
The Hong Kong Voluntary Energy Efficiency Labelling Scheme for Electric Clothes Dryers

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Energy Efficiency  **EMSD**

Electrical & Mechanical Services Department

3 Kai Shing Street, Kowloon, Hong Kong

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

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1. Purpose

This set of document is intended to give a general description on the introduction of the Hong Kong Voluntary Energy Efficiency Labelling Scheme (EELS) for Electric Clothes Dryers.

2. Background

The Nature of EELS

- 2.1 The EELS is an energy conservation initiative that the Government of the Hong Kong Special Administrative Region (HKSAR) has adopted. Under the scheme, some common types of household appliances and office equipment will incorporate an energy efficiency label that serves to inform consumers of the product's energy consumption and efficiency. Consumers should then be able to take those factors into account in making their purchasing decision.

Objectives of EELS

- 2.2 The concept of EELS has been developed and implemented in several forms and in different stages of development. In some countries, it is a compulsory requirement for certain kinds of electrical appliances to be provided with an energy label before they can be put on the market. The labelling requirements may apply to equipment such as household refrigerators, freezers, washing machines, room coolers, clothes dryers, CFLs, storage water heaters, etc. The EELS generally aims to achieve the following:
- Greater public awareness of energy conservation and environmental improvement needs;
 - Provision of readily available, pre-purchase information on energy consumption and efficiency data to enable ordinary consumers to select more energy efficient products;
 - Stimulation to the manufacturers/market for phasing out less energy efficient models; and
 - Actual energy savings and environmental improvements etc.

2.3 Hong Kong also aims at achieving the above objectives and the Hong Kong Voluntary EELS now covers nineteen types of household appliances and office equipment. Eleven types of which are electrical appliances including refrigerators, room coolers, washing machines, non-integrated type compact fluorescent lamps, electric clothes dryers, electric storage water heaters, electric rice-cookers, dehumidifiers, televisions, electronic ballasts and LED lamps. The seven types of office equipment include photocopiers and multi-function devices, laser printers, LCD monitors, computers, fax machines and hot/cold bottled water dispensers. There is also one type of gas appliance for domestic gas instantaneous water heaters. The scope of EELS has also been extended to cover petrol passenger cars.

3. Scope

- 3.1 The scheme will only apply to the manufacturers and importers (local agents, retailers and the related parties) who have participated in the voluntary scheme.
- 3.2 The scheme was launched on 28 December 1999 and energy labels will expire on 31 December 2014 when re-registration is necessary.
- 3.3 The scope of application covers all **new** registered appliances imported to or manufactured in Hong Kong with effect from the date that is declared by the participant but does not cover second-hand products, products already in existing use, under trans-shipment or manufactured for export, etc.
- 3.4 Clothes Dryers under this labelling scheme apply to electrically operated Clothes Dryers that have drying capacity normally **not exceeding 10 kg** for household use. Appliances that have larger capacity, or for industrial use, or those using non-electric energy sources are excluded.
- 3.5 This labelling scheme also applies to the household electric clothes dryers of the air vented and condenser types, with or without automatic stop function for the drying process, and incorporating a heating device.
- 3.6 This labelling scheme does not apply to clothes dryers of cabinet type in which the heated air is blown to dry the hanged clothes and is exhausted through an outlet channel.

4. Definitions

Unless otherwise specified, the following definitions shall apply throughout this document:-

<i>appliance</i>	means household clothes dryers described under Section 3 (Scope) of this scheme
<i>authority</i>	means the Electrical and Mechanical Services Department, the Government of the Hong Kong Special Administrative Region
<i>clothes dryer</i>	means a machine in which the textile material is dried by tumbling in a rotating drum, through which heated air is blown.
<i>cotton base load</i>	means the combination of cotton sheets, pillowcases and hand-towels conforming to the IEC 61121 Edition 3.1 2005-07.
<i>director</i>	means the Director of Electrical and Mechanical Services.
<i>easy care textiles</i>	means the textiles being produced by the use of fibres and treatments aimed to decrease the need for ironing.
<i>government</i>	Means the Government of the Hong Kong Special Administrative Region.
<i>air vented clothes dryer</i>	means the clothes dryer with a fresh-air intake which is heated and drawn or blown over the textile material and where the resulting moist air is exhausted into the room or vented outside.
<i>condenser clothes dryer</i>	means the clothes dryer in which the air used for the drying process is dehumidified by cooling.
<i>cycle</i>	means complete drying process, as defined by the programme selected, consisting of a series of different operations (heat,

cool down etc.).

inspecting officer means the officer authorized by the director to carry out inspection on appliances.

label means the energy label as described in Section 8.

participant means the manufacturers, importers or the retailers of appliance participating in the scheme.

rated capacity means the maximum mass of dry textile material, in kilogrammes, which the manufacturer declares can be treated in a specific drying operation

rated frequency(ies) means the frequency(ies) shown on the nameplate of the equipment.

rated voltage(s) means the voltage(s) shown on the nameplate of the equipment.

recognized laboratory means a laboratory that complies with the requirements as stated in Section 9 and is acceptable to the Authority for carrying out tests and issuing test reports on clothes dryers.

Scheme means the Hong Kong voluntary energy efficiency labelling scheme for electric clothes dryers

drum volume means the inside volume, in litres, of the drum in which the textile material is placed, after subtraction of ribs or other inward protrusions, etc.

5. Appliance Classification

Basic Requirements on Classification

- 5.1 The classification of appliances shall be based on a common set of conditions so that meaningful comparison can be made. These basic requirements must cover the most vital aspects of the clothes dryers and shall ensure that consumers are provided with unambiguous information.

Physical Configuration

- 5.2 Electric clothes dryers under this Scheme are classified according to their working principle and physical configurations as follows: -
- (a) Air vented clothes dryer
Clothes dryer with a fresh-air intake, which is heated and drawn or blown over the textile material and where the resulting moist air is exhausted into the room or vented outside.
 - (b) Condenser clothes dryer
Clothes dryer in which the air used for the drying process is dehumidified by cooling.

Operating Functions on Drying Process

- 5.3 In addition to the above, clothes dryers are also classified according to their operating function as follows: -
- (a) Automatic stoppage
Clothes dryer, which switches off the drying process when a certain moisture content of the load is reached.
 - (b) Non-automatic stoppage
Clothes dryer, which does not switch off the drying process when a certain moisture content of the load is reached.

Overall Classification

- 5.4 All clothes dryers are proposed to be evaluated based on the above mentioned classification and categorized in accordance with Table 1: -

Table 1 Overall Classifications

Type	Function	Category	Description
Air vented	Automatic stoppage	1	Air vented type tumble dryer with automatic stoppage function
	Non-automatic stoppage	2	Air vented type tumble dryer with non-automatic stoppage function
Condenser	Automatic stoppage	3	Condenser type tumble dryer with automatic stoppage function
	Non-automatic stoppage	4	Condenser type tumble dryer with non-automatic stoppage function

6. Test Methodology & Standard

6.1 Clothes dryers can have varied designs and features. Besides load capacity, their drying programmes are also different and many are selectable by the operator. For example, temperature setting, drying time, and moisture control; etc. can all be modified according to the user's needs. Virtually all these aspects would affect the energy consumption of the machine. Therefore a common base is critical for measuring the electrical consumption of such machines. The testing methodology is modelled in accordance with IEC 61121 Edition 3.1 2005-07 standard, entitled "Tumble dryers for household use - Methods for measuring the performance".

Rated Capacity

6.2 The clothes dryers are required to be tested at their rated capacity, which the manufacturer declares can be treated at specific drying operation or cycle of operations. If the manufacturer has not stated the rated capacity, a calculated value would be adopted based on the ratio of per kg dry textiles and the preset usable volume of the drum according to the aforesaid standard. The value shall be in kilogram (kg).

Standard Base Loads

- 6.3 The measurement requires the use of standard cotton base load. The load is made up of a load of textile material conforming to the specifications as specified in IEC 61121 Edition 3.1 2005-07 approximately equal to the rated drying capacity.

Measurement of Energy Consumption

- 6.4 The testing methodology for measurement of energy consumption is based on the IEC 61121 Edition 3.1 2005-07 standard.

The energy consumptions of the appliance shall be measured during the dry cotton programme with cotton base load specified in standard. The energy consumption in kWh shall be the arithmetic mean of the values measured for at least five test cycles. The energy consumption measured shall not be greater than the value declared by the manufacturer plus 10%.

Other Performance Requirements

- 6.5 The appliance shall be tested for conformity with the following performance requirements based upon the IEC 61121 Edition 3.1 2005-07 standard and the results shall be stated in the test report to be submitted to Energy Efficiency Office:
- (a) Programme time;
 - (b) Condensation efficiency applicable for the condenser type clothes dryer;
 - (c) Drying evenness; and
 - (d) Water consumption.

Methodology on Energy Efficiency Comparison

Specific Energy Consumption (E_{sp})

- 6.6 Appliance energy efficiency is expressed as specific energy consumption defined as the energy consumption per unit of rated drying capacity. Therefore, an energy efficient appliance is associated with a low value of the specific energy consumption. The specific energy consumption shall be in kWh/kg/cycle.

Average Appliance Energy Consumption (E_{av})

- 6.7 The Average Specific Energy Consumption data established are shown in Table 2.

Table 2: Average Specific Energy Consumption

Appliance Category	Average Specific Energy Consumption (kWh/kg/cycle)
Category 1 & 2	$E_{av} = 0.81$
Category 3 & 4	$E_{av} = 0.86$

7. Energy Efficiency Grading

7.1 The availability of Table 2 enables formulation of a methodology to calculate the energy efficiency indices and the appliance efficiency grading. The methodology entails ultimate like-with-like meaningful comparison.

Energy Efficiency Indices (I_e)

7.2 The energy efficiency index (I_e) of an appliance is defined as the ratio of the actual specific energy consumption of the appliance to the average specific energy consumption. The indices are expressed in percentages. Thus, by comparing the energy efficiency indices, all appliances can have meaningful comparison of their energy efficiencies. In other words, within a category appliance that has a lower energy efficiency index (i.e. lower percentage) consumes less energy than an appliance of higher energy efficiency index (i.e. higher percentage). The energy efficiency index is calculated as follows: -

$$\text{Energy Efficiency Index } (I_e) = \frac{E_{sp}}{E_{av}} \times 100\% \dots\dots\dots(\text{eq.1})$$

Where

E_{sp} = the actual appliance “Specific Energy Consumption” obtained from energy consumption test per rated drying capacity.

E_{av} = Average Specific Energy Consumption as determined from Table 2.

Appliance Energy Efficiency Grading

7.3 To make the concept of appliance energy efficiency more readily understood by ordinary consumers, appliance energy efficiency grade is introduced by linking the energy consumption index (percentage) to the 5 grades as shown in Table 3, with Grade 1 being the most energy efficient and Grade 5 the least.

Table 3 Converting Energy Consumption Indices to Energy Efficiency Grades

Energy Consumption Index : I_{ϵ} (%)	Energy Efficiency Grade
$I_{\epsilon} \leq 80$	1
$80 < I_{\epsilon} \leq 95$	2
$95 < I_{\epsilon} \leq 110$	3
$110 < I_{\epsilon} \leq 125$	4
$125 < I_{\epsilon}$	5

- 7.4 An example illustrating the method on how to determine the energy efficiency grade of an appliance is shown in Annex 1.
- 7.5 A flow chart for developing the complete appliance energy efficiency grading is shown in Annex 2.
-

8. Energy Label

A self-adhesive label should be used.

Label Location

- 8.1 The label should be affixed to the appliance at a prominent location and should be easily visible. The participant should ensure that the label appears on every registered appliance on display, sale or hire.

Colour Scheme & Dimensions

- 8.2 The label should be printed on self-adhesive paper or material that is approved by the Director used with white-coloured background and should have colour schemes and dimensions as shown in Annex 3. It should be printed in English and in Chinese. Soft copy of this label can be obtained from Energy Efficiency Office, Electrical and Mechanical Services Department (EMSD).

Label Quality

- 8.3 The paper or material that is approved by the Director used for the energy label should be durable and possess good wear and tear characteristics. It should stick tightly on the appliance and can be removed easily when needed

Information on the Label

- 8.4 The information that appears on the label should accord to the label format and meanings as indicated in the Annex 3.

9. Testing Facilities, Laboratories & Accreditation Bodies

- 9.1 The Authority will accept the results and certificates issued by the test laboratory, which fulfills one of the following criteria as specified in Clause 9.2, 9.3.
- 9.2 The laboratory is accredited to IEC 61121 Edition 3.1 2005-07 "Tumble dryers for household use - Methods for measuring the performance". The laboratory is accredited by the Hong Kong Accreditation Service (HKAS) for the relevant test under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or a scheme with which HKAS has concluded a mutual recognition agreement#; and the results are issued in a test report or certificate bearing the accreditation mark.
- 9.3 The Authority will also consider the following arrangements:
- (a) Self-certification by original manufacturers that the operations of their in-house laboratories satisfy the requirements of ISO/IEC 17025; and
 - (b) The manufacturers are currently operating according to a recognized international quality system (such as ISO 9001); and
 - (c) The manufacturer's in-house laboratories had been successful in carrying out energy consumption tests on clothes dryers based on IEC 61121 Edition 3.1 2005-07 or other internationally recognized clothes dryer standards and where these tests had been evaluated and certified by internationally recognised independent certification organizations.
- 9.4 The recognized internationally recognised independent certification organizations mentioned in Clause 9.3 shall meet the following minimum requirements-
- (a) Being recognized internationally to be competent for certifying product energy efficiency performance tests;

(b) Having experience in assessing and certifying the relevant energy efficiency performance tests; and

(c) Having well established assessment procedures, including staff training and assessment criteria, relating to assessment and certification of energy efficiency performance tests.

HKAS has concluded mutual recognition arrangements with overseas accreditation bodies for testing laboratory accreditation. The list of mutual recognition arrangement partners may change from time to time and the up-to-date list is available from the HKAS website of www.info.gov.hk/itc/hkas. Partners to these arrangements recognise the accreditations granted by one another as equivalent.

10. Registration & Participation

Registration Procedures

10.1 All manufacturers, importers and the other parties involved in the appliance distribution network are welcomed and encouraged to participate in the scheme. For some known manufacturers and importers, invitation letters will be issued to them. However, any party may submit their applications for registration no matter whether they are invited or not.

10.2 The proforma letter of invitation is shown in Annex 4.

10.3 Applicant should submit formal application to
*Chief Engineer/Energy Efficiency A
Energy Efficiency Office
Electrical and Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong*

by means of an application letter through mail, facsimile or electronic mail. In order to ensure effective implementation of the scheme, the applicant must commit himself to fully comply with the duties, responsibilities and obligations set out in this scheme. The proforma letter of application as shown in Annex 6 details the aforesaid obligations and should be used for application. To facilitate the application process, the application form can be downloaded from EMSD website.

Information/Documents to be Submitted for Registration

10.4 Each make and model of an appliance participating in the scheme should be provided with a test report issued by a recognized laboratory. The test report should contain energy consumption tests and performance test results. The details of the technical information to be submitted together with the application are listed as follows:-

- a) Information on the company
Name, Address, Telephone number, Fax, E-mail Address, Contact person, Importer, Distributor etc.
- b) Product to apply for participating in the scheme:
Name of products, types, makes, models, countries of origin
- c) Which parties will be responsible for making and fixing the Energy Label
- d) Commencement date to affix label on appliance
Year____ , Month_____
- e) Completion of the Information stated in the Energy Label for each product including the following:
Brand (English & Chinese)
Model
Country of Origin
Appliance Category
Annual Energy Consumption
Energy Efficiency Grade
Drying Capacity
Water Consumption (if applicable)
- f) Supporting Technical Information and Calculations
Test reports: -
Energy Consumption Test*
Performance Tests

Note: All photocopy test reports submitted to the office should be certified true copy by appropriate organization.

(* For test reports which indicate the measured energy consumption is 10% more than the rated value, additional test reports for the same model may be required.)

Calculations:-

Energy Consumption Index

Energy Efficiency Grading

g) Miscellaneous Technical Information:

Product information catalogue

Information of driving motor

Information of the heater

Brand & model of the reference clothes dryer

Others

h) Certificate of Safety Compliance prescribed by the Electrical Products (Safety) Regulation.

Note: Company's name and chop should be stamped on all the documents provided.

The above information can also be found in Annex 5.

Acceptance of Registration

10.5 On receipt of the application, the Authority will process the application and verify whether the appliance to be registered falls into the appropriate appliance category, and the energy efficiency grade is correctly obtained based on the submitted data. The accuracy of the energy consumption data and the drying performance, their inconsistencies and non-compliance will be dealt with in accordance with Section 12.2.

10.6 If the application is accepted, the participants will be notified of the result in writing within 17 working days. The participants will then be allowed to affix the energy label onto the 'registered' appliances. Both manufacturer and importer of the registered appliance should ensure that the energy label is correctly printed and affixed on the appliance in accordance with Section 9. The proforma letter of acceptance is shown in Annex 7.

10.7 If the application is rejected, the notification letter as shown in Annex 8 will also be given within 17 working days upon receipt of all necessary information requested.

10.8 The flow chart for registration is shown in Annex 9.

Participant's Duties, Responsibilities and Obligations

10.9 The participant is obliged to:-

- a) submit application and information including test results in accordance with format & procedures set out in section 10.4;
- b) conduct tests via recognized laboratories and to comply with the specified test methodology and classification scheme;
- c) produce and affix labels at his own costs;
- d) fully inform other sales agents in his distribution network once the particular make and model of an appliance is registered;
- e) allow random/ad-hoc inspection to be conducted by persons authorized by the Authority on registered appliance at his premises;
- f) conduct re-test(s) at his own costs at some recognized laboratories, if the results of inspection suggest inaccurate energy label information being displayed. The result of re-test(s) shall reach the Authority within the prescribed period of time specified by the Authority;
- g) inform the Authority of any change in the technical information and data that were previously submitted to the Authority together with the application letter;
- h) accept the fact that if appliance fails to perform in accordance with the required standard performance as given in Sections 6 & 7 and this cannot be readily rectified, the Authority may order it be de-registered from the scheme; and
- i) remove all labels from appliances which had been de-registered immediately.

10.10 The details of the registered appliances will be kept in a register maintained by the Authority. The registration records will be regularly uploaded and maintained in the EMSD Internet for public and interested parties for access and information.

Termination

10.11 Under circumstances of poor performance such as:

- a) (repeated) failure to fulfill obligations set out under section 10.9;
- b) once false or inaccurate or misleading information is given on a label; or
- c) in any other case where the Director is of the opinion that registration of an appliance is contrary to the public interest,

the Authority may de-register a registered appliance with immediate effect by giving the participant notice in writing. Once an appliance is de-registered, no one is allowed to fix a label on it.

De-registration may occur even when there is no legal action taken under either the Trade Description Ordinance (Chapter 362) or the Copyright Ordinance (Chapter 528).

- 10.12 Participant who decides to discontinue participating in the scheme or to withdraw any registered model from the registered appliances list shall give at least three months' advance notice to the Authority.

11. Legal Provisions

- 11.1 This 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 (Chapter 362).
- 11.2 No one could take advantage of the scheme by using the label on his appliances without authorization of the Authority as that may constitute an infringement of copyright under the Copyright Ordinance (Chapter 528).

12. Compliance Monitoring & Inspection

Purpose

- 12.1 To uphold credibility of the scheme and to maintain continuous confidence of the consumers, compliance check on energy labels on those appliances participating in the scheme are needed. Also to avoid the unsatisfactory situation that the non-participating parties taking advantage of the scheme by using unauthorized labels, suitable form of inspection on those unregistered appliances will also be required.

Scope

- 12.2 The scope of inspection includes sample **checking** and **testing** the following items:-
- a) whether energy label is in fact placed on the registered appliance;
 - b) whether energy label on the registered appliance is in a prominent position;

-
- c) whether energy label being displayed is of correct format in accordance with Section 8;
 - d) whether the information on energy label accords with record;
 - e) whether the registered appliance complies with the energy consumption and performance requirements;
 - f) whether the data submitted by the participants are correct by random re-testing; and
 - g) whether unregistered appliances display unauthorized energy labels.
- 12.3 The participants will be requested to take immediate remedial action and report the follow-up action taken if non-compliance is found on their appliances.
- 12.4 The measured drying capacity of the appliance shall be within $\pm 10\%$ of the rated capacity.
- 12.5 For a registered appliance which is found giving inaccurate energy performance data (i.e. discrepancy between the registration data and test result is more than 10%) on the label during random checking, the Authority may request the participant to conduct separate energy consumption test at his own cost, in accordance with the test methodology as stated in Section 6 in one of the testing laboratories agreed by the Authority. In case the energy grading is found lower than the declared energy grading in 2 levels different or more, the test should be carried out further on at least three similar appliances. The energy grading from the average of these three appliances should be the same as the declared grading level. Otherwise, the Authority will require the participant to take appropriate remedial action including replacing a label with correct value for the registered appliance.
- 12.6 If a registered appliance carrying correct information energy label but found not meeting the performance test specified in accordance with the performance tests stipulated in the agreed standards as stated in Section 6, the participant will also be requested to repeat the performance tests by an agreed testing laboratory. If significant sub-standard performance is found on the appliance and this cannot be readily rectified, the Authority may order it be de-registered from the scheme. Failure to remove labels from the de-registered appliances after the Director has withheld his authorization for using such labels may contravene the relevant ordinances.

Inspecting Officers

- 12.6 The Authority will authorize inspecting officers to carry out appliances compliance monitoring and inspection. The officers will carry proper identification cards which will be produced on

request during their inspection operations. However, the officer will not inform the participants in advance of their intended inspection operation.

12.7 It is the participants' duty to allow the inspecting officers to gain access to their premises to carry out inspection.

Mode of Inspection

12.8 Inspections will be carried out on registered appliances on random basis. Based on the record of the registration, random inspection programmes will be developed. Initially, at least one specimen of each type of registered appliance will be randomly checked or tested once every year depending on availability of resource and the number of registered appliances.

12.9 In addition to the random inspections, the inspecting officers will carry out ad-hoc inspections in response to complaints. The items to be inspected in such a case will depend upon the nature of complaint and may include all types of inspection as stated in Section 12.2.

12.10 Inspections will normally be carried out at the retail outlets and appliances showrooms. Where necessary, inspection will also be done at warehouses.

12.11 The inspection results will be properly recorded for future analysis as well as on evaluation of the effectiveness of the scheme.

13. Complaints and Appeal

13.1 The Authority will be responsible for dealing with complaints from participant and other parties against matters related to the scheme.

Complaints Handling Procedure

13.2 The Director shall ensure that complaints are properly recorded and handled without undue delay.

13.3 The Authority shall carry out preliminary investigation on complaints and reply to the complainants within a reasonable time. For complaints that require site inspection and laboratory test, the complainant shall be notified through an interim reply.

13.4 The Authority shall inform the complainant of the results or decisions made on the complaint.

Appeal Procedure

13.5 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.

13.6 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 unless such suspension would, in the opinion of the Director, be contrary to public interest.

13.7 The Director may by notice to the appellant require the appellant to attend before him or his representatives and provide documents and give evidence relevant to the appeal.

13.8 The Director shall notify the appellant of his decision and reasons for it. The decision will be final and binding.

14. Maintenance of Scheme

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

14.2 The maintenance system consists essentially of:

- a) Continuous updating of the lists of participants in the scheme as follows:
 - i) Registered appliances with details such as registration number, date of registration or de-registration if it occurs, energy consumption data, energy efficiency index, performance data, make, model, category and other related information; and
 - ii) Registered importers, manufacturers, local agents etc. in the distribution network with details such as address, date of registration or de-registration if it occurs, etc.
- b) Periodic review of the test methodology, and procedures for application registration and compliance monitoring, etc., to bring them in line with the latest needs of the manufacturers, importers and retailers, etc.
- c) Continuous evaluation of the effectiveness of the scheme and assessment of what changes are necessary.

15. Future Development

- 15.1 It is hoped that following implementation, the market will phase out models of low efficiency and public awareness of using energy efficient products and energy conservation will be much improved.
- 15.2 To further facilitate the public in choosing energy efficient appliances and raise public awareness on energy saving, the Government has introduced a mandatory Energy Efficiency Labelling Scheme (EELS) through the Energy Efficiency (Labelling of Products) Ordinance.
- 15.3 Under the mandatory EELS, energy labels are required to be shown on prescribed products for supply in Hong Kong to inform consumers of their energy efficiency performance. Five types of prescribed products covered in the mandatory EELS are room air conditioners, refrigerating appliances, compact fluorescent lamps, washing machines and dehumidifiers.

Example for Calculating the Energy Efficiency Grade

The given appliance is of Category 1 (i.e. Air-vented type tumble dryer with automatic stoppage function)

The following data are measured according to the recommended standard:

Rated drying capacity (C)	5 kg
Energy consumption (E)	3.5 kWh/cycle
Specific energy consumption (E_{sp}) = E / C	0.7 kWh/kg/cycle

The **Average Specific Energy Consumption** for Category 1 appliance as obtained from Table 2 in section 6 is 0.81 kWh/kg/cycle: -

$$E_{av} = 0.81 \text{ kWh/kg/cycle}$$

Energy Efficiency Index of the appliance $I \varepsilon = \frac{\text{Specific Energy Consumption}}{\text{Average Specific Energy Consumption}}$

$$I \varepsilon = \frac{E_{sp}}{E_{av}}$$

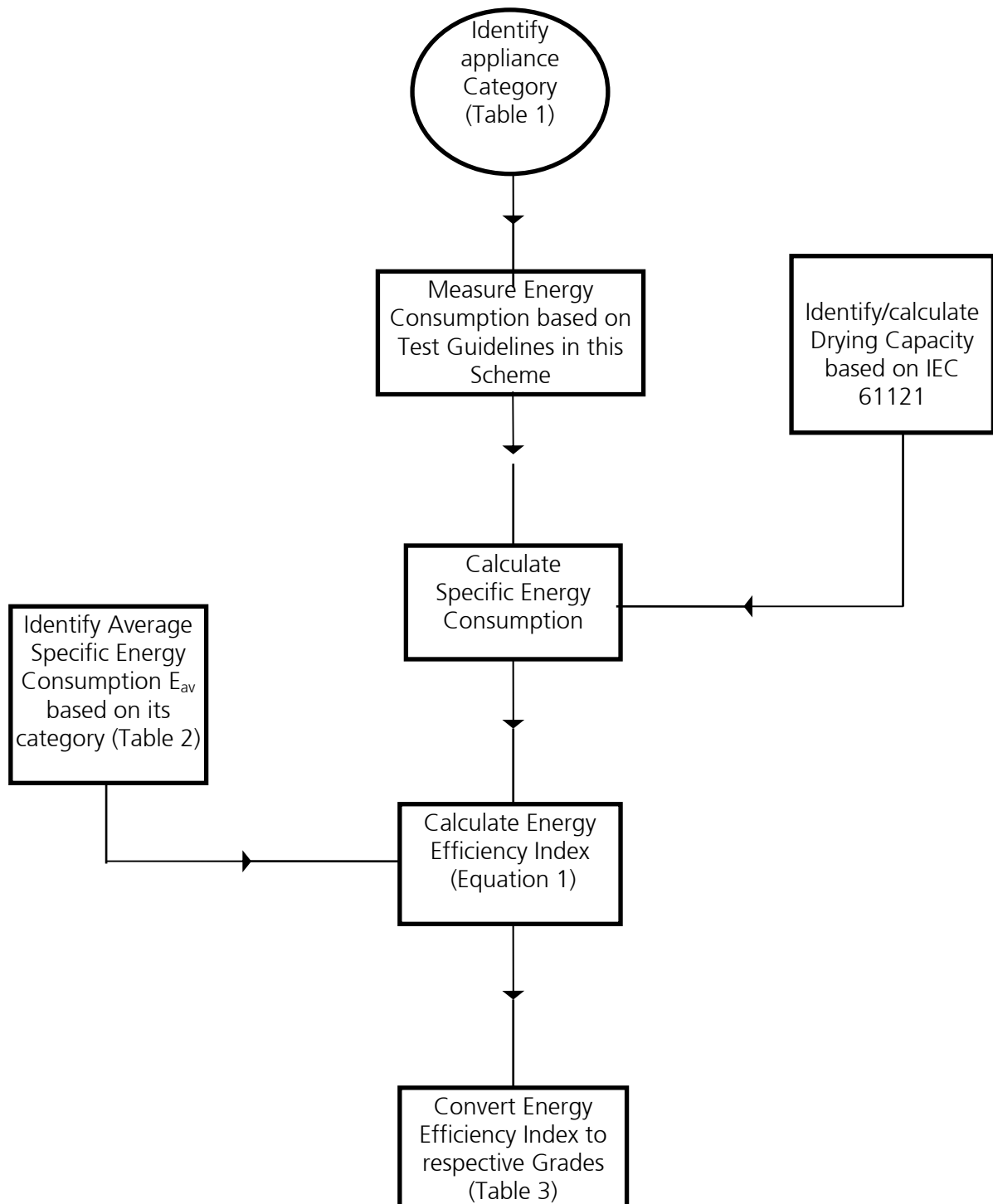
$$I \varepsilon = \frac{0.7}{0.81}$$

$$I \varepsilon = 86.4 \%$$

$$80\% < I \varepsilon \leq 95 \%$$

The value of energy efficiency index of the appliance is 86.4% which is higher than 80% but less than 95%. According to Table 3 in section 7, it should be rated as **Grade 2** appliance.

Flow Chart for Developing the Appliance Energy Efficiency Grade



Energy Label Format

← 100 mm →

150 mm

ENERGY LABEL 能源標籤	
Brand 牌子	ABC 某某牌
Model 型號	HK1234
Annual Energy Consumption * kWh/yr 每年耗電量 每年耗小時 <small>Actual consumption depends on where the appliance is located and how it is used. Based on 260 drying cycles per year. 其耗電量視乎乾衣機的安裝地點及使用方式。現假設每年乾衣260次。</small>	1063
Energy Efficiency Grade* 能源效益級別 <small>Among the five grades, Grade 1 is the most energy efficient. 在五級別中，第一級最為省電。</small>	1
Clothes Dryer Category * 乾衣機類別	3
Drying Capacity (kg) 乾衣量 (公斤)	5
Water Consumption (litre) 耗水量 (公升)	10
EEL Registration Number 能源標籤登記號碼	D 12-0001
<small>* The data are provided according to the Hong Kong Energy Efficiency Labelling Scheme for Electric Clothes Dryers administered by the Electrical and Mechanical Services Department (EMSD), Government of the Hong Kong Special Administrative Region. The registration record can be found at the EMSD website at www.emsd.gov.hk.</small> 資料根據香港特別行政區政府機電工程署推行的香港電乾衣機能源效益標籤計劃的規定列出。有關註冊記錄可查閱網址 www.emsd.gov.hk 。	
機電工程署 EMSD 	

Soft copy of this label can be obtained from Energy Efficiency Office, Electrical and Mechanical Services Department.

Proforma letter of Invitation

Our ref. () in EEO/LB/14
Your ref.

Tel:
Fax:

Date
[Name and Address of
Manufacturers/Importers/Agents]

Dear Sir/Madam,

Invitation of application for registration to participate in Voluntary Energy Efficiency Labelling Scheme for Electric Clothes Dryers

Having gone through the necessary consultations and duly considered the views from various concerned parties, the government has decided to introduce a voluntary energy efficiency labelling scheme for electric clothes dryers to Hong Kong with effect from (_____). The details of the scheme^① have been finalized and I enclose herewith a guide of the scheme* for your reference.

Being one of the major electric clothes dryer manufacturers / importers / agents^② in Hong Kong, you are invited to participate in the scheme so as to take part in promoting public awareness in energy conservation and environmental improvement to Hong Kong. If you are interested to participate in the scheme, please apply in accordance with the proforma letter of application (Annex 6) and submit details including technical information in accordance with the attached **Appendix to this letter** to the 'Chief Engineer/Energy Efficiency A' at the following address.

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

Please be reminded to submit accurate test data to support your application. Under this Scheme, routine compliance monitoring and checking will be performed and if a registered electric clothes dryer is found to be non-compliant, we may consider deregistering the electric clothes dryer from the Scheme.

Should you need further clarification or information, you are most welcome to contact the undersigned or Mr. _____, at the telephone number _____.

Yours faithfully,

for Director of Electrical & Mechanical Services

(Note : ^① 'scheme' means 'The Voluntary Energy Efficiency Labelling Scheme for Electric Clothes Dryer'
^② delete as appropriate)

Information to be submitted to Energy Efficiency Office

1. Information on the company
 - Name, Address, Telephone number, Fax, E-mail Address, Contact person, Importer, Distributor, etc.
2. Product to apply for participating in the scheme:
 - Name of products, types, makes, models, countries of origin
3. Which parties will be responsible for making and fixing the Energy Label
4. Commencement date to affix label on appliance
 - Year____ , Month_____
5. Completion of the Information stated in the Energy Label for each product including the following:
 - Brand & Model
 - Countries of origin
 - Appliance category
 - Annual energy consumption
 - Energy efficiency grading
 - Drying capacity
 - Water consumption
6. Supporting Technical Information and Calculations:
 - Test reports : - Energy Consumption Test
 Performance Tests

[All test reports submitted to the office should be certified true copy by appropriate organization.]

(* For test reports which indicate the measured energy consumption is 10% more than the rated value, additional test reports for the same model may be required.)

 - Calculations: - Specific energy consumption
 Drying capacity, if by calculation
 Energy consumption index
 Energy efficiency grading
7. Miscellaneous Technical Information:
 - Product information catalogue
 - Information of driving motor and heater
 - Others
8. Certificate of Safety Compliance prescribed by the Electrical Products (Safety) Regulation.

Note: Company's name and chop should be stamped on the all documents provided.

Proforma Letter of Application

Your ref. () in EEO/LB/14
Our ref.

Tel.
Fax

Date

Chief Engineer/Energy Efficiency A
Electrical & Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong

Dear Sir/Madam,

Application for Registration to Participate in Voluntary Energy Efficiency Labelling Scheme for Electric Clothes Dryers

Our company is the (manufacturer/importer/agent*) of _____ in Hong Kong. We support the introduction the labelling scheme to Hong Kong and would like to be one of the participants in the scheme to promote energy efficiency.

I understand fully the obligations and duties stated in the scheme and will comply with all relevant requirements, in particular those specified below:

- i) conduct tests via recognized laboratories and to comply with the specified test standards;
- ii) produce and affix specified labels at my own costs;
- iii) allow random/ad-hoc inspection to be conducted by persons authorized by the issuing Authority on registered appliance at my premises;
- iv) conduct re-test(s) at my own costs at some recognized laboratories, if the results of inspection suggest inaccurate energy label information being displayed. The result of re-test(s) shall reach the Authority within the prescribed period of time specified by the Authority;
- v) inform the Authority of any change in the technical information and data that were previously submitted to the Authority together with the application letter; and
- vi) accept the fact that if appliance fails to perform in accordance with the required energy efficiency standards and performance as given in Section 6 and this cannot be readily rectified, the Authority may order it be de-registered from the scheme.

The details of information of those appliances which we intend to register with the Authority are shown in the attached document (Annex 5) and are submitted herewith for your vetting.

Yours faithfully,

(Manufacturer/Importer/Agent 's Name and Company Chop)

* *delete as appropriate*

Proforma letter of Acceptance

Our ref. () in EEO/LB/14
Your ref.

Tel:
Fax:

Date

[Manufacturers/Importers/Agents

]

Dear Sir/Madam,

Acceptance of Application for Registration to Participate in Voluntary Energy Efficiency Labelling Scheme for Electric Clothes Dryers

With reference to your letter of ref. _____ dated _____, I am pleased to inform you that your application to participate in the captioned scheme has been accepted.

I enclose herewith the registration certificates of appliances registered. The registered appliances are as follows:

<u>Brand/Make/Model</u>	<u>Registration No.</u>	<u>Effective date</u>
()	()	()

You are allowed to affix a specified label onto each and every appliance registered under the scheme. The contents of the label should be based on the information that you have provided in the your application ref. _____ and dated _____.

Should you have any queries regarding the scheme, please contact this office.

Yours faithfully,

for Director of Electrical & Mechanical Services

Proforma letter of Rejection

Our ref. () in EEO/LB/14

Your ref.

Tel:

Fax:

Date

[Manufacturers/Importers/Agents

]

Dear Sir/Madam,

Rejection of Application for Registration to Participate in Voluntary Energy Efficiency Labelling Scheme for Electric Clothes Dryers

With reference to your letter of application ref. _____ dated _____, I regret to inform you that your application for registration to participate in the scheme has not been accepted for the following reasons:-

1. _____, etc.

You are most welcome to submit new application again in future, when you have the necessary documents / information to support your application.

Yours faithfully,

for Director of Electrical & Mechanical Services

Flow Chart for Registration

