

Guidelines on Energy Audit (Simplified Version)

CONTENTS

Paragraph		Page
1	Introduction -----	1
2	General Self-auditing Procedure -----	1
Form 1	Building Information and Historical Energy Consumption -----	2
Form 2	Check List for Energy Management Opportunities (EMO) -----	3
Form 3	Check List for Implementation of Energy Management Opportunities -----	4

Guidelines on Energy Audit (Simplified Version)

1. Introduction

An energy audit is a periodic examination of an energy system to ensure that energy is being used as efficient as possible in a building. This guideline is particular written in simplified version to encourage energy self-auditing by owners or users of smaller buildings.

By identifying and minimising wasted energy through an energy audit, you can achieve the following results:

- Conserve non-renewable energy resources which are gradually running out;
- Protect the environment by burning less fossil fuels, e.g. by reducing power generating requirement, thus lessening carbon dioxide emissions which contribute to global warming; and
- Save energy and reduce running costs.

2. General Self-auditing Procedure

- 2.1 Collect up-to-date information for the following (Form 1):
 - Building details
 - Energy bills for electricity, town gas/LPG, etc. for the present and past 2 to 5 years
- 2.2 Carry out a walk-through of the premises to identify obvious areas of energy wastage and opportunities for energy saving. Form 2 with a detailed checklist is prepared to assist recording results of the survey.
- 2.3 Implement energy saving opportunities identified in the survey. The opportunities could be implemented with practically no cost implication, e.g. through good housekeeping, or with some capital cost investment, e.g. retrofit fluorescent luminaires with electronic ballasts. Form 3 is prepared to assist planning of the implementation programme.

Form 1

Building Information and Historical Energy Consumption

- 1 Name of Building: _____
- 2 Type of Premises: *Office/Shop/Restaurant/Workshop/Warehouse/Residential/Other please specify _____
- 3 Address: _____
- 4 Gross Floor Area of Building: _____ m²
- 5 Year Built: _____
- 6 Approximate number of occupants: _____
- 7 Hours of Operation:

Monday - Friday		Hours/day
Saturday		Hours
Sunday		Hours
Annual Total Hours		Hours/year

8 Records of Energy Bills:

Electricity Consumption (kWh)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total

Town gas or Central LPG (Unit)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total

Other Fuel (Please specify type & unit used)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total

Form 2

Check List for Energy Management Opportunities (EMO)

Energy Management Opportunities	EMO Reference
1. Lighting Equipment:	
a) Lighting turned on unnecessarily	1a
b) Tungsten Filament Lamps	1b
c) 1 switch controlling 2 or more luminaires that are not required to be turned on simultaneously for a task	1c
d) Area that are over-provided with lighting	1d
e) Conventional ballasts used for fluorescent lamps	1e
f)*	1f
g)*	1g
2. Air Conditioning:	
a) Doors or windows are open when air conditioning is operating	2a
b) Temperature setting is unnecessary low for summer and high for winter	2b
c) Air filter is not cleaned regularly	2c
d) Condensation outside air duct	2d
e) Chilled water leakage	2e
f)*	2f
g)*	2g
3. Appliances:	
a) TV is left turned on when the room is vacant	3a
b) Transformers for appliances such as modem, mobile phone chargers to be de-energised when unused	3b
c) Ventilation fan is turned on unnecessarily	3c
d)*	3d
e)*	3e
4. Water	
a) Hot water piping not properly insulated	4a
b) Leakage in shower head or water tap	4b
c) Water heater turned on unnecessarily	4c
d)*	4d
e)*	4e
5. Others*	
a)	5a
b)	5b
c)	5c
d)	5d
e)	5e
f)	5f
g)	5g
h)	5h
i)	5I
j)	5j

* To be filled in by the auditor as necessary

