



# Briefing Session on Buildings Energy Efficiency Ordinance for Registered Energy Assessors

25 January 2013

# Agenda

- Enforcement work
- Submissions under the BEEO
- Frequently asked questions
- Way forward

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# Enforcement Work

- **Publicity**

- **More than 90 nos. briefings / seminars since Jan 2011**
  - covering academia, professionals, engineering trades, business sector, property management companies and building owners, etc.
  - more than 7,000 audiences attended
- **Technical papers were presented in seminars / conferences; articles were published in journals and publications**
- **TV and radio broadcasting since July 2012**
  - TV API posted to EMSD Video Channel on YouTube (English Version)  
<http://www.youtube.com/watch?v=sG2b8fi54yE>
  - (Chinese Version)  
<http://www.youtube.com/watch?v=Sq8hcND3qxc>

# Enforcement Work (cont'd)



- **Inspection**

- **Checking of document submissions**

- e.g. For submissions regarding energy audit: Energy Audit Form, Energy Audit Checklist, Executive Summary and energy audit report

- **Site visits / inspections**

- e.g. To check whether a valid Energy Audit Form is exhibited in a building; electricity bills and BS equipment schedule etc.

- **Monitor compliance**

- e.g. To check the completion date of “major retrofitting works” and whether the issue date of Form of Compliance is within 2 months after the completion date etc.

# Enforcement Work (cont'd)



- Close liaison with various organizations and government departments to collect information of buildings and major retrofiting works
- Advisory letters to developers, building owners, property management companies and responsible persons to draw their attention on the BEEO requirements

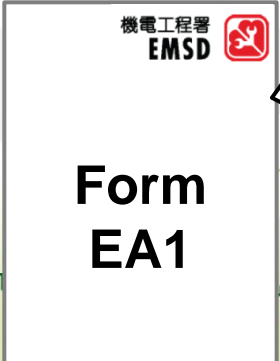
# Submissions under the BEEO

## Change of REA particulars

- For any change in **name/ correspondence address**, REA should notify EMSD of the change **within 28 days** using **Form EA1 (Section 11 (1) of Cap 610B)**
  - A person who contravenes section 11(1) is liable on conviction to a **fine of \$2,000.**

|  |   |
|--|---|
| <p>For new applicant only<br/>只適用於新申請人士</p>  | <p>For current Registered Energy Assessor<br/>只適用於現有註冊能源效益評核人</p>   |
| <input type="checkbox"/> New Application for Registration as a Registered Energy Assessor<br>新申請為註冊能源效益評核人 | <div style="border: 2px solid red; padding: 2px;">           Registration No: _____ Expiry Date: _____<br/>           註冊號碼: _____ 有效期屆滿日期: _____         </div>   |
|  | <input type="checkbox"/> Renewal application 續期申請<br><div style="border: 2px solid red; padding: 2px;"> <input checked="" type="checkbox"/> Change of particulars 更改個人資料<br/>           (Name / Correspondence Address / Professional Qualification)*<br/>           (姓名/通訊地址/專業資格)*         </div> |

- Select “change of particulars” in Form EA1
- Free of charge
- Remember to sign the form



# Submissions under the BEEO (cont'd)



## Change of REA particulars

- For any change in **correspondence email/ telephone no.**, REA should use **Form EA1** to notify EMSD **as soon as possible**
- For any change in email/ telephone no. disclosed on the BEEO's website, REA should email EMSD through **mbec@emsd.gov.hk** to obtain the **form for disclosure of contact information** and submit the completed application with signature by email or by fax

# Submissions under the BEEO (cont'd)



## Stage one declaration

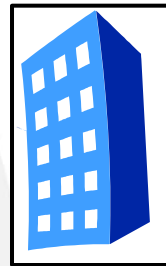
|  | Consent to the commencement of - |                               |                                   |   |
|--|----------------------------------|-------------------------------|-----------------------------------|---|
|  | Alterations and additions        | Building works for foundation | Building works for superstructure | Building works for both foundation and superstructure |
| Submission of “stage one declaration” within 2 months after the issue date of consent by the developer | x                                | x                             | ✓                                 | ✓   |



# Submissions under the BEEO (cont'd)

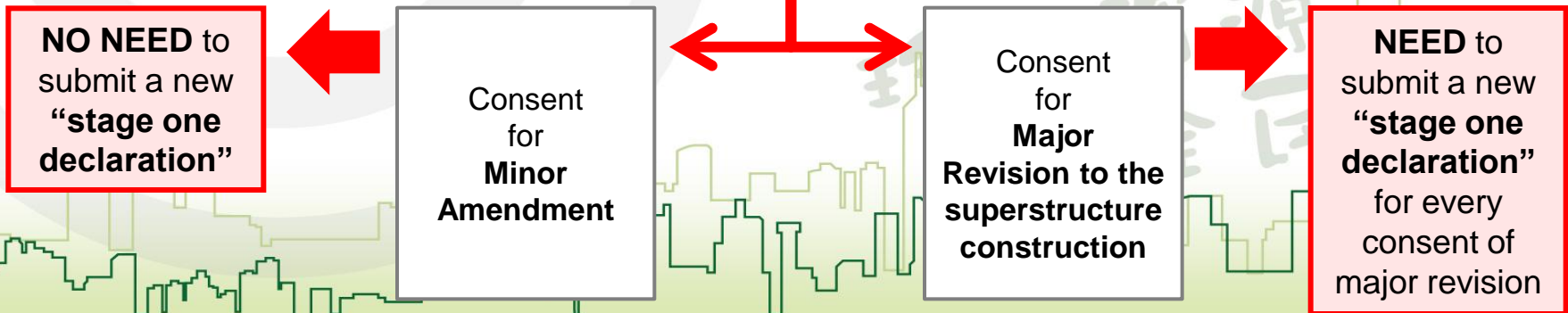


## Stage one declaration



- Obtain the **consent to commencement of building works for superstructure construction** on or before 21 Sep 2012

Obtain any consent further after the 1<sup>st</sup> consent



# Submissions under the BEEO (cont'd)



## Stage two declaration

- Within 4 months after the day on which OP is issued
- Personally inspected the BS installations by REA in 30 days before certification  
**(Section 9(3) of Cap 610)**

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# Submissions under the BEEO (cont'd)



## Section B 乙部：Declaration 聲明

To 致： Building owner 建築物擁有人

Cc 副本抄送： The Director of Electrical and Mechanical Services 機電工程署署長 (see note 5 overleaf 見背頁須知事項 5)

In accordance with section 22 of the Buildings Energy Efficiency Ordinance (Chapter 610), I, (full name) \_\_\_\_\_, Registered Energy Assessor (Registration No.: \_\_\_\_\_), certify that an Energy Audit in respect of the above building was completed on \_\_\_\_ / \_\_\_\_ / \_\_\_\_ (DD/MM/YYYY). This Energy Audit Form will expire on \_\_\_\_ / \_\_\_\_ / \_\_\_\_ (DD/MM/YYYY). (see note 4 overleaf)

機電工程署  
EMSD



## Energy Audit Form

(Form EE5)

- Energy Audit Form is valid for 10 years
- Expiry date = the last day of 10-year period
- Within 30 days after issuing an Energy Audit Form, REA should send a copy of Energy Audit Form and an energy audit report to EMSD **(Section 22(5) of Cap 610)**

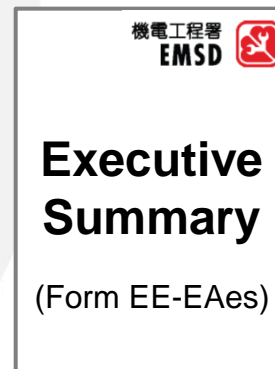
# Submissions under the BEEO (cont'd)



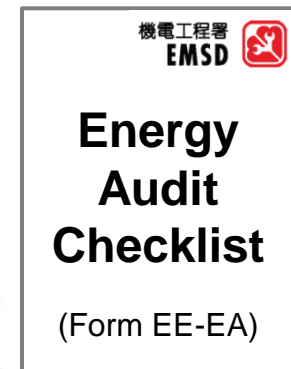
## Submission of Energy Audit Report



+



+



# Frequently asked questions



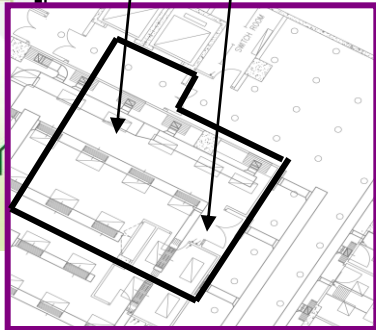
## Major Retrofitting Works

### Either Works Area

Addition/replacement of a BS installation specified in the BEC at the following conditions –

total floor area covered by the works (i.e. works area)  $\geq 500 \text{ m}^2$  in a unit or a common area

If the works are conducted as a same series of works in phases or at different places in a unit or a common area, total floor area covered by these works (i.e. works area) **within 12 months** aggregating to  $\geq 500 \text{ m}^2$



### OR Central BS installation

Addition/replacement of a **main component** of a central BS installation, either –



a complete electrical circuit at rating  $\geq 400\text{A}$ ;

or



a unitary air-conditioner or a chiller at rating  $\geq 350\text{kW}$  (cooling or heating);

or



motor drive + mechanical drive of a lift, escalator or passenger conveyor

# Frequently asked questions (cont'd)



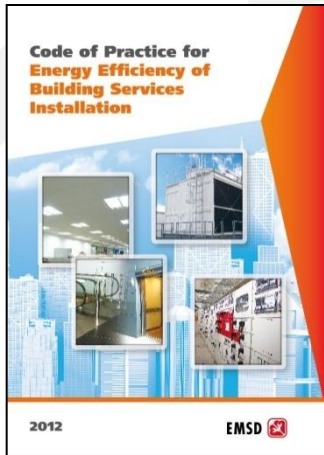
## Question:

What are the technical requirements of the BEEO for “major retrofitting works”?

## ➔ Answer:

The technical requirements of “major retrofitting works” can be found in Table 10.1 of BEC 2012 Edition.

# Frequently asked questions (cont'd)



## 1. Floor area $\geq 500 \text{ m}^2$

①
②
③
④

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**Table 10.1**  
**Major Retrofitting Works and Energy Efficiency Requirements**

| Category of Major Retrofitting Work  | Condition for Applicability of BEC Requirement  | Applicable BEC Requirement  | BEC Clause No.         |     |
|--|---|---|------------------------|-----|
| (a) Works involving addition or replacement of a building services installation that covers one or more places with a floor area or total floor area of not less than 500 m <sup>2</sup> under the same series of works within 12 months in a unit or a common area should include item (i), item (ii) and/or item (iii) as described below (please also see the remarks at the end of this table) – |   |   |                        |     |
| (i) addition or replacement of luminaire(s)  | total circuit wattage of the additional or replacement luminaires at or exceeding 3kW | no existing luminaires in the area, or the sum of circuit wattage of additional or replacement luminaires is more than that of 50% of the original luminaires in the area | lighting power density | 5.4 |

# Frequently asked questions (cont'd)



Table 10.1

## Major Retrofitting Works and Energy Efficiency Requirements

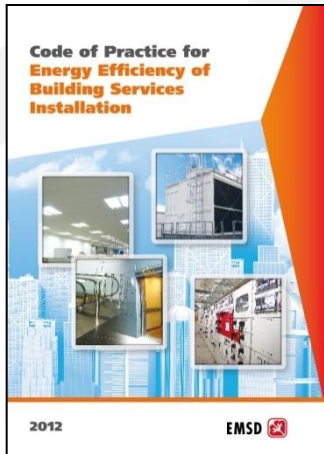
| Category of Major Retrofitting Work | Condition for Applicability of BEC Requirement | Applicable BEC Requirement | BEC Clause No. |
|-------------------------------------|--|----------------------------|----------------|
|-------------------------------------|--|----------------------------|----------------|

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|   |   |   |                        |     |
|---|---|---|------------------------|-----|
| (i) addition or replacement of luminaire(s) | total circuit wattage of the additional or replacement luminaires at or exceeding 3kW | no existing luminaires in the area, or the sum of circuit wattage of additional or replacement luminaires is more than that of 50% of the original luminaires in the area | lighting power density | 5.4 |
|---|---|---|------------------------|-----|



# Frequently asked questions (cont'd)



## 2. Main component of central building services installation

① → ② → ③ → ④

**Table 10.1**  
**Major Retrofitting Works and Energy Efficiency Requirements**

| Category of Major Retrofitting Work   | Condition for Applicability of BEC Requirement  | Applicable BEC Requirement             | BEC Clause No. |
|---|---|--|----------------|
| (ii) addition or replacement of a unitary air-conditioner or a chiller of a cooling or heating rating at or exceeding 350kW | applicable in any conditions  | air- conditioning equipment efficiency | 6.12           |
|   | the work involving for the additional or replacement air-conditioning equipment the addition or complete replacement of corresponding water side pumping system | frictional loss of water piping system | 6.9            |
|   |   | energy metering                        | 6.13           |
|   | ditto, the corresponding water side pumping system forming an independent system  | pumping system variable flow           | 6.8            |
|   | the work involving addition or replacement of pipework, ductwork or AHU   | thermal insulation                     | 6.11           |
|   | the work involving addition or replacement of water pump with new motor, of AHU with new motor, or of fan with new motor  | motor efficiency                       | 7.5.1          |

# Frequently asked questions (cont'd)



Table 10.1  
Major Retrofitting Works and Energy Efficiency Requirements

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|   | the work involving addition or replacement of water pump with new motor, of AHU with new motor, or of fan with new motor  | motor efficiency                       | 7.5.1          |

# Frequently asked questions (cont'd)



## Energy Audit

- **Energy audit requirements apply to:-**
  - commercial buildings
  - commercial portion of composite buildings
- **“Commercial building” means a building that is:-**
  - used for offices, shops or entertainment facilities; or
  - used for the purpose of any trade, business or profession (but not used as an industrial building)

# Frequently asked questions (cont'd)



## Question:

Is it required to carry out energy audit for the central building services installation (CBSI) of hotels and guest houses?

## Answer:

NOT required because hotels and guest houses are categorized as a separate type of building according to Schedule 1 of the BEEO, and hence are not regarded as commercial buildings in which energy audit requirement is applicable.

# Frequently asked questions (cont'd)



## Question:

Is it required to carry out energy audit for the CBSI of a car park?

## ➔ Answer:

|  | Energy audit  |
|--|---|
| Commercial building  | ✓   |
| Residential building   | x   |
| Industrial building  | x   |
| Composite building<br>(e.g. industrial + commercial<br>/ residential + commercial) | ✓<br>(With CBSI of car park for commercial portion) |

## Demarcation of central building services installation (CBSI) and non-CBSI in units in buildings with common area and buildings without common area

| Building type                | Ownership or tenement of area or unit served by concerned building services installation (BSI)      | Ownership of BSI | BSI regarded as CBSI or non-CBSI | Justification for being CBSI or non-CBSI based on interpretation in the Ordinance (Cap 610) |
|------------------------------|---|------------------|----------------------------------|---|
| Building with common area    | Entrance lobby, common corridor, staircase etc. (i.e. the common area interpreted in the Ordinance) | Building owner   | CBSI                             | BSI not solely serving a unit   |
|                              | Building owner occupied unit  | Building owner   | Non-CBSI                         | BSI solely serving a unit   |
|                              | Occupier owned unit   | Building owner   |                                  |   |
|                              |   | Unit occupier    |                                  |   |
|                              | Leased unit   | Building owner   |                                  |   |
| Unit lessee                  |   |                  |                                  |   |
| Building without common area | Entrance lobby, common corridor, common staircase etc.  | Building owner   | CBSI                             | BSI owned by the building owner (and not solely serving a unit)                             |
|                              | Building owner occupied unit  | Building owner   | CBSI                             | BSI owned by the building owner   |
|                              | Leased unit   |                  |                                  |   |
|                              | Leased unit   | Unit lessee      | Non-CBSI                         | BSI solely serving a unit and owned by a person who is not the building owner               |

# Frequently asked questions (cont'd)



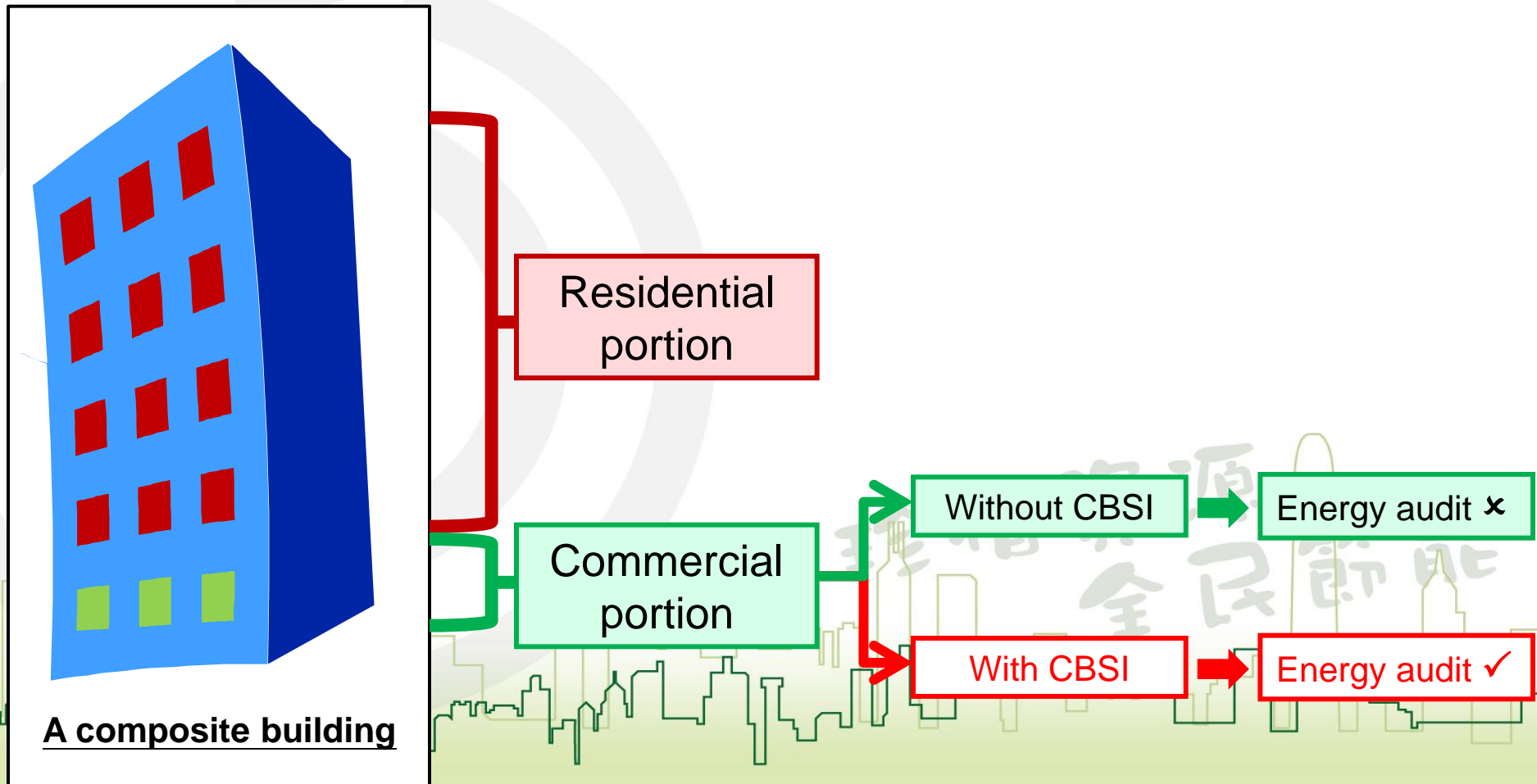
## Question:

If there is a non-domestic portion in a residential building according to the “occupation permit”, is this building regarded as a residential building or a composite building?

## ➔ Answer:

This building is regarded as a composite building. If the non-domestic portion is a commercial one, energy audit may be required, depending on whether there is any CBSI within the area.

# Frequently asked questions (cont'd)





# Frequently asked questions (cont'd)



## Question:

Should exit sign/ display lighting be taken into account when calculating lighting power density (LPD)?



## Answer:

According to the clause 5.1.2(d) of the BEC, lighting installation integral to a signage is not covered by the BEEO. According to the Schedule 2 of the BEEO, display lighting is also not covered. Therefore, they should not be counted in the LPD calculation.

# Way forward

- Technical guidelines for BEC and EAC 2012 Edition are being finalized
- Revised Energy Audit Form (Form EE5) and Executive Summary (Form EE-EAes) will be in effect soon
- Energy efficiency standards of BEC will be reviewed with reference to the latest developments of relevant technology and practices



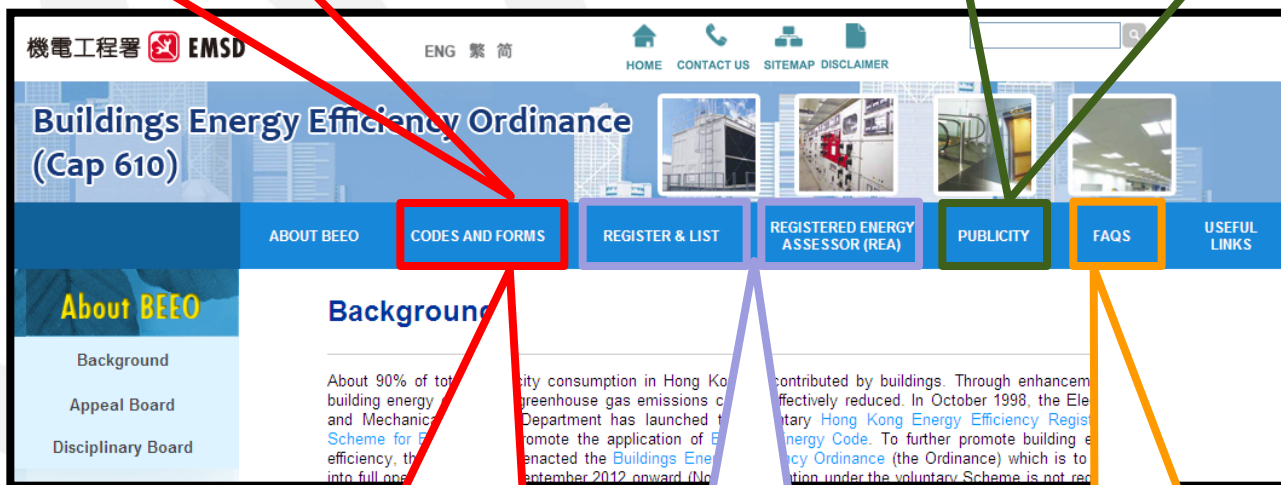
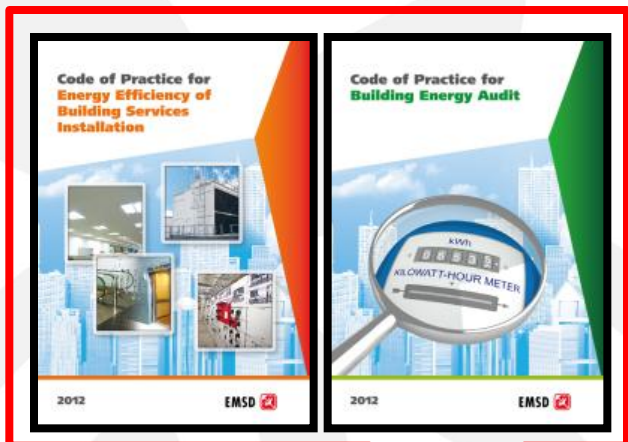
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# BEEO's Website

<http://www.beeo.emsd.gov.hk/>



The screenshot shows the homepage of the Buildings Energy Efficiency Ordinance (BEEO) website. At the top left is the EMSD logo with the slogan '珍惜資源 全民節能'. To the right are three language selection buttons: 'ENG', '繁體', and '简体'. The main heading is '《建築物能源效益條例》' (The Buildings Energy Efficiency Ordinance) in large blue characters on a green banner. Below this is a central 3D illustration of a blue building. Five circular callouts point to different parts of the building, each with a corresponding label: '空調裝置 Air-conditioning installation' (pointing to the roof), '電力裝置 Electrical installation' (pointing to the ground floor), '升降機及自動梯裝置 Lift & escalator installation' (pointing to the entrance), '照明裝置 Lighting installation' (pointing to the ceiling), and 'Energy Audit Form 能源審核表格' (pointing to a document icon). The background is a light green gradient.



**Specified Forms and technical guidelines (coming soon)**

**Register of REA and COCR**

**Frequently Asked Questions**



# Energy Efficiency Office

## 能源效益事務處

**Enquiry : 37576156**

**Email : mbec@emsd.gov.hk**

**Address : 3 Kai Shing Street, Kowloon**

**Website : <http://www.beeo.emsd.gov.hk>**



# Q&A Session

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