

# The Buildings Energy Efficiency Ordinance

The infographic features a central blue 3D building illustration. Five callout boxes with circular images point to different parts of the building, each describing a specific energy efficiency measure. At the top left, the EMSD logo and slogan '珍惜能源 全民節能' are displayed. At the top right, three language selection buttons are present. The main title is prominently displayed in a green banner across the top.

機電工程署  
EMSD

珍惜能源 全民節能

ENG 繁體 简体

《建築物能源效益條例》  
The Buildings Energy Efficiency Ordinance

空調裝置  
Air-conditioning installation

電力裝置  
Electrical installation

升降機及自動梯裝置  
Lift & escalator installation

照明裝置  
Lighting installation

Energy Audit Form  
能源審核表格

## BEC 2015 In-house Training

# Today's Highlight

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1) Update on Implementation of the BEEO  
(SE/EEB7, Mr. Anfield CHIU)

2) BEC and EAC 2015 Review

- Lighting Installation
- Electrical Installation

(E/EEB5/2, Mr. Brian LEUNG)

3) BEC and EAC 2015 Review

- Air-conditioning Installation
- Lift & Escalator Installation
- EAC 2015

(E/EEB7/1, Mr. Chris CHAN)

4) Q&A



# Review of the BEC and EAC

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## Code of Practice for Energy Efficiency of Building Services Installation



2015

EMSD 



About 90% of total electricity consumption is contributed by buildings.

The new BEC will be gazetted on 11 December 2015 and will be fully implemented in September 2016.

# Legislative Framework

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Cap 610 - Buildings Energy Efficiency Ordinance (BEEO)

Cap 610A  
Buildings Energy  
Efficiency (Fees)  
Regulation

Cap 610B  
Buildings Energy Efficiency  
(Registered Energy Assessors)  
Regulation

**Building Energy Code**

**Energy Audit Code**

Code of  
Practice

Technical guidelines on BEC

Technical guidelines on EAC

Technical  
Guidelines

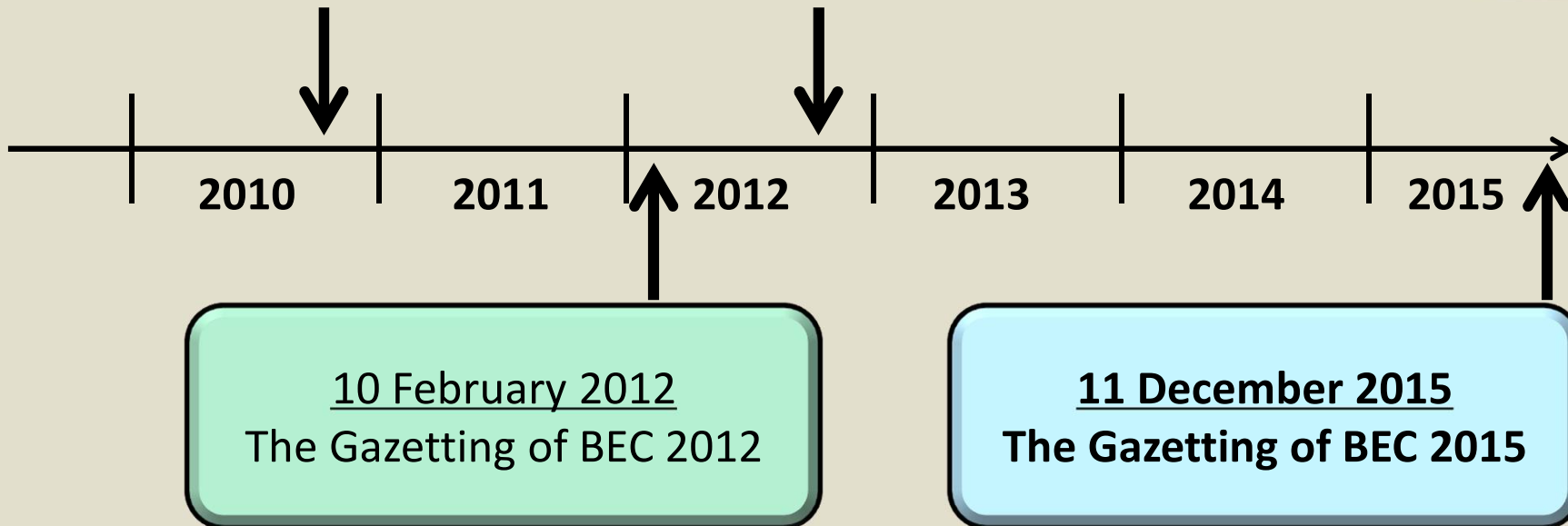
# Milestone

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3 December 2010  
The Gazetting of BEEO

21 September 2012  
The Full Implementation  
of BEEO



# Building Coverage

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## BEC

- 1) Commercial building
- 2) Industrial building - common area
- 3) Residential building - common area
- 4) Composite building - commercial portion
- 5) Composite building - common area of portion for residential or industrial use
- 6) Hotel & guesthouse
- 7) Educational building
- 8) Community building
- 9) Municipal services
- 10) Hospitals & clinics
- 11) Government building**
- 12) Airport passenger building
- 13) Railway station

## EAC

- Commercial building
- Composite building – commercial portion

# Certificate of Compliance Registration (COCR)

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- ✓ Applicable to 13 types prescribed buildings in Schedule 1
- ✓ **Stage 1 Declaration**
  - Submitted within **2 months** after *consent date of commencement of superstructure works*
  - Prescribed BSIs will comply with the BEC Code
- ✓ **Stage 2 Declaration**
  - Submitted **4 months** after *Occupation Permit* date
  - Prescribed BSIs have been complied with the BEC edition of not lower than the declaration in Stage 1



# Form of Compliance (FOC)

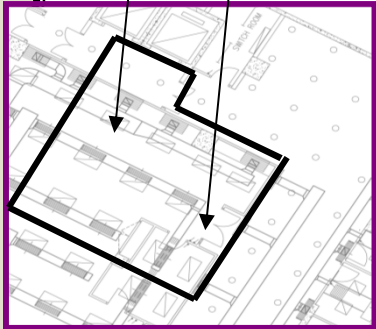
## Major Retrofitting Works (MRW)

### 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

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



### Central BS installation

Addition/replacement of a main component of a central BS installation, incl. –



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



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



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

OR



# Form of Compliance (FOC)

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## Common Major Retrofitting Works (MRW) in Government Buildings

### 1) Air-conditioning Installation

- Replacement of Chillers, replacement of AHU, unitary air-conditioner in works area  $\geq 500\text{m}^2$

### 2) Electrical Installation

- Addition of a new cut out  $\geq 400\text{A}$  for major system (e.g. chiller system, new space)

### 3) Lighting Installation

- Replacement of light fittings  $\geq 3\text{ KW}$  ( $\sim 250\text{m}^2$ )

### 4) Lift & Escalator Installation

- Upgrade of Lift (eg. AC2 to VVVF), replacement of escalator.



# Maintain the Standards in the COCR and FOC

- ✓ Building owner / Responsible person to **maintain** the BSI to the standard applied in the COCR and FOC
- ✓ Renovation works ( MRW or not MRW) should also apply
- ✓ **Newly completed buildings with COCR**
  - Tin Shui Wai Hospital
  - West Kowloon Law Court Building
- ✓ **Newly Completed Buildings with FOC**
  - Court of Final Appeal
  - Old CGO (East Wing and Main Building)



# Update on Full Operation of BEEO (As in December 15)

Certificate of Compliance Registration (COCR)	<ul style="list-style-type: none"><li>• Stage one declaration received: <b>about 900</b></li><li>• Stage two declaration received: <b>about 110</b></li></ul>
Form of Compliance (FOC)	<ul style="list-style-type: none"><li>• FOC for MRW received: <b>about 3,900</b></li></ul>
Energy Audit (EA) Form	<ul style="list-style-type: none"><li>• EA form received: <b>about 2,200</b></li></ul>
Registered Energy Assessor (REA)	<ul style="list-style-type: none"><li>• REA registered: <b>860</b></li></ul>

# Form of Compliance



## Progress of obtaining FOC

	2012 (from Sep)	2013	2014	2015 (as of Nov)
No. of FOC submission	~100	~900	~1700	~1200

### Average FOC submission

- 1300 per year
- Relatively low compliance rate

# Form of Compliance

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## Channels for Collaboration among Government Depts

- ✓ **Project List from various Block Votes:**
  - Annual RAE CNI Bid
  - Block Votes (e.g. 3004GX, 3101GX)
  - EMSTF Contract Advisory Unit
- ✓ **List of New / Modification of Lift & Escalator Installation**
- ✓ **Outreaching Programme**
- ✓ **Sampling Inspection**

# Step up Enforcement Action

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Improvement Notice have been issued for non-compliance cases

Prosecution action will be instigated

# Prosecution Action under BEEO

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➤ No. of issued Improvement Notice	114
➤ No. of prosecution	5
➤ Fine for each prosecution case	\$2,000 - \$21,000

# Awareness of the Ordinance

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General Engineering Services Division  
Monday, 21 December 2015

Customer & Market Focus Knowledge Management Contract & Project Management IMS Human Resources Business

Welcome Message

**Welcome to the homepage of General Engineering Services Division**

歡迎瀏覽綜合工程部的網頁，綜合工程部秉承機電工程營運基金的抱負、使命及信念為客戶提供一站式的機電冷和屋宇裝備之維修、保養及24小時故緊急支援服務。同時各節約能源、環保及安全政策，為全港所有政府物業進行加改及改善工程。我們的主要包括行政長官辦公室、政務司司長辦公室、立法會秘書處、政府產業署、建築署、教民政事務總署、司法機構、漁農自然護理署和社會福利署等。服務的場地涵蓋新政府立法會綜合大樓、全港各政府綜合大樓、法院大樓、社區會堂/中心及政府宿舍等等

Contract kick-off briefing  
Contract Administration  
Project Management

Team activities

Forms  
Refurbishment / PM / CNI Project List  
Database for Buildings Energy Efficiency Ordinance  
Enhancement of Lift Installation

Database on Major Retrofitting Works



# Review of the BEC and EAC

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- Review in a 3-year interval
  
- Making reference to:
  - **the latest technology development;**
  - **recognized international standards** from other countries including Mainland China, *USA, UK, Singapore and Australia*

# Review of the BEC and EAC

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Reviewed by the **Technical Taskforce** and its **6 Working Groups** consists of **31** representative organizations:

- a) **13** *Professional Institutions including green groups*
- b) **13** *Trade associations, consultant/contractor associations*
- c) **3** *University Academia*
- d) **2** *Government departments*

# Review of the BEC and EAC

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<p>➤ <b>Professional Institutions including green groups</b></p>	<p><b>ASHRAE, HKIE, CIBSE, CIE, IET, BEAM Society, etc.</b></p>
<p>➤ <b>Trade associations, consultant/contractor associations</b></p>	<p><b>HKACRA, ACE, FEMC, LECA, The Hong Kong Institute of Facility Management, The Hong Kong Association of Property Management Companies Ltd</b></p>
<p>➤ <b>University Academia</b></p>	<p><b>HKPU, HKUST &amp; HKU</b></p>
<p>➤ <b>Government departments</b></p>	<p><b>ArchSD, Housing Dept.</b></p>

# Review of the BEC and EAC

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3-year  
Internal

Technology  
Advancement

屋宇裝備裝置能源效益  
實務守則

2015

機電工程署

Technical  
Taskforce

International  
Standards



2015版本

# Review of the BEC and EAC

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## The First Comprehensive Review of BEC & EAC:

- Commenced in **Sept 2014**
- Draft BEC 2015 and EAC 2015 in **Jun 2015**
- Technical Taskforce endorsed in principle in **Sept 2015**
- DEMS approved on **24 Nov 2015**
- Gazetted on **11 Dec 2015**

# Review of the BEC and EAC

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Upgrade on the energy efficiency requirements

Addition of energy saving requirement





**Thank you!**

