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## 1. 引言

本小冊子旨在簡介自2012年9月 21日全面實施《建築物能源效益條 例》(《條例》)後,商業建築物及 綜合用途建築物的商業部分的擁有人 進行能源審核時必須遵從的規定。

本小冊子所提供的資料盡量以簡 易文字表達,但並非盡錄,它僅供一 般參考。有關的詳細釋義及規定,請 參閱《條例》、《能源審核守則》及 《能源審核守則技術指引》。

機電工程署另印製兩本小冊子, 分別介紹《條例》所指明的「主要裝 修工程」及新建建築物須遵行之相關 規定。

### 1. Introduction

This pamphlet aims at briefly describing the requirements which the owners of commercial buildings and the commercial portions of composite buildings should comply with when carrying out energy audit after full implementation of the Buildings Energy Efficiency Ordinance (BEEO) since 21 September 2012.

The information provided in this pamphlet is in plain text as far as possible but not exhaustive. It is for general reference only. Please refer to the BEEO, the Energy Audit Code (EAC) and the Technical Guidelines on Energy Audit Code (TG-EAC) for the detailed interpretations and requirements.

In addition, the Electrical and Mechanical Services Department (EMSD) has published another two pamphlets to respectively introduce the requirements of "Major Retrofitting Works" and those to be complied by a newly constructed building as specified in the BEEO.

## 2. 《條例》之目的

全港耗電主要來自建築物,當中 商業建築物耗用大部分電力。

有見及此,政府制定《條例》, 落實規管訂明建築物內主要屋宇裝備 裝置的能源效益。《條例》實施後, 全港建築物的能源效益有望提升,既 可節省電費,亦有助減少溫室氣體排 放,從而改善空氣質素,締造更舒適 的生活環境。

## 2. Objectives of BEEO

The electricity consumption in Hong Kong is mainly contributed by buildings in which commercial buildings consume a large portion of electricity.

As such, the Government enacted the BEEO in order to regulate the energy efficiency of key building services installations inside prescribed buildings. After implementation of the BEEO, enhancement of the building energy efficiency in Hong Kong is expected. Not only does it save electricity bill, but it also helps reduce greenhouse gas emissions and improve air quality in order to bring about a more pleasant living environment.

## 3. 能源審核(《條例》第21 - 25條)

商業建築物或綜合用途建築物的商業部分(不論新建或現有建築物<sup>a</sup>)的擁有人每10年必須委聘「註冊能源效益評核人」,依據最新版本的《能源審核守則》<sup>c</sup>為4類中央屋宇裝備裝置<sup>b</sup>,包括空調裝置、電力裝置、照明裝置和升降機及自動梯裝置,進行能源審核。

根據《能源審核守則》第4.2 條,如屬綜合用途建築物,能源審核 規定則只適用於純粹服務該建築物 的商業部份的中央屋宇裝備裝置。例 如:若一部升降機同時服務商場及住 宅樓層,則毋須強制該升降機進行能 源審核。有關技術詳情,請參閱最新 版本的《能源審核守則》。

# 3. Energy Audit (Sections 21 – 25 of BEEO)

The owner of a commercial building or the commercial portion of a composite building (irrespective of newly constructed or existing one<sup>a</sup>), every 10 years, is required to engage a Registered Energy Assessor to carry out energy audit for 4 key types of central building services installation<sup>b</sup>, namely, airconditioning installation, electrical installation, lighting installation as well as lift and escalator installation, in accordance with the latest edition of the EAC<sup>c</sup>.

Pursuant to clause 4.2 of the EAC, in the case of a composite building, the energy audit requirement should only be applicable to the central building services installation solely serving the commercial portions. For example, if a lift serves the floors of both shopping mall and residential block, mandatory energy audit is not required for the lift. Please refer to the latest edition of the EAC for technical details.

#### 備註

a. 新建建築物指在《條例》全面實施後(即2012年9月21 日後)取得由「建築事務監督」發出上蓋建築物的「建 築工程展開同意書」的建築物。

現有建築物指在《條例》全面實施日期(即2012年9月 21日)或之前取得上蓋建築物的「建築工程展開同意 書」的建築物。

- b. 有關中央屋宇裝備裝置的詳細技術釋義,請參閱《能源 審核實務守則》。
- c. 《能源審核守則》自2012年起每三年作出檢討。

#### Note

a. A newly constructed building refers to a building that has obtained the "consent to the commencement of building works" for superstructure construction from the Building Authority after the BEEO comes into full operation (i.e. after 21 September 2012).

An existing building refers to a building that has obtained the "consent to the commencement of building works" for superstructure construction on or before the BEEO comes into full operation (i.e. on or before 21 September 2012).

- b. Please refer to the EAC for the detailed technical interpretation of central building services installation.
- c. Energy Audit Code is being reviewed every 3 years since 2012.

## 4. 能源審核的主要步驟

《能源審核守則》第7節指明了 能源審核的以下六個主要步驟:

## 4. Key Steps of Energy Audit

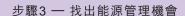
The following 6 key steps of energy audit are specified in Section 7 of the EAC:-

步驟1 一 收集建築物的資料

Step 1 – Collection of Building Information



Step 2 – Review of Energy Consuming Equipment



Step 3 – Identification of Energy Management Opportunities (EMO)



步驟4 — 能源管理機會的成本效益分析 Step 4 – Cost Benefit Analysis of EMO



步驟5 一 建議

Step 5 – Recommendations



步驟6 — 編製能源審核報告 Step 6 - Compiling Energy Audit Report

## 5. 能源管理機會

《能源審核守則》第6.2段介紹 了以下三大類能源管理機會(指達致 能源效益和節約能源的方法):

# 5. Energy Management Opportunities (EMO)

The following three categories of energy management opportunities (EMO) are introduced in clause 6.2 of the EAC (referring to the ways to achieve energy efficiency and conservation):-

類別 Category	描述 Description	例子 Examples
第一類 Category I	涉及內務管理,所推行的改善措施無需任何投資成本,並且不會妨礙建築物的運作 Involving housekeeping measures which are improvements with practically no cost investment and no disruption to building operation	當房間無人使用時,關掉 冷氣機或電燈、調高室內 溫度等 Turning off A/C or lights when not in use, revising A/C temperature set-points, etc.
第二類 Category II	涉及更改操作方法,投資成本相對較低 Involving changes in operation measures with relatively low cost investment	安裝時間掣來關掉設備、 將T8/T5螢光燈管更換為 LED燈等 Installing timers to turn off equipment, replacing T8/T5 fluorescent tubes with LED lights, etc.

### 第三類

涉及相對較高的投資成本,以 達致善用能源的目的

加裝可變速驅動器、安裝 功率因數修正器、更換冷 水機等

Category III

Involving relatively higher capital cost investment to attain efficient use of energy

Adding variable speed drives, installing power factor correction equipment, replacing chillers, etc.

透過能源審核找出的能源管理機會(即節能措施)僅供建築物的擁有 人考慮,《條例》並無強制擁有人必 須付諸實行。 The EMO (i.e. energy saving measures) identified through energy audit are just for building owners' consideration. Implementation of the EMO is not mandatory for the owners under the BEEO.

# 6. 需 進 行 能 源 審 核 的 建 築 物 (《條例》附表4)

- (i) 商業建築物(例如:辦公大樓、商場等等);及
- (ii) 綜合用途建築物的商業部分 (例如:住宅樓層下的商場等 等)。

# 6. Buildings that Require Energy Audit (Schedule 4 of BEEO)

- (i) Commercial building (e.g. office building, shopping mall, etc.); and
- (ii) Commercial portion of a composite building (e.g. shopping mall under residential storeys, etc.).

# 7. 進行能源審核的流程 Procedure for Carrying Out an Energy Audit



- (i)商業建築物或綜合用途建築物的商業部分(不 論新建或現有建築物)的擁有人,須每10年委聘 「註冊能源效益評核人」為4類中央屋宇裝備裝 置進行能源審核。(續後頁)
- (i) The owner of a commercial building or the commercial portion of a composite building (irrespective of newly constructed or existing one), every 10 years, is required to engage a Registered Energy Assessor to carry out energy audit for the 4 key types of central building services installation. (P.T.O.)



(ii)擁有人須盡早向「註冊 能源效益評核人」取得「能 源審核表格」(指明表格

(ii) That owner is required to obtain an Energy Audit Form (Specified Form EE5) and an energy audit report from the Registered Energy Assessor as soon as possible.

EE5)及能源審核報告。

能源審核 能源審核 表格 Energy Audit **Energy Audit** Report Form

報告

(iii)「註冊能源效益評核人」 須於發出「能源審核表格」 的30日內,向機電工程署呈 交「能源審核表格」及能源 審核報告的副本作記錄。

(iii) The Registered Energy Assessor is required to submit a copy of the Energy Audit Form and the energy audit report to the EMSD for record within 30 days after issuing the Energy Audit Form.

Energy **Audit Form** 能源審核表格



(iv)該擁有人必須在建築 物的主要入口的顯眼位 置,展示有效的「能源 審核表格丨。

(iv) That owner is required to exhibit the valid Energy Audit Form in a conspicuous position at the main entrance of the building.



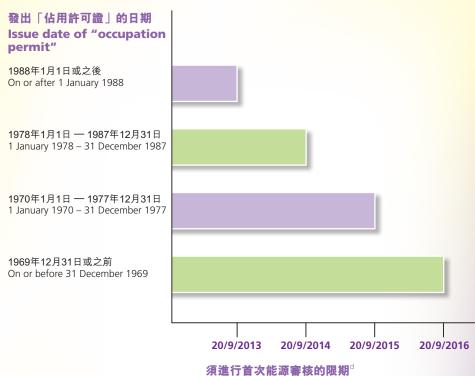
(v)該「能源審核表格」由完成能源審核當日 起生效,有效期為10年。擁有人必須於「能源 審核表格」的有效期結束前,預留足夠時間委 聘「註冊能源效益評核人」完成另一次能源審 核,並重新取得有效的「能源審核表格」,再 行展示於建築物的主要入口的顯眼位置。

(v) The Energy Audit Form is valid for 10 years starting from the completion date of the energy audit. Before the expiry of Energy Audit Form, the owner is required to reserve adequate time to engage a Registered Energy Assessor to complete another energy audit and obtain a new valid Energy Audit Form which should be exhibited in a conspicuous position at the main entrance of the buildina.

現有商業建築物或綜合用途建築物的商業部分須按照《條例》附表5指明的時間表進行首次能源審核,詳情如下:

The existing commercial buildings or the commercial portions of existing composite buildings are required to carry out the first energy audit according to the timetable as specified in Schedule 5 of the BEEO. Details are as follows:-

發出「建築工程展開同意 書」( 俗稱「開工紙」) 的日期 Issue date of "consent" for superstructure construction	發出「佔用許可證」 (俗稱「入伙紙」)的日期 Issue date of "occupation permit"	須進行首次能源審核的限期 Period within which the first energy audit must be carried out
	1988年1月1日或之後 On or after 1 January 1988	不遲於2013年9月20日 Not later than 20 September 2013
2012年9月21日或之前	1978年1月1日 - 1987年12月 31日 1 January 1978 - 31 December 1987	不遲於2014年9月20日 Not later than 20 September 2014
On or before 21 September 2012	1970年1月1日 - 1977年12月 31日 1 January 1970 - 31 December 1977	不遲於2015年9月20日 Not later than 20 September 2015
	1969年12月31日或之前 On or before 31 December 1969	不遲於2016年9月20日 Not later than 20 September 2016
2012年9月21日之後 After 21 September 2012	2012年9月21日之後 After 21 September 2012	獲發「遵行規定登記證明書」的10年內 within 10 years after the buildings are first issued with a Certificate of Compliance Registration(COCR).



**Period within which the first energy** audit must be carried out<sup>d</sup>

新建商業建築物或綜合用途建築物的商業部分則須在獲發「遵行規定登記證明書」的10年內,進行首次能源審核。

#### 備註

d. 在《條例》全面實施日期(即2012年9月21日)或之前 取得上蓋建築物的「建築工程展開同意書」的 建築物。 The new commercial buildings or the commercial portions of new composite buildings are required to carry out the first energy audit within 10 years after the buildings are first issued with a Certificate of Compliance Registration (COCR).

#### Note

d. For existing building that has obtained the "consent to the commencement of building works" for superstructure construction on or before the BEEO comes into full operation (i.e. on or before 21 September 2012).

## 備忘錄

### Memo

法定程序 Statutory Procedure	指定呈交限期 Specified Submission Period
委聘「註冊能源效益評核人」為商 業建築物或綜合用途建築物的商業 部分進行能源審核	每10年
Engagement of a Registered Energy Assessor to carry out energy audit at commercial buildings or the commercial portions of composite buildings	Every 10 years

## 8.「註冊能源效益評核人」的紀錄冊

「註冊能源效益評核人」的紀錄 冊現已上載至機電工程署建築物能源 效益條例網頁,供公眾查閱。

# 8. Register of Registered Energy Assessors

The register of Registered Energy Assessors is now available at the EMSD's BEEO webpage for public inspection.

## 9. 申請費用

與能源審核相關的申請費用列舉如下:

# 9. Application Fees

The application fees relevant to energy audit are listed below:-

項目 Item	申請費用 Application Fee
向機電工程署呈交「能源審核表格」及 能源審核報告的副本 Submission of a copy of Energy Audit Form and energy audit report to the EMSD	免費 Free of charge
申請「能源審核表格」的複本 Application for a duplicate of an Energy Audit Form	\$155

## 10. 敦促改善通知書(《條例》第26條)

# 10. Improvement Notice (Section 26 of BEEO)

If non-compliance is identified, the EMSD may issue an improvement notice to the relevant persons of that building / unit / common area (e.g. developer, the Incorporated Owners, owner, tenant or occupier etc.) before prosecution and direct those persons to remedy the contravention within the period specified in the notice. The notice will contain directions about measures to be taken. The basic information, including issue date, building name and address etc., of each notice will be published at the EMSD's website. Once the contravention in a notice has been remedied. the information of the notice will be removed from the relevant list at the EMSD's BEEO website.

## 11. 主要刑罰

根據《條例》,若商業建築物或 綜合用途建築物的商業部分的擁有人 違反條例規定,該人或會被檢控。

## 11. Major Penalties

According to the BEEO, if the owner of a commercial building or the commercial portion of a composite building contravenes the requirements, that person may be liable to prosecution.

	蜀犯的罪行 ence committed	最高刑罰 Maximum penalty
商業物	条例》第22條 美建築物或綜合用途建築物的商 邓分的擁有人沒有每10年為建築 內4類中央屋宇裝備裝置進行能 醫核。	第5級罰款(\$50,000)
The or t com ene cen	owners of commercial buildings he commercial portions of posite buildings fail to carry out rgy audit for the 4 key types of tral building services installation he building every 10 years.	Fine at level 5 (\$50,000)

## 《條例》第23條

商業建築物或綜合用途建築物的商 業部分的擁有人沒有在建築物的主 要入口的顯眼位置,展示有效的 「能源審核表格」之副本。 第5級罰款(\$50,000)

### Section 23 of BEEO

The owners of commercial buildings or the commercial portions of composite buildings fail to exhibit a copy of a valid Energy Audit Form in a conspicuous position at the main entrance of the building.

Fine at level 5 (\$50,000)

## 《條例》第26條

任何人違反載於敦促改善通知書的 任何指示。

#### Section 26 of BEEO

A person who contravenes any direction contained in an improvement notice.

第4級罰款(\$25,000)。如屬持續的罪行,則可就罪行持續期間的每一日,另處罰款\$1,000。

Fine at level 4 (\$25,000). In the case of a continuing offence, to a further fine of \$1,000 for every day during which the offence continues.

## 12. 《條例》相關網頁

有關《條例》更詳盡的資料,包括《條例》全文的連結、宣傳刊物、 實務守則、表格、紀錄冊、常見問題 等等,請登入以下網站瀏覽。

https://www.emsd.gov.hk/beeo/

## 12. Relevant Webpage of BEEO

For more information about the BEEO, including the link to the full text of the BEEO, publicity publications, codes of practice, forms, registers, frequently asked questions etc, please visit the following website:-

https://www.emsd.gov.hk/beeo/

## 13. 推廣能源效益科技

為鼓勵公眾更有效地使用能源, 機電工程署亦致力提供最新節能科技 資訊,供公眾參考。相關網站如下:

## 香港可持續科技網

http://sustech.emsd.gov.hk/cindex.html

### 能源資訊園地

https://www.emsd.gov.hk/energyland/tc/home/index.html

## 香港節能網

http://ee.emsd.gov.hk/cindex.html

# 13. Promotion of Energy Efficiency Technologies

To encourage the public to use energy more efficiently, the EMSD dedicates to providing information on advanced energy technologies for public reference. The relevant websites are as follows:-

## The HK Sustainable Technology Net

http://sustech.emsd.gov.hk/index.html

### EnergyLand

https://www.emsd.gov.hk/energyland/en/home/index.html

#### **HK EE Net**

http://ee.emsd.gov.hk/eindex.html

## 14. 查詢

如有任何查詢,可循以下途徑聯絡我們:

郵寄地址: 香港九龍啟成街3號機電工程署能源效益事務處

電郵: mbec@emsd.gov.hk

電話 : 3757-6156

(星期一至五上午九時至下午五時)或1823(電話中心)

傳真 : 2890-6081

網頁: http://www.emsd.gov.hk/beeo

## 14. Enquiry

For any enquiry, please contact us through the following channels:-

Postal Address : Energy Efficiency Office,

Electrical and Mechanical Services Department 3 Kai Shing Street, Kowloon, Hong Kong

E-mail : mbec@emsd.gov.hk

Telephone : 3757-6156

(9:00 a.m. – 5:00 p.m. on Monday to Friday) or 1823 (call centre)

Facsimile : 2890-6081

Website : http://www.emsd.gov.hk/beeo

香港九龍啟成街3號機電工程署能源效益事務處 Energy Efficiency Office Electrical and Mechanical Services Department 3 Kai Sing Street, Kowloon, Hong Kong

電話 Tel : 3757-6156 或 / or 1823 (電話中心 / Call Centre)

傳真 Fax : 2890-6081

網頁 Homepage : http://www.emsd.gov.hk/beeo

電郵 Email : mbec@emsd.gov.hk





