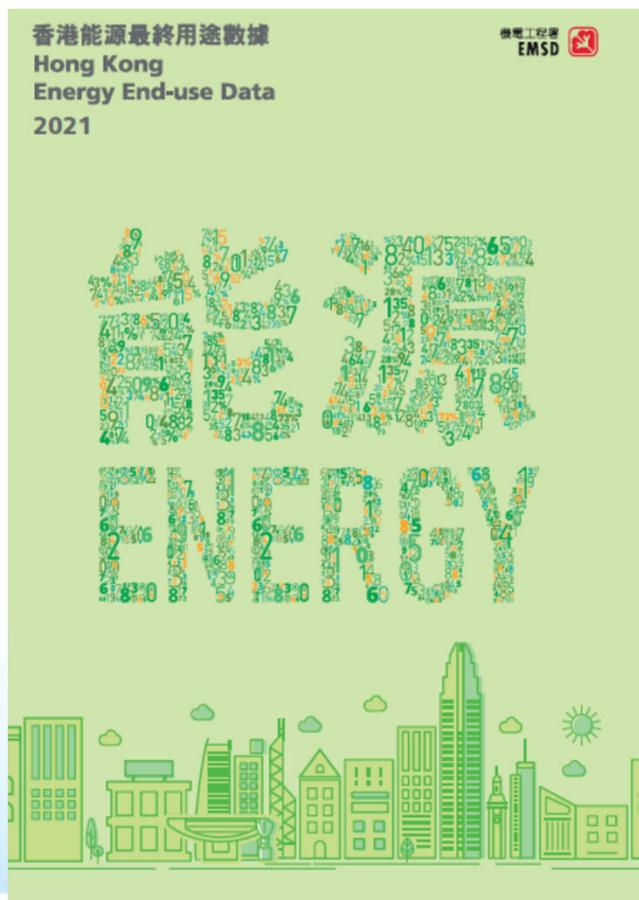


Public Webinar on Energy Efficiency and Conservation

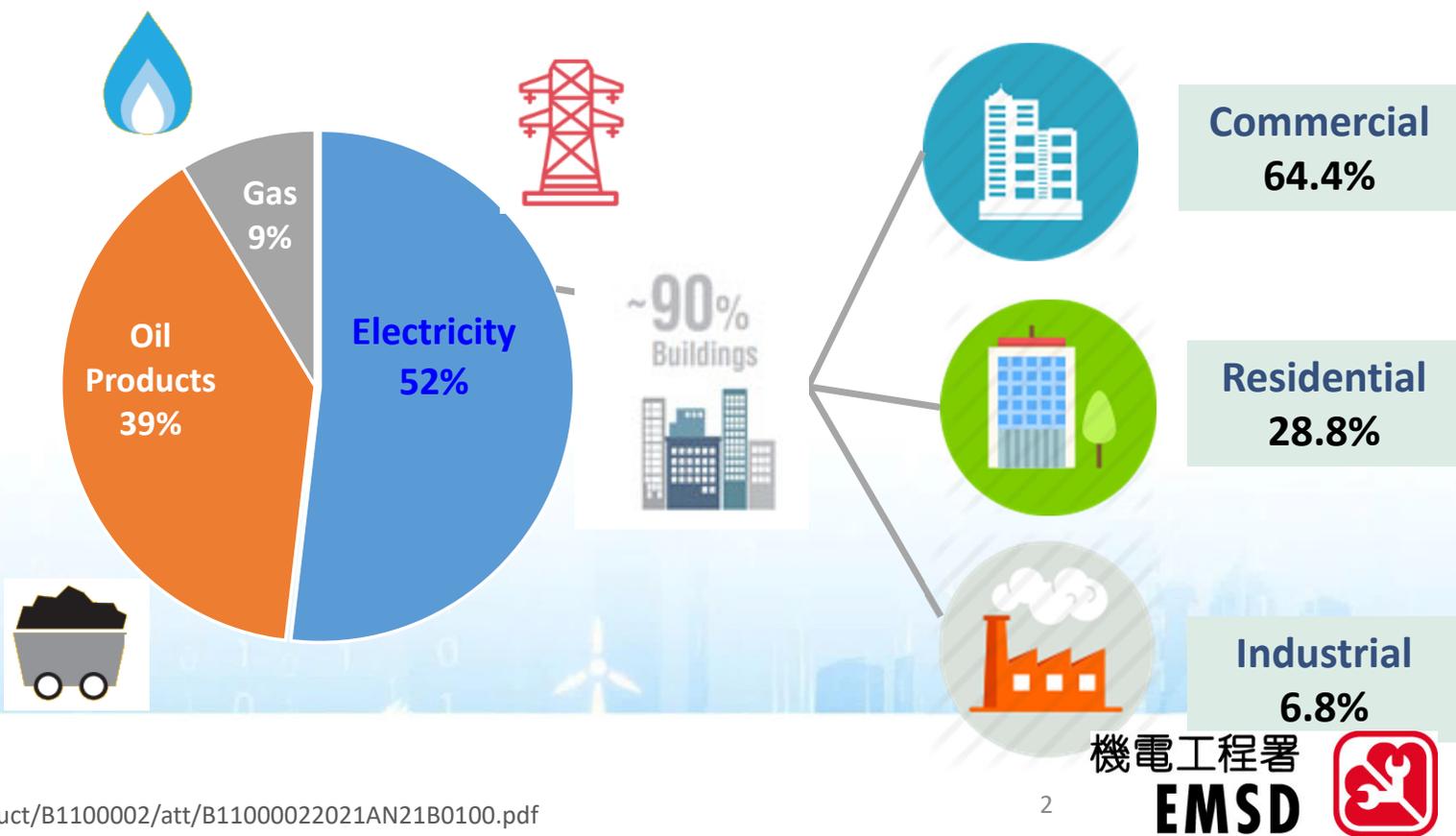
Enhancing the transparency of energy data and benchmarks in commercial buildings by introducing Online Building Based Electricity Utilization Index Benchmarking Tool

18 July 2022

Energy Consumption in Hong Kong



Buildings Consume over 90% of the City's Electricity



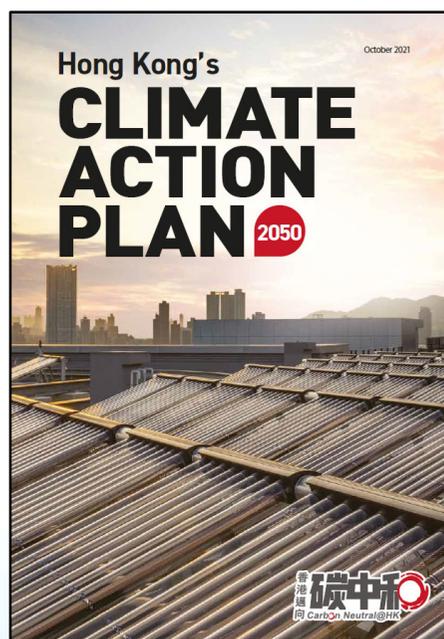
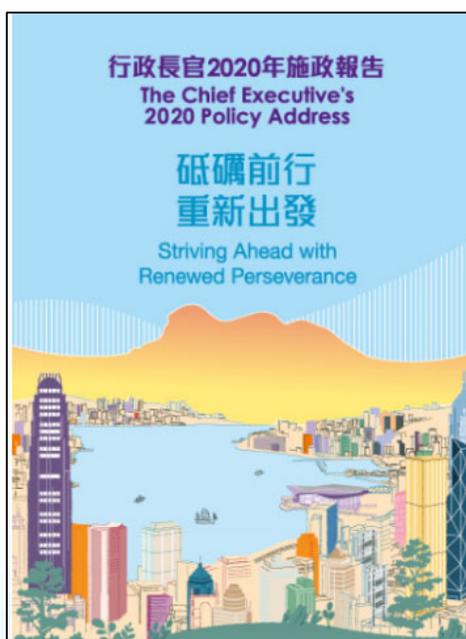
Reference:

(1) Hong Kong Energy End-use Data 2021, EMSD

(2) https://www.censtatd.gov.hk/en/data/stat_report/product/B1100002/att/B11000022021AN21B0100.pdf



Data Transparency and Benchmarks



To mobilise the community to take collective actions to conserve energy, we need to enhance the transparency of data and benchmarks. We plan to, through releasing energy data and introducing energy benchmarking tools, facilitate the comparison of building energy consumption performance and establish a two-way partnership in carbon reduction.



"Carbon Neutrality" Partnership Launching Ceremony



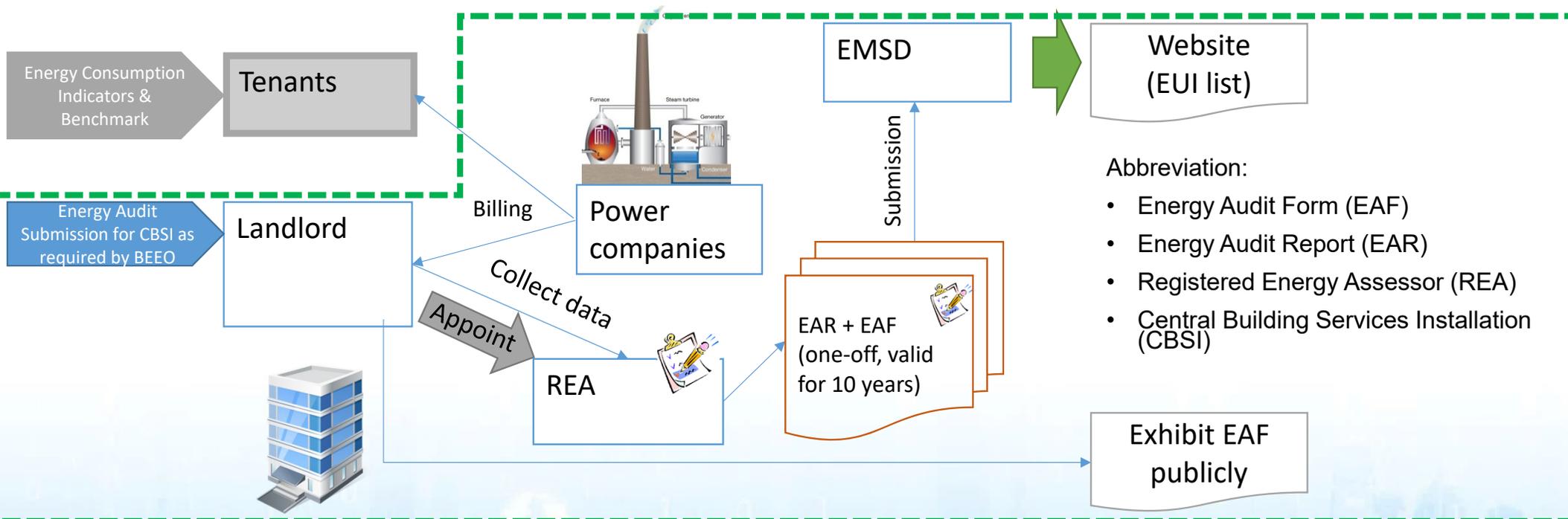
Current BEEO Requirements

Building

Utilities

Government

Public



- Energy consumption of CBSI over the past 36 months is required to submit.
- EAF is required to exhibit publicly.
- Commercial buildings and commercial portion of composite buildings are required for Energy Audit

Online Building Based Electricity Utilization Index Benchmarking Tool (Online Benchmarking Tool)

- Benefit of whole Building Electricity Utilization Index:
 - As an index for building owners to compare their building energy performance against similar building types.
 - As a driving force for building owners to apply energy saving opportunities improving building energy performance

To develop a new on-line benchmarking tool for whole buildings electricity consumption

Methodology of Building Based EUI Benchmarking Tools

Building Category

Category	Major usage of Commercial Building
C1	Office Building
C2	Retail Building
C3	Mixed commercial development (IFA \leq 25,000m ²)
C4	Mixed commercial development (IFA $>$ 25,000m ²)
C5	Commercial Building without Central A/C

Launching of Online Benchmarking Tool

建築物電力使用指數網上基準工具 (網上基準工具)
Online Building Based Electricity Utilization Index Benchmarking Tool (Online Benchmarking Tool)

已於2022年6月17日正式推出
Launched on 17 June 2022

齊用網上基準工具 共建低碳節能綠建
Wide use of Online Benchmarking Tool for achieving energy saving, promoting low-carbon life style and green building.

詳情請參閱以下網址
For details, please refer to the website at the following link:

環境局
EMSD



Online Benchmarking Tool

TEXT SIZE | 繁 | 簡
EMSD
HOME | TERMS AND CONDITIONS OF USE

建築物電力使用指數網上基準工具 (網上基準工具)
Online Building Based Electricity Utilization Index Benchmarking Tool (Online Benchmarking Tool)

INTRODUCTION GLOSSARY STEP TO USE OVERVIEW OF ELECTRICITY UTILIZATION INDEX ONLINE BENCHMARKING TOOL

Introduction

To mobilise the community to take collective actions to improve building energy efficiency and enhance the transparency of data and benchmarks, the Energy Efficiency Office of the Electrical and Mechanical Services Department (EMSD) has launched the Online Building Based Electricity Utilization Index Benchmarking Tool (online benchmarking tool) for five categories of commercial buildings in Hong Kong.

The online benchmarking tool serves to facilitate the comparison and review of building electricity utilization performance, thereby allowing building owners to benchmark their own electricity utilization performance with others having similar building usage. It also provides general advice on promoting building energy saving.

The online benchmarking tool is applicable to the following major categories of commercial building:

Category	Major usage of Commercial Building
C1	Office Building
C2	Retail Building
C3	Mixed commercial development (Total internal floor area ≤ 25,000m ²)
C4	Mixed commercial development (Total internal floor area > 25,000m ²)
C5	Building without Central A/C



建築物電力使用指數網上基準工具 (網上基準工具)
Online Building Based Electricity Utilization Index Benchmarking Tool (Online Benchmarking Tool)

INTRODUCTION GLOSSARY STEP TO USE OVERVIEW OF ELECTRICITY UTILIZATION INDEX ONLINE BENCHMARKING TOOL

Online Benchmarking Tool

Building Category *

Building Name

Address

District

Step to use Online Benchmarking Tool

Step 1: Selecting your Building Category & Entering Building Information

To choose the building category of their building and enter the building information (if available)

Online Benchmarking Tool

Building Category *
Office Building
Office Building
Retail Building
Mixed commercial development (TIFA ≤ 25,000m²)
Mixed commercial development (TIFA > 25,000m²)
Commercial Building without Central A/C

Building Name

Address

District
No Preference

Your calculated Electricity Utilization Index (kWh/m²/annum) ^a

OR

Annual Electricity Consumption (kWh/annum) ^a

Total Internal Floor Area (m²) ^b

Calculate

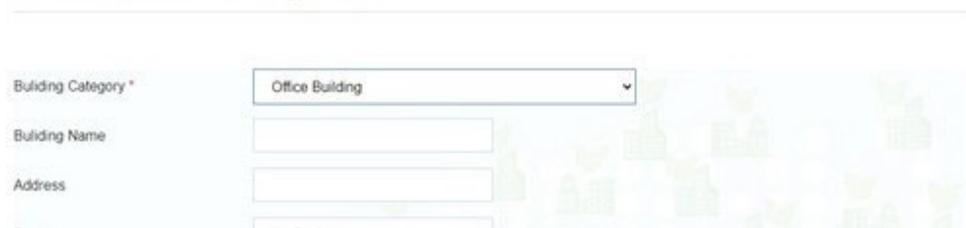
Electricity Utilization Index calculated by the tool (kWh/m²/annum)

Submit

Step to use Online Benchmarking Tool

Step 2: Input Electricity Utilization Index of a building

Online Benchmarking Tool

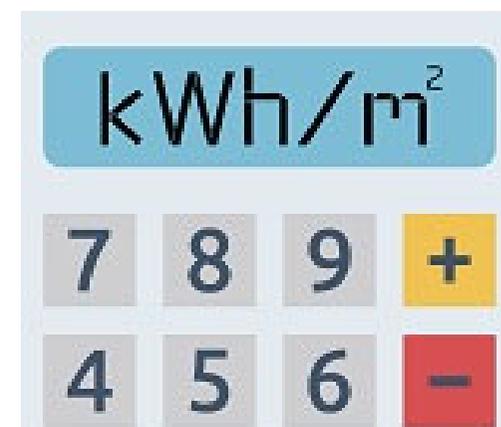


Building Category *

Building Name

Address

District



$$\text{Electricity Utilization Index} = \frac{\text{Annual Total Electricity Consumption of Whole Building (kWh / annum)}}{\text{Total Internal Floor Area of Whole Building (m}^2\text{)}}$$

Step to use Online Benchmarking Tool

Step 3: How to obtain Annual Electricity Consumption (kWh/annum) of your building?

- User can collect the 12-month period electricity consumption data of a building from associated meter devices if available; or
- Collect the 12-month period electricity consumption data of a building in kWh from landlord's and all tenants' electricity bills.

香港電燈有限公司
The Hongkong Electric Co., Ltd.

1 CHAN TAI MAN COMPANY
FLAT 2 5/F BLOCK A
HONG KAM COMMERCIAL CENTRE
100 SASSOON RD

2 Service Address: ROOM 801 8/F
LOK YEE COMMERCIAL BUILDING
128 BONHAM RD

3 Non-Residential Tariff Deposit Amount \$4,000.00
Period of Consumption: 01/01/2022 to 31/01/2022 (31 Days)

4 Meter Number 1060491
5 Present Reading 43735
6 Previous Reading 32835
7 Units 10900

8 Scheduled Next Meter Reading Date 28/02/2022

9 Charge for Current Period
10 Account Summary

Basic Charge	\$12,980.70
Fuel Clause Charge	2,975.70
Special Rebate	-109.00
Total	\$15,847.40

Previous Bill Total	\$19,468.17
Payment on 10/01/2022 - Thank You	-19,468.00
Charge for Current Period	15,847.40
Total	15,847.57
Balance Carried Forward	-0.57
Please Pay This Amount	\$15,847.00

11 Please Pay This Amount
\$15,847.00
PPS Merchant Code: 03

12 Enhance Smart Power Service and Subsidy Schemes for Disenfranchisement in Community
Smart Power Building Fund
Smart Power Care Fund
Energy-efficient Community Subsidy Programme
Energy-efficient Equipment Subsidy Programme

13 FPS QR Code

For details of the Fuel Clause Charge, please visit www.hkelectric.com/tariff-en

14 This bill is due on presentation

CLP 中電 120 years of shared vision

EASY COMPANY LIMITED
3/F HOEASZY CENTRE
215 FUK WA STREET
SHAM SHUI PO KOWLOON

18888-88888-8
Bill Type & Merchant Code No. 02

Non-Residential Tariff
08-03-21
From 07-02-21 to 08-03-21
For 30 days of usage

Energy Charge: \$217.54
Fuel Cost Adjustment: \$59.23
Deposit: \$2,100.00
Others: -\$18.77

Total Amount: \$258.00

Due Date: 23-03-21

Thank you for your payment \$290.00 on 01-03-21

Payment after the due date will be subject to a 5% Late Payment Charge

Meter No. 6960534
Factor 1
Previous Reading 82519
Present Reading 82730

Account Number: 18888-88888-8
Total Amount Due: \$258.00
Stub

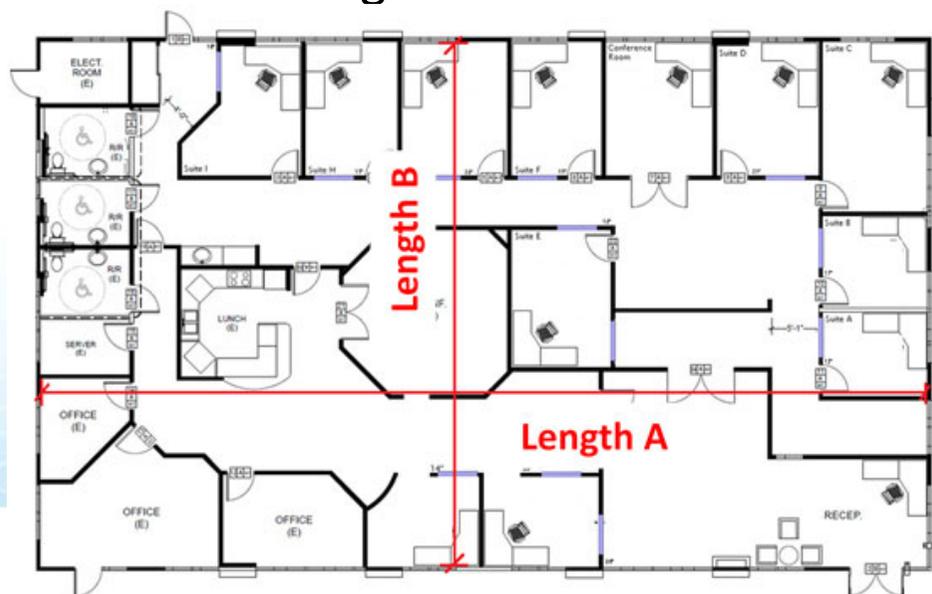
Environmental Information:
2019 average CO₂e emission per unit of electricity billed: 0.5 kg



Step to use Online Benchmarking Tool

Step 4: How to obtain total internal floor area (m²) of your building?

With reference to the Building Energy Efficiency Ordinance (Cap.610), 'total internal floor area', in relation to a building, a space or a unit, means the sum of the floor area of all enclosed spaces measured to the internal faces of enclosing external and/or party walls for the whole building



$$\text{Total Internal Floor Area (TIFA)} = \text{Length A} \times \text{Length B}$$

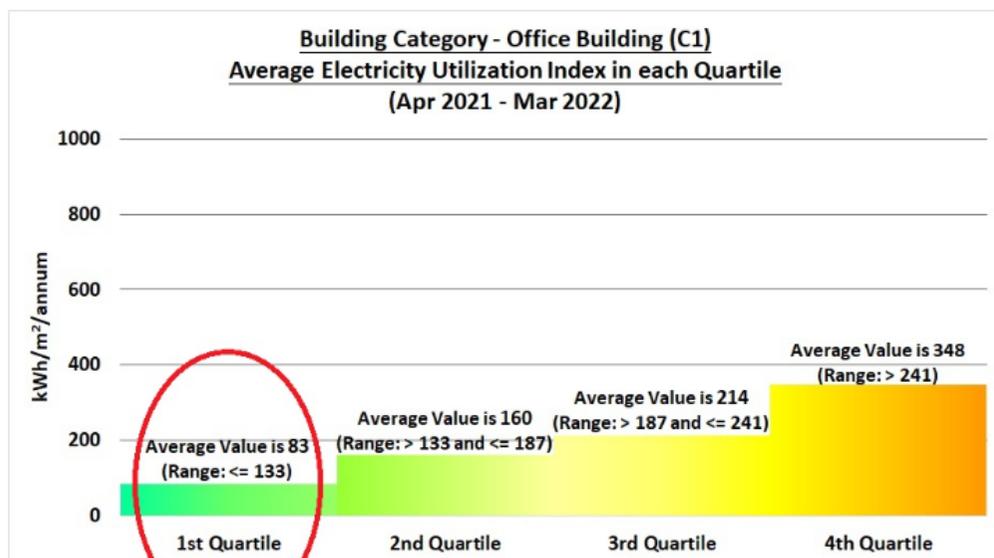
Step to use Online Benchmarking Tool

Step 5: Benchmark the Electricity Utilization Index of Building

To input the calculated electricity utilization index into the Online Benchmarking Tool, and the rating of its electricity utilization index among similar buildings will be obtained.

1st QUARTILE

Your reported Electricity Utilization Index of whole building is 128 kWh/m²/annum



- **Lower EUI value** will be categorized in **lower quartile of benchmarking tools** and implied that **higher building energy efficiency** compared with other buildings in 2nd to 4th quartiles.
- Benchmark result based on the period of **Apr 2021 - Mar 2022** and will be **updated annually**, next round by **around Q3 of 2023**.

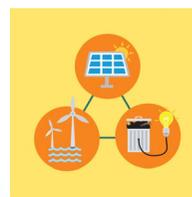


Step to use Online Benchmarking Tool

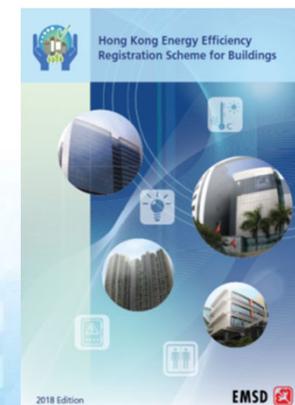
Step 6: Tips for enhancing building energy efficiency

Building owners may consider adopting the general advice on energy saving proposed by the tool to enhance building energy efficiency and improve the electricity utilization performance of the building after using this Online Benchmarking Tool

How to improve energy performance of building?

An Energy Label (能源標籤) showing a scale from 1 (most efficient) to 5 (least efficient). The label is currently set to level 1. It includes fields for Annual Energy Consumption, Cooling Capacity, Refrigerant, and Name Air Conditioner.

more efficient 越綠越好	1
Annual Energy Consumption 全年總耗電量	420
Cooling Capacity (kW) (額定) (Y.E.L.) 冷卻容量 (千瓦)	2.54
Refrigerant 制冷剂	None
Name Air Conditioner 機型	MS MS MS
Model 型號	MS MS MS
Manufacturer Product Code 製造商產品代號	MS MS MS



建築物電力使用指數網上基準工具

Online Building Based Electricity Utilization Index Benchmarking Tool

香港邁向 Carbon Neutral@HK

Thank You

機電工程署  EMSD

