

Implementation of The Hong Kong Voluntary Energy Efficiency Labelling Scheme

1. INTRODUCTION

This paper presents the background, development and implementation processes of the Hong Kong Voluntary Energy Efficiency Labelling Scheme (EELS), which is administered by the Electrical & Mechanical Services Department of the Government of the Hong Kong Special Administrative Region.

2. BACKGROUND

In April 1991, the former Energy Efficiency Advisory Committee (EEAC) was set up to advise Hong Kong Government on the broad direction of the energy efficiency policy for Hong Kong. The EEAC recommended that consideration should be given to the introduction of an energy labelling system for electrical household appliances and the Government endorsed this recommendation in March 1992. Subsequently an Energy Efficiency Labelling Working Sub-Group was formed to look into how a labelling system could be developed in Hong Kong. The sub-group comprised of representatives from the Hong Kong Consumer Council, the two electricity utilities in Hong Kong and relevant government departments.

The Electrical & Mechanical Services Department (EMSD), being the executive department entrusted with the implementation of energy efficiency initiatives, is responsible for the launching of the voluntary Energy Efficiency Labelling Scheme (EELS).

3. OBJECTIVES OF THE SCHEME

The scheme aims to achieve:

- (a) Purchase Information – consumers have pre-purchase information on energy consumption and efficiency data to select more energy efficient products.
- (b) Environmental Awareness – greater public awareness of energy conservation and environmental issues.
- (c) More Energy Efficient Products – stimulate manufacturers/market to phase out less energy efficient models.
- (d) Energy Saving – achieve energy saving and environmental improvement.

4. DEVELOPMENT PROCESS

Activities relating to the development of EELS can be grouped into seven processes and criteria as listed below:

- (a) Selection of Electrical Appliance Types for EELS

The appliance groups selected for EELS should have significant sales, there should be effective energy saving options available and the product should have a recognized international testing standards for energy consumption and performance. The products selected for EELS are generally those purchased by consumers themselves and where

they pay for the energy operating costs of the appliance.

(b) Establishment of Testing Methodology

The relevant international standards are used for measurement of the energy consumption and performance requirements specified by each scheme. Moreover, material and workmanship shall comply with the Electrical Products (Safety) Regulation and relevant IEC Safety Standards (mainly IEC60335 series).

Currently, the following standard specifications are being adopted in the EELS:

EELS Appliance	Standard Specifications
Refrigeration Appliances	ISO 8187; ISO 8561; ISO 7371; ISO 5155
Room Coolers	ISO 5151:1994 (E)
Washing Machines	IEC 456:1994 [#] (horizontal drum type); JIS C 9606:1997 (impeller or agitator type)
CFLs	IEC 60969:1988; IEC 60901:1996; CIE 84:1989
Electric Clothes Dryers	IEC 61121:1997
Electric Storage Water Heaters	IEC 60379:1987
Photocopiers	Generally in line with U.S. Energy Star Programme for office equipment

(c) Establishment of Energy Efficiency Grading Criteria

The energy consumption measured in accordance with the relevant test procedure is used to derive the energy efficiency index of an appliance. To make the concept of appliance energy efficiency more readily understood by ordinary consumers, an appliance energy efficiency grade has been developed which links the energy consumption index to one of the 5 grades adopted by the EELS, with Grade 1 being the most energy efficient and Grade 5 the least energy efficient.

(d) Accreditation of Testing Facilities

The basic accreditation requirements for recognizing test laboratories are based on ISO/IEC 17025– General requirements for the competence of testing and calibration laboratories (formerly known as ISO/IEC Guide 25).

In this respect, the Authority administering EELS (i.e. EMSD) accepts the following arrangements with regard to laboratory accreditation:

- (i) Test results and certificates issued by laboratories endorsed by HOKLAS or a scheme with which the Hong Kong Laboratory Accreditation Scheme (HOKLAS) has a mutual recognition agreement; **or**

[#] The IEC 456:1994 is stated in the current EELS for washing machines. Revision to IEC 60456 will be made when the subject scheme is revised in due course.

- (ii) Self-certification by original manufacturers with laboratories satisfying ISO/IEC 17025 and the accreditation requirements (i.e. the relevant international standards used for measurement of the energy consumption and performance requirements specified by each scheme).

The Authority will also consider the following arrangements:

- Self-declaration by an original equipment manufacturer that the operations of their in-house laboratories generally follow the requirements of ISO/IEC 17025; **and**
- The manufacturers currently operate and are accredited to a recognized international quality system (such as ISO 9001); **and**
- The manufacturer's in-house laboratories have been successful in carrying out tests based on relevant international standards and where these tests have been evaluated and certified by an internationally recognised third party certification organisation.

(e) Preparation of Scheme Document for Consultation

A scheme document outlining the requirements of the EELS for the selected appliance is drafted by incorporating the testing standards, testing methodologies, grading criteria and application procedures and is distributed to the relevant trade, institutions, appropriate task groups, etc. for consultation. Also, draft copy of the scheme document is sent to the World Trade Organization (WTO) for comment and notification.

(f) Incorporation of Comments

Comments provided by the parties mentioned in item (e) above are considered for incorporation into the finalised scheme document.

(g) Product Coverage

Since its introduction in 1995, EELS has been progressively expanded to cover seven products including six domestic household electrical appliances and one type of office equipment. EMSD launched the EELS for refrigeration appliances in June 1995, room coolers (air conditioners) in June 1996, washing machines in December 1997, compact fluorescent lamps (CFLs) in December 1998 and electric clothes dryers in December 1999. In December 2000, two new EELS were launched: household electric storage water heaters and photocopiers. Initially, the scope of EELS was only applicable to household electrical appliances. However, the recent incorporation of

photocopiers is an important step forward to further extend the coverage of the scheme to include office equipment.

5. LABELLING SYSTEM CLASSIFICATION

In general, energy labels contain energy consumption data, an energy efficiency grading and other relevant data such as capacity or performance of the product which carries the label; these are known as 'Grading Type' labelling system. Household electrical appliances that are grouped under this type of system in Hong Kong include refrigeration appliances, room coolers, washing machines, electric clothes dryers and electric storage water heaters.

In contrast, the range of energy efficiency performance of different CFLs and photocopiers is generally small so it is not appropriate to classify them into different energy efficiency grades. As such, energy labels for CFLs and photocopiers are grouped under a 'Recognition Type' labelling system, in which information about energy efficiency grades is not provided. However, 'Recognition Type' energy labels recognise the labelled products have met the minimum energy efficiency and performance requirements specified under the EELS.

7. IMPLEMENTATION PROCESS

(a) Application

All manufacturers, importers and the other parties involved in the relevant appliance distribution network are welcomed and encouraged to participate in the scheme. When making an application, details of each make and model shall be provided as well as a test report issued by an accredited or recognized laboratory. The test report should contain energy consumption test and performance test results to the relevant specification. The applicant is usually notified of the result of the application within 20 working days upon receipt of all necessary information.

(b) Technical Assessment of Application

On receipt of the application, the Authority will process the application and verify whether the appliance meets the energy efficiency and performance requirements based on the submitted data. In addition, the test procedures used by the applicant and laboratory's accreditation will also be assessed.

(c) Registration

If the application is accepted, the participants will then be allowed to affix the energy label onto the 'registered' appliance. Both manufacturer and importer of the registered appliance should ensure that the energy labels are correctly printed and affixed on the appliance in accordance with the requirements stipulated by the EELS. The EELS Registration Records posted at the EMSD Homepage will also be updated for public and related parties for information.

(d) Participant's Duties, Responsibilities & Obligations

The participant is obliged to

- ☛ Produce and affix labels at his own cost
- ☛ Publicise to his distribution network information on the registered model
- ☛ Allow Random/Ad-hoc inspection at his premises by the Authority
- ☛ Conduct re-test(s), if requested by the Authority, at his own cost
- ☛ Inform the Authority of any change in the technical information and data of the registered appliance
- ☛ If de-registered, remove all labels from retail outlets within three months

(e) Compliance Monitoring and Inspection

To uphold the credibility of the scheme and to maintain the ongoing confidence of consumers, compliance checks to verify the energy labelling data for those appliances participating in the scheme are undertaken. The scopes of compliance inspections include sample checking and testing of the following elements: -

- ☛ Energy label is placed on the registered appliance in a prominent position;
- ☛ Energy label being displayed is the correct format;
- ☛ Information on the energy label accords with the registration record held by the Authority;
- ☛ The original data submitted by the participants are verified when the appliance is checked by random re-testing; and
- ☛ Any unauthorized use of energy labels.

(f) Legal Provisions

The EELS is a voluntary scheme. However, a participant who abuses the scheme by giving false information on a label may contravene provisions of the Trade Description Ordinance. Moreover, no one can take advantage of the scheme by using the label on his appliances without authorization of the Authority, as this may constitute an infringement of copyright under the Copyright Ordinance.

(g) Complaints and Appeal

The Authority will be responsible for dealing with complaints from participant and other parties against matters related to the scheme. The Authority shall carry out a preliminary investigation on complaints and respond to the complainants within a reasonable time. On the other hand, a participant who is aggrieved by a decision or action taken by the Authority may appeal to the Director in writing stating the reason for the appeal. The Director may decide to suspend the decision or action given by the Authority from the day on which the appeal is made until such appeal is disposed of, withdrawn or abandoned. Subsequent to the investigation findings, the Director shall notify the appellant of his decision and reasons for it.

(h) Maintenance of Scheme

To ensure that the scheme can continue to operate effectively and efficiently after its introduction, a proper system of maintenance is needed. The maintenance system consists essentially of:

- ☛ Continuous updating of the lists of participants and products in the scheme;
- ☛ Periodic review of the test methodology, and administrative procedures for

application registration and compliance monitoring, etc., to bring them in line with the latest needs of the manufacturers, importers and retailers, etc.;

- Continuous evaluation of the effectiveness of the scheme and assessment of what changes are necessary;
- Carrying out scheme promotion activities such as conducting talks/seminars, distribution of scheme documents and leaflets, inspection of testing laboratories, etc.

8. CONCERNS EXPRESSED BY THE TRADE

The responses on the scheme are encouraging and its effectiveness is recognised. In 1999, the market penetration of labelled models with respect to total models in the market for CFLs, room coolers, refrigerators and washings machines were about 30%, 50%, 50% and 10%, respectively. Nevertheless, the trade has expressed some concerns as follows:

- (a) The general public's environmental awareness is still generally low and as a consequence the consumer preference for energy-efficient products is still quite low.
- (b) There is a high cost for the required energy performance testing as most tests are carried out in overseas accredited testing laboratories.
- (c) Some products have market sizes that are too small to permit local agents to bargain effectively for the supply of energy-efficient products.
- (d) High administrative effort involved for the trade.

9. FUTURE DEVELOPMENT

It is hoped that following implementation of the EELS, that the market response will be the gradual phase out of appliances of low efficiency, the raising of public awareness of the value of purchasing and using energy-efficient products and as a result energy conservation in Hong Kong will be much improved. Future program coverage of new EELS may shift in emphasis from household appliances to other areas such as office equipment and other equipment types (e.g. labelling scheme for passenger cars). Moreover, further improvement of the scheme by adopting more stringent testing requirements and revision of the grading systems to become more stringent will also be considered. The need for the introduction of a mandatory energy labelling scheme as well as minimum energy efficiency requirements is under careful consideration in the light of the results and experiences gained in the present voluntary labelling scheme.

10. RELEVANT WEB SITES

Web Sites	Description
www.emsd.gov.hk	EMSD, Government of the Hong Kong Special Administration Region
www.info.gov.hk/itc/eng/quality/hkas	Hong Kong Accreditation Services, Innovation and Technology Commission, Government of the Hong Kong Special Administration Region
www.iec.ch	International Electrotechnical Commission
www.jsa.jp	Japanese Standards Association
www.energystar.gov	Energy Star

www.iea.org	International Energy Agency
autosmart.nrcan.gc.ca	Office of Energy Efficiency of Natural Resources Canada

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