



PRO-FORMA SUBMISSION

ASEAN Energy Efficiency and Conservation (EE&C)
Best Practice Competition in Buildings
ASEAN Energy Awards – 2019

CATEGORY: NEW AND EXISTING BUILDING

CERTIFICATION AND COVERING NOTE FROM CONSULTANT

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 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	COMPLIANCE (PUT CHECK)
Submission Requirement		
- Certification and Note from Consultants	1 page	
- Cover of Report	1 page	
- Overall on-site design	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 4 pages	
- Drawings	Max 4 pages	
Pre-Qualification		
	Data	
- Energy Efficiency Index of Occupied Air-conditioned Area: Office: 160 kWh/m ² /yr; Library: 160 kWh/ m ² /yr; Retail/Shopping Malls: 192 kWh/ m ² /yr; Hotels: 216 kWh/ m ² /yr; Hospital: 288 kWh/m ² /yr	___ kWh/m ² /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 12 watts/m ² ; Others - Max 20 watts/m ²	___ watts/m ² (GFA)	
- Operating hours/yr: 2,000 hours/year		
- At least 1 full-year of operation prior to nomination in national competition	___ years	
Type of Font: Times Roman 12		

The (name of building) hereby agreed to allow the ACE 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 EE&C Focal Point

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

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

OVERALL ON-SITE DESIGN (2 PAGES WRITE-UP)

1. Use of vegetation, landscape and hardscape
 - Effective application of ground covering plant and large plant
 - The modification of landscape and topography
 - The use of hardscape materials
2. The use of water body
 - Effective application of water body: location, quantity, etc.
3. The use of wind
Effective application of wind: natural ventilation, stack ventilation, etc.
4. Other use of on-site natural environment
 - The use of night sky radiation
 - Others (specify)

Note: **This introductory note must be deleted in the submission.**

OVERALL ON-SITE DESIGN (2 PAGES WRITE-UP)

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

1. Air-conditioning system (selection, layout and plant system design): _____
 kW/ton _____ W/m²

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

2. Lighting systems: _____ W/m²
 3. Other systems (transportation, etc.) _____ W/m²
 4. Indoor air quality (thermal comfort, ventilation, _____ m³/hour/person, etc.)
 5. Overall energy consumption per sq.m. of normal air-conditioned areas: _____
 W/m²
 6. Other active design concepts (specify)

(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)

1. Orientation and building design

The orientation of building

The shape of building (surface area to gross floor area ratio)

The location of service core

The position of entrances

The hardscape around building

Spatial organisation for various functions

etc.

2. Envelope design (material, shading, fenestration, etc.)

Material

Heat transfer protection

Humidity protection

MRT effect

Color of envelope

Infiltration protection and control

Etc.

Shading

Efficiency 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.

3. Overall heat transfer through building envelope:

Wall _____ W/m²; Roof _____ W/m²

4. Daylighting

The use of diffuse radiation in building: hall, atrium, corridor, parking, toilet, etc.

Zoning for integrated lighting and daylighting

Contrast ratio of brightness

5. Natural Ventilation

6. Other passive design concepts (specify)

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

PASSIVE DESIGN (DISCUSSION OF 4 FEATURES MAX 4 PAGES)

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PASSIVE DESIGN (DISCUSSION OF 4 FEATURES MAX 4 PAGES)

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

1. Energy management systems

Building Energy Management System (BAS)

Energy consumption monitoring system

Etc.

2. Maintenance and management measures

- Manpower: _____ man-hour/year
- Maintenance contractor
- Availability of energy management engineer
- Training of maintenance workers: _____ cumulative no. of hours

3. Others (specify)

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

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

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ENVIRONMENTAL IMPACTS
(GENERAL DISCUSSION MAX 1 PAGE)

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

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

BUILDING INFORMATION (FILL UP DETAILS MAX 4 PAGES)

A. General Information

1. Name of the building
2. Name of owner and management company
3. Address
4. Tel. No./Fax No./E-mail address

B. Building Physical Information

5. Physical building background
- Brief history
 - Single function usage or mix function usage (specify)
6. Age of building
 7. Any retrofit done? When? What?
 8. Total number of storeys
 9. Total number of basement floor
 10. Number of car park storeys
 11. Total gross floor area
 12. Surface area of the envelope including the roof to gross floor area ratio
 13. Car park area
 14. Gross lettable area
 15. Air-conditioned area
 16. Non-air conditioned area
 17. Plot ratio (total GFA / ground area)

C. Building Design and Practice Information

18. Plants and landscape design/ wind and natural ventilation/ water features/ daylighting/ etc.
19. Facade and shading design
 - Type of facade
 - Color of facade
 - Use of shading devices
20. Location of service core
21. Shape of building
22. Overall heat transfer through building envelope:
Wall _____ W/m^2 ; Roof _____ W/m^2
23. Lighting fixtures
24. *Lighting load _____ W/m^2 (gross floor area)
25. Building air-conditioner system and equipment
 - Fresh air exchange rate: _____ m^3 /hour/person
_____ m^3 /hour/ m^2
_____ m^3 /hour
 - Energy efficiency of aircon chiller: _____ kW/ton
26. Cooling Load _____ W/m^2 (air-conditioned area)

BUILDING INFORMATION (FILL UP DETAILS MAX 4 PAGES)

D. Operation Information

27. Occupancy rate (year 2001): Minimum _____ % of total area
28. Total number of occupants
29. Ownership of building (occupied by owner(s), renter(s), etc.)
30. Building operating schedule
- weekdays from _____ to _____
 - Saturday from _____ to _____
 - Sunday from _____ to _____
 - Operating hours/ yr _____
31. Building indoor environment: Indoor air quality setting: temperature and RH

E. Energy Consumption Information

32. Peak demand (monthly)
33. Energy used (monthly)
34. Typical Load curve (weekdays, weekends)
35. * Energy efficiency index: air-conditioned area _____ kWh/m²/yr
(based on 2,000 operational hours/yr)
36. Energy consumption: Electricity _____ kWh/m²/yr
(based on 2,000 operational hours/yr)
- Fuel _____ Liters/yr (not for electricity generation)

F. Energy Management Information

37. Building energy management system Connected physical points _____ (no)
38. Energy saving: Schedule programme _____ kWh/yr
- Duty cycle programme _____ kWh/yr
 - Optimum start / stop programme _____ kWh/yr
 - Power demand programme _____ kW (mean)

G. Maintenance Information

39. Maintenance programme
- Manpower: _____ man-hr/yr
 - Maintenance contractor
 - Availability of energy management engineer
 - Training of maintenance workers: _____ cumulative hours/yr.

BUILDING INFORMATION (FILL UP DETAILS MAX 4 PAGES)

H. Environmental Impacts

- 40. Impacts of waste
- 41. Impacts of pollution (air, noise, visual, exhaust, etc.)

I. Additional Information for Retrofitted Buildings

- 42. *Energy savings in air-conditioned area _____ kWh/m²/yr (based on 2,000 operational hours/year)
- 43. *Energy savings in lighting systems _____ kWh/m²/yr (based on 2,000 operational hours/year)
- 44. *Retrofitted area: _____ % of total area

BUILDING INFORMATION (FILL UP DETAILS MAX 4 PAGES)

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

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