/hour/person, etc.)</b>

- 1.4. Overall energy consumption per sqm. of air-conditioned area \_\_\_\_\_ W/m<sup>2</sup> [6]

- 1.5. Others (please specify) [5]

**(This introductory note must be deleted in the submission).**

ACTIVE DESIGN (DISCUSSION OF 4 FEATURES IN MAX 4 PAGES)

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PASSIVE DESIGN (DISCUSSION OF 4 FEATURES MAX 4 PAGES)  
[15 POINTS]

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- 1.1. Spatial organisation for various functions [2]
- 1.2. Environmental improvement of surroundings [2]
- 1.3. Envelope design (material, shading, fenestration, etc.) [3]

***Material***

- Heat transfer protection
- Humidity protection
- MRT effect
- Color of envelope (exterior)
- Infiltration protection and control
- Etc.

***Shading***

- Effectiveness of shading devices
- The use of natural shading devices
- The use of shading from adjacent buildings
- Etc.

***Fenestration***

- Fenestration design: location, nature, and size of opening
- Light to solar heat gain ratio (LT/SC)
- Etc.

- 1.4. Overall heat transfer through building envelope [4]: Wall \_\_\_\_\_ W/m<sup>2</sup>; Roof \_\_\_\_\_ W/m<sup>2</sup>
- 1.5. Daylighting [2]
- 1.6. Others passive design concepts (specify) [2]

**(This introductory note must be deleted in the submission).**

**PASSIVE DESIGN (DISCUSSION OF 4 FEATURES MAX 4 PAGES)**

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**MANAGEMENT AND MAINTENANCE SCHEME  
(DISCUSSION OF 4 FEATURES MAX 4 PAGES)  
[20 POINTS]**

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1. Energy management systems [7]
  - Building Energy Management System (BAS)
  - Energy consumption monitoring system
  - Etc.
  
2. Maintenance and management measures [7]
  - Manpower: \_\_\_\_\_ man-hr/yr
  - Maintenance contractor
  - Availability of energy management engineer
  - Training of maintenance workers: \_\_\_\_\_ cumulative hours/year
  
3. Future improvement plans [3]
  
4. EE measures investment cost and payback period [2]
  - Investment cost: \_\_\_\_\_ US Dollar
  - Payback period: \_\_\_\_\_ years
  
5. Others (please specify) [1]

**(This introductory note must be deleted in the submission).**

**MAINTENANCE AND MANAGEMENT  
(DISCUSSION OF 4 FEATURES MAX 4 PAGES)**

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(DISCUSSION OF 4 FEATURES MAX 4 PAGES)**

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**MAINTENANCE AND MANAGEMENT  
(DISCUSSION OF 4 FEATURES MAX 4 PAGES)**

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ENVIRONMENTAL IMPACTS CONSIDERATION  
(GENERAL DISCUSSION MAX 1 PAGE)

[8 POINTS]

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1. Waste management [3]
2. Pollution management (air, noise, visual, exhaust, etc.) [2]
3. Green/non-toxic materials [2]
4. Others (specify) [1]

**(This introductory note must be deleted in the submission).**

## BUILDING INFORMATION (FILL UP DETAILS MAX 6 PAGES)

### A. General Information

1. Name of the building
2. Name of owner and management company
3. Building Category: Office/Retail/Hotel/Hospital/School/Residential/Other (please specify)
4. Address
5. Tel. No./Fax No./E-mail address

### B. Building Physical Information

1. Physical building background
  - Brief history
  - Single function usage or mix function usage (specify)
2. Year of construction
3. Age of building
4. Retrofitting history (Specify the changes and year of retrofitting)
5. Total number of storeys
6. Total number of basement floor
7. Number of car park storeys
8. Total gross floor area
9. Surface area of the envelope including the roof to gross floor area ratio
10. Car park area
11. Gross lettable area
12. Air-conditioned area
13. Non-air conditioned area
14. Plot ratio (total GFA / ground area)

### C. Building Design and Practice Information

1. Plants and landscape design/ wind and natural ventilation/ water features/ daylighting/ etc.
2. Facade and shading design
  - Type of facade
  - Color of facade
  - Use of shading devices
3. Location of service core
4. Shape of building
5. Overall heat transfer through building envelope: Wall\_\_W/m<sup>2</sup>; Roof\_\_\_\_W/m<sup>2</sup>
6. Lighting fixtures
7. Lighting load\_\_\_\_\_W/m<sup>2</sup> (gross floor area)
8. Building air-conditioner system and equipment
  - Fresh air exchange rate: \_\_\_\_\_m<sup>3</sup>/hour/person  
 \_\_\_\_\_m<sup>3</sup>/hour/m<sup>2</sup>  
 \_\_\_\_\_m<sup>3</sup>/hour
  - Energy efficiency of aircon chiller:\_\_\_\_\_kW/ton
9. Cooling Load\_\_\_\_\_W (electricity consumption) /m<sup>2</sup> (air-conditioned area)

**BUILDING INFORMATION (FILL UP DETAILS MAX 6 PAGES)**

**D. Operation Information**

1. Occupancy rate: Minimum \_\_\_\_\_ % of total area
2. Total number of occupants
3. Ownership of building (occupied by owner(s), renter(s), etc.)
4. Building operating schedule
  - weekdays from \_\_\_\_\_ to \_\_\_\_\_
  - Saturday from \_\_\_\_\_ to \_\_\_\_\_
  - Sunday from \_\_\_\_\_ to \_\_\_\_\_
  - Operating hours/ year \_\_\_\_\_
5. Building indoor environment: Indoor air temperature, humidity, and quality  
 Air temperature: \_\_\_\_\_ °C  
 Air Humidity: \_\_\_\_\_ g.m<sup>-3</sup>  
 Air quality:

Thermal Comfort (m <sup>3</sup> /hour/person, etc.)	Ventilation (m <sup>3</sup> /hour/person, etc.)	Others (m <sup>3</sup> /hour/person, etc.)

**E. Energy Consumption Information**

1. Peak demand (monthly)
2. Energy used (monthly)
3. Typical Load curve (weekdays, weekends)
4. Energy efficiency index - air-conditioned area: \_\_\_\_\_ kWh/m<sup>2</sup>/year (based on 2,000 operational hours/year)
5. Energy efficiency index - GFA: \_\_\_\_\_ kWh/m<sup>2</sup>/year
6. Energy consumption – Electricity: \_\_\_\_\_ kWh/m<sup>2</sup>/year (based on 2,000 operational hours/year)
7. Energy consumption – Fuel: \_\_\_\_\_ liters/year (not for electricity generation)
8. Energy Consumption by system

Type of System	Electricity Consumption (kWh)	% of energy used
HVAC (Heating, Ventilation, Air Conditioning)		
Lighting		
Transportation		
Others		

**F. Energy Management Information**

1. Building energy management system Connected physical point \_\_\_\_\_(no)
2. Energy saving: Schedule programme \_\_\_\_\_ kWh/year  
 Duty cycle programme \_\_\_\_\_ kWh/year  
 Optimum start / stop programme \_\_\_\_\_ kWh/year  
 Power demand programme \_\_\_\_\_ kW (mean)

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**BUILDING INFORMATION (FILL UP DETAILS MAX 6 PAGES)**

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**G. Maintenance Information**

1. Maintenance programme
  - Manpower: \_\_\_\_\_man-hour/year
  - Maintenance contractor
  - Availability of energy management engineer
  - Training of maintenance workers: \_\_\_\_\_cumulative hours/yr.

**H. Environmental Impacts**

1. Impacts of waste
2. Impacts of pollution (air, noise, visual, exhaust, etc.)
3. Impacts to CO<sub>2</sub> emission reduction

**I. Additional Information for Retrofitted Buildings**

1. \*Energy savings in air-conditioned area \_\_\_\_\_kWh/m<sup>2</sup>/year (based on 2,000 operational hours/year)
2. \*Energy savings in lighting systems \_\_\_\_\_kWh/m<sup>2</sup>/year (based on 2,000 operational hours/year)
3. \*Retrofitted area: \_\_\_\_\_% of total area

\* - mentioned in the pre-qualification criteria

**BUILDING INFORMATION (FILL UP DETAILS MAX 6 PAGES)**

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**DRAWINGS (A4/A3 SIZE: TYPICAL FLOOR PLAN, SITE LAYOUT,  
ROOF PLAN, AND VERTICAL CROSS SECTION - MAX 4 PAGES)**

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