



MINISTRY OF ENVIRONMENT, CLIMATE CHANGE
AND TECHNOLOGY
Male' Republic of Maldives

Hakathari Program – Energy Efficiency
Labelling Program of the Maldives

April 2022

Energy Efficiency Section
Energy Department
hakathari@environment.gov.mv

Contents

Energy Efficiency Labelling Program	2
Schedule 1 – List of appliances	11
Schedule 2 – Terms and definitions	12
Schedule 3 – Label inspection forms and reports	14
Inspection plan template.....	14
Location visit template	15
Template for authorizing inspection officers	16
Inspection report template.....	17
Form 1 (Applicant registration).....	18
Schedule 5 – Air conditioner	19
Scope.....	19
Test guidelines	19
Test report requirement	19
Product certification (safety requirements)	19
Minimum qualification requirements.....	20
Energy Efficiency Label	20
Schedule 5A – Forms and letters for labelling of air conditioner.....	25
Cover letter.....	25
Form 2 (Product registration AC).....	26
Form 3 (Test report format AC).....	28
Schedule 6 – Refrigerator	30
Scope	30
Reference technical standard.....	30
Test guidelines	30
Test report requirement	31
Product certification (safety requirements)	31
Minimum qualification requirements.....	31
Energy Efficiency Label	32
Schedule 6A – Forms and letters for labelling of refrigerators.....	37
Cover letter.....	37
Form 2 (Product registration REF).....	38
Form 3 (Test report format REF).....	41
Schedule 7 – Washing machine	44
Scope.....	44
Reference test standard.....	44
Test guidelines	44
Test report requirement	44
Product certification (safety requirements)	44
Minimum qualification requirements.....	44
Energy Efficiency Label	45
Schedule 7A – Forms and letters for labelling of washing machine	50
Cover letter.....	50
Form 2 (Product registration WM)	51
Form 3 (Test report format WM).....	53

Energy Efficiency Labelling Program

1.	Introduction	<p>The Ministry of Environment, Climate Change and Technology (MECCT) on behalf of the Government of Maldives is introducing the energy efficiency labelling program to promote use of energy efficient appliances and equipment. The program contains requirements for importers and manufacturers of appliances on energy efficiency labels which will provide a simple and clear indication to the consumers about the energy saving potential of the product at the point of purchase.</p> <p>The energy efficiency label is based on a 5-star rating system, where greater number of stars mean more energy savings. The energy efficiency labels are affixed to labelled products with proven energy performance and provide consumers the necessary information to make informed energy saving purchases.</p>																
2.	Purpose	<p>The purpose of the program is;</p> <ol style="list-style-type: none"> 1. To help consumers make informed choices and save money on their household electricity bills. 2. To encourage importers and manufacturers to promote energy efficient technologies and products in the Maldivian market, bringing about a market transformation. 3. To reduce greenhouse gas emissions and progress towards achieving a cleaner environment and a sustainable future. 																
3.	Program timeline	<p>Program will come in to effect once published in the gazette.</p> <table border="1" data-bbox="475 1288 1455 1908"> <thead> <tr> <th data-bbox="475 1288 646 1321"></th> <th data-bbox="646 1288 874 1321">Main actions</th> <th data-bbox="874 1288 1066 1321">Time</th> <th data-bbox="1066 1288 1455 1321">Details</th> </tr> </thead> <tbody> <tr> <td data-bbox="475 1321 646 1630"> <u>Voluntary Phase for selected appliances</u> Total Duration: 2 years 2 months </td> <td data-bbox="646 1321 874 1630">Launch of voluntary program</td> <td data-bbox="874 1321 1066 1630">September 2021</td> <td data-bbox="1066 1321 1455 1630"> Public announcement by MECCT for importers to register models under the EE labelling program. Registration will be open for entire duration of the voluntary phase. MECCT to set up registration, monitoring mechanism and help desk for the program. </td> </tr> <tr> <td data-bbox="475 1630 646 1818"></td> <td data-bbox="646 1630 874 1818">Evaluation of the voluntary program</td> <td data-bbox="874 1630 1066 1818">September 2021</td> <td data-bbox="1066 1630 1455 1818">Evaluate the program based on the feedback from importers, public and relevant agencies such as MCS and revise the program accordingly.</td> </tr> <tr> <td data-bbox="475 1818 646 1908"></td> <td data-bbox="646 1818 874 1908">Gazette revised voluntary program.</td> <td data-bbox="874 1818 1066 1908">November 2022</td> <td data-bbox="1066 1818 1455 1908">Gazette revisions made to the program based on feedback from relevant agencies.</td> </tr> </tbody> </table>		Main actions	Time	Details	<u>Voluntary Phase for selected appliances</u> Total Duration: 2 years 2 months	Launch of voluntary program	September 2021	Public announcement by MECCT for importers to register models under the EE labelling program. Registration will be open for entire duration of the voluntary phase. MECCT to set up registration, monitoring mechanism and help desk for the program.		Evaluation of the voluntary program	September 2021	Evaluate the program based on the feedback from importers, public and relevant agencies such as MCS and revise the program accordingly.		Gazette revised voluntary program.	November 2022	Gazette revisions made to the program based on feedback from relevant agencies.
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			Announcement of mandatory labelling program (regulation).	November 2023	Gazette energy efficiency regulation with list of appliances for which mandatory labelling is required.
		Mandatory phase of selected appliances	Implementation of mandatory labelling.	February 2024	Implementation of mandatory labelling of appliances listed under Schedule 1.
4.	Implementation agency of the program	The program will be implemented by the MECCT.			
5.	Conditions to participate in the program	<ol style="list-style-type: none"> 1. Participation in the Energy Efficiency Labelling program is voluntary for the appliances mentioned in Schedule 1 until and unless notified otherwise by MECCT. 2. Importers participating in the program must fully comply with all the aspects of the program. 3. Importers participating in the program should get approval for energy efficiency label from MECCT. 4. Importers shall ensure that the label as per the exact specifications is placed on the appliance and outer packaging of the appliance before the appliance is sold to the consumer/retailer. 5. Importers shall ensure that no other energy efficiency label is visible on the appliance and outer packaging of the appliance. 6. Importers shall ensure that the label as per exact specifications is visible on appliances displayed in showrooms 7. Importers shall ensure that the detailed label is visible on online sales platforms. 8. Importers shall provide the quantity of existing stock to MECCT upon receiving approval for energy efficiency labelling of a particular model. 9. Importers shall provide the import data of approved models on a quarterly basis to MECCT (Date of import, Hakathari ID, Brand, Model, Quantity). 10. Importers shall affix the label to the appliances of the existing stock within one week from the date of approval and only sell labelled appliances of the respective model thereafter. 11. Importers shall correctly declare the Hakathari ID, brand, model and quantity of the approved appliance during the clearance stage to Maldives Customs Service. 			

		<p>12. Importers shall submit the Label Approval Certificate to MCS for declaration during the clearing process of the approved appliances.</p> <p>13. Importers shall provide the Label Approval Certificate to buyers upon request.</p>
6.	Program participation process	<p>The applicant shall be required to submit the following details to the MECCT in the prescribed formats with signature and stamp of the authorized signatory of the organization in order to participate in the program.</p> <p>Application forms and related templates are available at: https://www.environment.gov.mv/v2/en/hakathari-program</p> <p>The applicant shall be required to submit the following:</p>
		<p>a. Step 1 – Applicant Registration (Form-1)</p> <p>The applicant shall first register its organization with MECCT and provide details of the concerned contact person using the Form in Schedule 4. Once the applicant is registered with MECCT, thereafter they shall be allowed to register its products for the energy efficiency label.</p>
		<p>b. Step 2 – Product Registration (Form-2)</p> <p>The applicant shall register the product models for the energy label with the details as specified in Form 2.</p> <p>Forms are provided in respective schedule of the appliances</p> <ol style="list-style-type: none"> 1. Air conditioner – Schedule 5A 2. Refrigerator – Schedule 6A 3. Washing machine – Schedule 7A
		<p>c. Step 3 – Test result of product (Form-3)</p> <p>The applicants would be required to submit information in test reports issued by accredited laboratories in the format specified in Form 3. Any deviation from the specified format is not allowed.</p> <p>The applicant shall be required to submit a copy of the test report issued by accredited laboratories for each model of appliance.</p> <p>Forms are provided in respective schedule of the appliances</p> <ol style="list-style-type: none"> 1. Air conditioner – Schedule 5A 2. Refrigerator – Schedule 6A 3. Washing machine – Schedule 7A
		<p>d. Cover letter</p> <p>A cover letter shall be attached to the application forms. The template for the forms and cover letter to be used by the applicant for participation in the program are included in the respective Schedule as listed in <u>Schedule 1</u>.</p>

7.	Energy efficiency label	<p>The scope and requirements of the energy efficiency label for the list of appliances are included in the respective Schedule as listed in <u>Schedule 1</u>.</p> <p>All aspects of the energy efficiency label stated in this program should be followed and any deviation from it will result in non-compliance.</p>	
8.	Affixation of the energy efficiency label	<p>The energy efficiency label should be affixed as follows;</p> <ol style="list-style-type: none"> 1. The label shall be affixed on the appliances and on the packaging of the appliances by the importer before it is sold to the consumer/retailer. 2. Indicative diagram of label placement is shown in the Energy Efficiency Label section of respective Schedule as listed in <u>Schedule 1</u>. 	
9.	Label monitoring verification and enforcement (MV&E)	a. Components	<p>The MV&E of the energy efficiency labelling program involves the following components;</p> <div data-bbox="719 931 1442 1178" data-label="Diagram"> <pre> graph LR A[MV&E] --> B[M&V] A --> C[Enforcement] B --> D[Label verification] B --> E[Verification testing] C --> F[Penalties] </pre> </div> <p>Label Verification: Label verification shall be conducted by MECCT or its authorized representative at marketplaces, warehouses to check whether the contents of the label affixed on each appliance match those approved by MECCT and whether label are affixed as per the guidelines in the schedule of the appliance.</p> <p>Verification Testing: Verification testing shall be conducted to check whether the performance of the appliance is as described by the label approved by MECCT. This involves sampling of labelled appliances and performing verification testing in independent accredited laboratories. The test results are then evaluated to judge the performance of appliance.</p> <p>The mechanism for verification testing shall be as follows:</p> <ol style="list-style-type: none"> 1. For the purpose of verification, one labelled sample will be picked-up at random from the market and its performance testing shall be carried out in an accredited independent laboratory. The cost of testing and transportation for this test shall be borne by MECCT.

			<ol style="list-style-type: none"> 2. If the sample fails, MECCT will inform the importer / applicant about the failure. Then, MECCT will draw 2 more samples of the model from the market and conduct all the relevant tests as specified in the schedule of the appliance at an accredited laboratory. The cost of this second verification testing as well as that of its transportation shall be borne by the registered importer / applicant. 3. Even if one of the samples fails in the second verification testing, MECCT shall consider it as a non-compliance and would direct appropriate measures against the concerned importer(s) / applicant(s). The MECCT shall levy appropriate penalties on the importer(s) / applicant(s) for the non-compliance(s) listed under Clause 11 Prohibitions and Offenses.
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		<p>b. Roles and responsibilities</p>	<p>The roles and responsibilities of various stakeholders are described below.</p> <table border="1" data-bbox="719 315 1471 1711"> <thead> <tr> <th data-bbox="719 315 903 360">Stakeholder</th> <th data-bbox="903 315 1086 360">Role</th> <th data-bbox="1086 315 1471 360">Major responsibilities</th> </tr> </thead> <tbody> <tr> <td data-bbox="719 360 903 1279">Ministry of Environment, Climate Change and Technology,</td> <td data-bbox="903 360 1086 1279">Development of the program and revision; Main implementing organization</td> <td data-bbox="1086 360 1471 1279"> <p>Program development</p> <ol style="list-style-type: none"> 1. Develop the energy efficiency labelling program 2. Revise the program accordingly <p>Program implementation</p> <ol style="list-style-type: none"> 1. Responsible for overseeing and executing the market surveillance activities 2. Conduct regular label verification inspections in the marketplace 3. Coordinate with labelling authorities from other countries/accredited laboratories for verification of test reports 4. Conduct verification testing for the labelled appliances in the marketplace 5. Maintain list of accredited laboratories for verification testing 6. Oversee smooth implementation of the energy efficiency labelling program </td> </tr> <tr> <td data-bbox="719 1279 903 1554">Maldives Customs Services (MCS)</td> <td data-bbox="903 1279 1086 1554">Regulatory authority over import of labelled appliances</td> <td data-bbox="1086 1279 1471 1554"> <ol style="list-style-type: none"> 1. Work with MECCT to ensure that appliances registered under the program enter the Maldivian market. 2. Provide import data on registered appliances to MECCT. </td> </tr> <tr> <td data-bbox="719 1554 903 1711">Importers</td> <td data-bbox="903 1554 1086 1711">Participants of the labelling scheme</td> <td data-bbox="1086 1554 1471 1711"> <ol style="list-style-type: none"> 1. Support MECCT during the inspection/ market surveillance process </td> </tr> </tbody> </table> <p>The templates for reporting and forms for conducting label verification are attached in Schedule 3.</p>	Stakeholder	Role	Major responsibilities	Ministry of Environment, Climate Change and Technology,	Development of the program and revision; Main implementing organization	<p>Program development</p> <ol style="list-style-type: none"> 1. Develop the energy efficiency labelling program 2. Revise the program accordingly <p>Program implementation</p> <ol style="list-style-type: none"> 1. Responsible for overseeing and executing the market surveillance activities 2. Conduct regular label verification inspections in the marketplace 3. Coordinate with labelling authorities from other countries/accredited laboratories for verification of test reports 4. Conduct verification testing for the labelled appliances in the marketplace 5. Maintain list of accredited laboratories for verification testing 6. Oversee smooth implementation of the energy efficiency labelling program 	Maldives Customs Services (MCS)	Regulatory authority over import of labelled appliances	<ol style="list-style-type: none"> 1. Work with MECCT to ensure that appliances registered under the program enter the Maldivian market. 2. Provide import data on registered appliances to MECCT. 	Importers	Participants of the labelling scheme	<ol style="list-style-type: none"> 1. Support MECCT during the inspection/ market surveillance process
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10.	Fees	<p>The fees to be paid by applicant for energy efficiency labelling of appliance is:</p> <ol style="list-style-type: none"> Model Registration fee/ Renewal Fee: It is a non-refundable one-time fee to be submitted for each model by the applicant at the time of registration. The same shall be submitted by the registered applicant for renewal of each model if there is a change in specifications or energy efficiency grade. <table border="1" data-bbox="475 427 1445 607"> <thead> <tr> <th data-bbox="475 427 815 533">Air conditioner /Refrigerator/ Washing machine</th> <th data-bbox="815 427 1027 533">Fee Type</th> <th data-bbox="1027 427 1299 533">MVR</th> <th data-bbox="1299 427 1445 533">Paid at</th> </tr> </thead> <tbody> <tr> <td data-bbox="475 533 815 607">Model Registration Fee/ Renewal Fee</td> <td data-bbox="815 533 1027 607">One-time fee</td> <td data-bbox="1027 533 1299 607">500 per model</td> <td data-bbox="1299 533 1445 607">MECCT</td> </tr> </tbody> </table>		Air conditioner /Refrigerator/ Washing machine	Fee Type	MVR	Paid at	Model Registration Fee/ Renewal Fee	One-time fee	500 per model	MECCT
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Model Registration Fee/ Renewal Fee	One-time fee	500 per model	MECCT								
11.	Validity of Label	<p>MECCT is empowered to notify the expiry of the label after a certain interval of time, as deemed suitable, and to issue a renewal for continuation/upgradation the label. The previous issued labels shall become invalid after the notification of label renewal by the Ministry and the applicant will be required to apply for renewal of label.</p>									
12.	Prohibitions and Offenses	a. Offenses	<p>The non-compliance and other defaults of the program will lead to penalties.</p> <p>The list of non-compliance activities for which an offender can be penalized are listed as follows:</p> <ol style="list-style-type: none"> A model of an appliance which is registered in the program but does not display the label at the point of sale. The label, displayed on a model, is not displayed as per the requirements of the program. The label displayed on a model of an appliance but placed in such a way that it is not directly visible (i.e. consumers may not be able to see it while purchasing the model) or not as per the placement requirements of the program. This includes cases in which the model is in compliance with the requirements of the program, but the label is not visible at the store. A model of an appliance displays a label but is not registered the MECCT. The label displayed on a model of an appliance which has surpassed its validity period. The information displayed on the label for a model are not as approved by MECCT (i.e. cases of intentional fraud). 								

			<ol style="list-style-type: none"> 7. A model that has been prohibited for sale by MECCT is still being sold at the store. 8. Willingly stopping inspection officers and/or personnel assigned by MECCT from carrying out their duties. 9. Failure to provide data on initial stock quantity of approved models and import data. 10. Selling of non-labelled appliances of approved models after 6 months from the date of approval.
		b. Penalty	<p>Penalties shall be imposed by the MECCT for non-compliance under the energy efficiency label program.</p> <p>In case the non-compliance has been established under the label monitoring and verification, the applicant of the respective product label shall be penalized with non-monetary penalties.</p> <p>The following are non-monetary penalties which could be commenced pertaining to non-compliance under the energy efficiency labelling program:</p> <ol style="list-style-type: none"> 1. The approval provided for affixing the energy efficiency label on the respective product/model shall be withdrawn. 2. The applicant of the label shall be informed to stop the sale of products of the respective appliance model with immediate effect until appropriate measures are undertaken. 3. Information about the non-compliance with details of product model(s) and name of the manufacturer/ importer/ retailer shall be published in print, electronic and social media for the information of consumers. 4. For any applicant, if there are events /occurrence of non-compliance more than 3 times in a financial year, then the respective applicant shall be barred from applying to energy labelling program for a certain period as may be prescribed by MECCT. <p>Non-monetary penalties shall be applied for non- compliances during the voluntary stage of the program.</p>
13.	Helpline	<p>For all inquiries about the program write to the following;</p> <p>Email: hakathari@environment.gov.mv</p>	

14.	Terms and definitions	The terms and definition used in the program are mentioned in <u>Schedule 2</u> .
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Schedule 1 – List of appliances

The list of appliances to be brought under the energy efficiency labelling program in Maldives are:

Sr. No.	Appliances	Coverage	Technical detail	Forms to be used by applicant
1.	Air conditioner	Single-phase single-split and unitary type air conditioners of both fixed speed and variable speed type up to rated capacities of 24226 BTU/hr (equivalent to 7.1 kW)	Attached in Schedule 5	Attached in Schedule 5A
2.	Refrigerator	Compression-type Direct-Cool (single-door) refrigerators and Compression-type Frost-Free (double-door, three-door and side-by-side) refrigerators with rated capacities of 100 – 650 litres	Attached in Schedule 6	Attached in Schedule 6A
3.	Washing Machine	Washing machines, including automatic and semi-automatic, with horizontal axis (front loaders or vertical axis (top loaders) with a capacity of up to 14 kg.	Attached in Schedule 7	Attached in Schedule 7A

Schedule 2 – Terms and definitions

The key terms that are used in the program have been listed and defined below.

1. Accredited Laboratory: A laboratory accredited by a recognized accrediting authority which are MRA signatories such as ILAC/APLAC to perform testing as per a certain test standard or protocol.

MRA stands for Mutual Recognition Arrangement.

To know more about ILAC MRA and its signatories visit: <https://ilac.org/ilac-mra-and-signatories/>

To know more about APLAC MRA and its signatories visit: <https://www.apac-accreditation.org/membership/>

2. Appliance: Appliance means any equipment or appliance which consumes, generates, transmits or supplies energy and includes any device that consumes any form of energy and produces a desired work.
3. Customs: Refers to Maldives Customs Services (MCS).
4. Consumer: An end-user/ purchaser of appliances.
5. Energy Efficiency Label: Informative labels issued by the Ministry of Environment, Climate Change and Technology under energy efficiency labelling program which describe the product's energy performance and give consumers the data necessary to make informed purchases.
6. Minimum Energy Performance Standards (MEPS): The minimum level of energy efficiency which must be met by an appliance.
7. Fixed speed (non-inverter) air conditioner: Air conditioner that employs technologies that control the output of the compressor by start-stop operation.
8. Inverter air conditioner: Air conditioner that employs technologies that vary the output of the compressor, by means other than start-stop operation.
9. Energy Efficiency Ratio (EER): Ratio of total cooling capacity to effective power input at any given rating condition. Its unit is kW/kW.
10. Cooling Seasonal Performance Factor (CSPF): Ratio of total amount of heat the equipment can remove from indoor air when operated for cooling in active mode to the total annual amount of energy consumed by the equipment during the same period. Its unit is Wh/Wh.
11. Cooling Seasonal Energy Consumption (CSEC): Total annual amount of energy consumed by the equipment when it is operated for cooling in active mode.
12. Standby mode: Lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when an appliance is connected to the main electricity supply and used in accordance with the manufacturer's instructions
13. Standby power: Average power in standby mode when measured in accordance with the specified standard.

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14. Refrigerating appliance is a factory-assembled insulated cabinet with one or more compartments and of suitable volume and equipment for household use, cooled by natural convection or a frost-free system whereby the cooling is obtained by one or more energy-consuming means.
 15. Refrigerator is a refrigerating appliance intended for the preservation of food, one of whose compartments is suitable for the storage of fresh food.
 16. Compression-type refrigerating appliance is a refrigerating appliance in which refrigeration is affected by means of a motor-driven compressor.
 17. Absorption-type refrigerating appliance is a refrigerating appliance in which refrigeration is affected by an absorption process using heat as energy source.
 18. Refrigerator-freezer is a refrigerating appliance having at least one compartment suitable for the storage of fresh food (the fresh-food storage compartment) and at least one other (the food freezer compartment) suitable for the freezing of fresh food and the storage of frozen food under three-star storage conditions.
 19. Frost-free refrigerator-freezer is a refrigerator-freezer in which all compartments are automatically defrosted with automatic disposal of the defrosted water and at least one compartment is cooled by a frost-free system.
 20. Direct cool refrigerator-freezer is a refrigerator-freezer in which all compartments are manually defrosted with manual disposal of the defrosted water.
 21. Top Load washing machine: Washing machine in which the load is placed in a drum which rotates around an axis which is vertical or close to vertical.
 22. Front Load washing machine: Washing machine in which the load is placed in a drum which rotates around an axis which is horizontal or close to horizontal.
 23. Cleaning/Wash performance: It is the ratio of average reflectance measured on soiled test strips compared to the reference unit in at least 5 cycles from series.
 24. Water Consumption of washing machine: It is the complete volume of water used during energy consumption test in average of 5 cycles.

Schedule 3 – Label inspection forms and reports

Inspection plan template

For inspection year : _____

Inspection plan approval date : _____

Inspection target for the financial year

Parameter	Value
Number of general inspections	
Number of targeted inspections	
List of target appliances	1. 2. 3.
Number of warehouse inspections	
Number of market place inspections	
Number of place of imports inspections	

Tentative inspection plan

Month	Locations to be visited	Estimated cost for the month (MVR)

Total estimated budget : _____

Name of Inspection Officer

Signature & Seal

Location visit template

Date: _____

Inspection Details

Type of inspection: General inspection/ Targeted inspection

Reason for conducting inspection: -

Inspection location: _____

Point of inspection: Marketplace/ Warehouse/ Place of import

Inspection team: -

- Number of inspection officers: _____
- Name of inspection officers: _____

Date of inspection: _____

Tentative time: _____

Notice required: Yes/ No

Name and designation of officer preparing the plan: _____

Signature: _____

Template for authorizing inspection officers

Date:

Sub: Approval for inspection

To whom it may concern,

This is to certify that Mr./Mrs./Ms. _____ is hereby authorized to conduct inspection to check for compliance of equipment as per the energy efficiency labelling program at _____ on the ____ day of the month of _____, 20__.

You are requested to kindly cooperate with the inspection process so that he/she may discharge their duties as inspection officers. Please note that willingly stopping them from carrying out their duties may result in noncompliance.

Signature

Name of Officer:

Seal

Inspection report template

Date:

Name of inspection officer

Date of inspection

Inspection location

Name of store/warehouse

Findings of inspection

S. No.	Appliance	Manufacturer	Model	Inspection result	Remarks

Recommendation for further action

Signature & seal

Schedule 4 – Applicant registration

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

Ministry of Environment, Climate Change and Technology
Male', Republic of Maldives

ދިވެހިސަރުކާރުގެ ގެޒެޓް، ބަނޑުވަޅުގެ ސަރުކާރުގެ ދާއިރާގެ ތެރެއިން
މާލެ، ދިވެހިރާއްޖެ



FORM 1- APPLICANT REGISTRATION

A. DETAILS ABOUT THE ORGANIZATION	
Name of the applicant organization:	
Business registration number:	
Importer registration number:	
Address:	
Atoll/Island:	
Postal Code:	
Phone Number:	
Email:	

B. DETAILS OF AUTHORIZED REPRESENTATIVE	
Name of the authorized representative:	
Designation:	
Mobile no:	
Office landline no:	
Email:	

I _____ hereby declare that we have read and unequivocally accept the **Terms and Conditions** stated in the **Energy Efficiency Labelling Program** and shall abide by the same.

Name:		Stamp
Designation:		
Date:		
Signature:		

* Submit Business registration certificate with this form

Version 1.0

+960 3018300

hakathari@environment.gov.mv

www.environment.gov.mv

Page 18 | 56

Schedule 5 – Air conditioner

Scope

The scope of the energy efficiency labelling program for air conditioners sold in Maldives is listed below.

Sr. No.	Scope includes
1.	Single-split and unitary type air conditioners
2.	Fixed speed and variable speed type
3.	Rated cooling capacities of up to 24226 BTU/hr (equivalent to 7.1 kW)

Reference technical standards

The technical standards to be used as normative reference for energy efficiency labelling program for air conditioners have been listed below:

1. **ISO 5151:2010** – Non-ducted air conditioners and heat pumps — Testing and rating for performance
2. **ISO 16358-1** – Temperature bin distribution shall follow Table 3 of Air-cooled air conditioners — Testing and calculating methods for seasonal performance factors — Part 1
3. **IEC 62301:2011** – Household electrical appliances - Measurement of standby power

Test guidelines

The definition and guideline for the conducting measurement of parameters such as CSPF, EER and Standby mode power are mentioned in the points below.

1. Cooling Seasonal Performance Factor (CSPF): ratio of total amount of heat the equipment can remove from indoor air when operated for cooling in active mode to the total annual amount of energy consumed by the equipment during the same period. Its unit is Wh/Wh.
2. For fixed speed air conditioners, $CSPF = 1.062 \times EER_{tested}$ at 100% capacity. Energy Efficiency Ratio (EER) is defined as ratio of total cooling capacity to effective power input at any given rating condition. Its unit is kW/kW.
3. For inverter air conditioners, CSPF is calculated using the measured energy consumption during the tests.
4. Standby mode: Lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when an appliance is connected to the main electricity supply and used in accordance with the manufacturer's instructions.
5. Standby power: Average power in standby mode when measured in accordance with the specified standard.

Test report requirement

The applicant must submit a copy of original test report for performance and safety requirements issued by an accredited laboratory. The information in the test report must be also submitted in the format shown in **Schedule 5A Form 3**. Any deviation from the specified format is not allowed.

Product certification (safety requirements)

The safety certification requirements for air conditioners imported into Maldives shall either be according to IEC 60335 or the safety standard followed in the country of origin.

Minimum qualification requirements

The minimum qualification requirement of the tested air conditioner in order to be eligible for the energy efficiency label are as per the following criteria:

1. Meet the requirements of lowest energy efficiency rating star (Star 2).
2. Refrigerant's ODP should be zero.
3. Pass all the tests applicable to the product as per safety certification requirements.

All the above requirements must be satisfied for the model to qualify for energy efficiency labelling program.

Energy Efficiency Label

Energy efficiency grading

The energy efficiency grade of an air conditioner model shall be determined on the basis of its Cooling Seasonal Performance Factor (CSPF). It is the ratio of total amount of heat the equipment can remove from indoor air when operated for cooling in active mode to the total annual amount of energy consumed by the equipment during the same period. Its unit is Wh/Wh. The table below shows the energy efficiency grading criteria for air conditioners.

Star Rating	For ACs with cooling capacities < 4.5 kW (< 15354 BTU/hr)	For ACs with cooling capacities ≥ 4.5 kW and ≤ 7.1 kW (≥ 15354 BTU/hr and ≤ 24226 BTU/hr)
	Value of CSPF (Wh/Wh)	Value of CSPF (Wh/Wh)
5	≥ 5.30	≥ 5.10
4	$4.60 \leq \text{CSPF} < 5.30$	$4.00 \leq \text{CSPF} < 5.10$
3	$3.30 \leq \text{CSPF} < 4.60$	$3.10 \leq \text{CSPF} < 4.00$
2	$3.10 \leq \text{CSPF} < 3.30$	$2.90 \leq \text{CSPF} < 3.10$
1	Not Applicable	Not Applicable

Contents of the label

The following aspects are included in the EE label for Air Conditioners:

- Rating
- Value of CSPF (Wh/Wh)
- Test standards used
- Model specific detail
 - Type
 - Brand
 - Model number
 - Year of manufacture
- Cooling capacity (Btu/h)
- Refrigerant used
- Ozone Depletion Potential (ODP)
- Global Warming Potential (GWP)
- Annual energy consumption (kWh/year)
- Energy Saving compared to the lowest rated model
- Importer registration number
- Date of issue of label

Calculation method for Annual Energy consumption

$$\text{Annual energy consumption} = \frac{\text{CSEC (kWh)}}{1817 \text{ hours}} \times 4380 \text{ hours}$$

Where:

CSEC =Cooling Seasonal Energy Consumption (From Test Report as per ISO 16358)

*Operating hours per year =12 hours per day x 365 day =4380 hours

Calculation of Energy Saving compared to the lowest rated model

$$\text{Percentage energy saving compared to the lowest rated model} = 100\% - \left(100\% \times \frac{\text{CSPF}_{\text{Lowest star rating}}}{\text{CSPF}_{\text{Measured}}} \right)$$

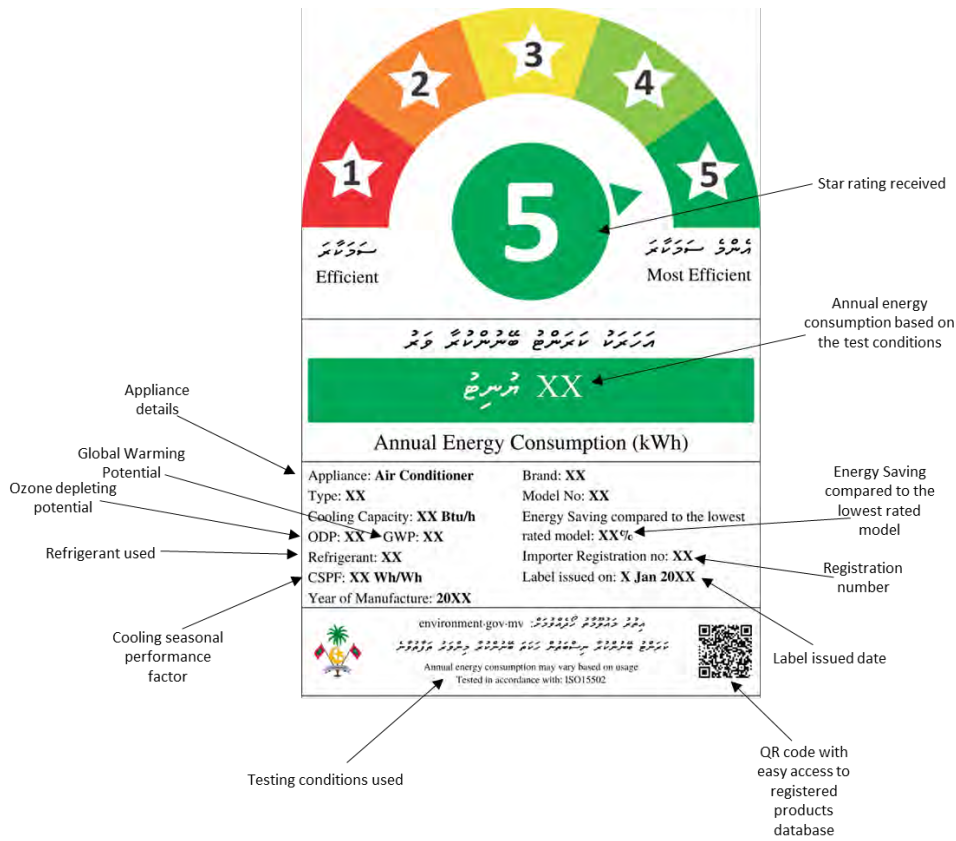
Where:

$\text{CSPF}_{\text{Lowest star rating}} = 3.1$ for rated cooling capacity <4.5kW

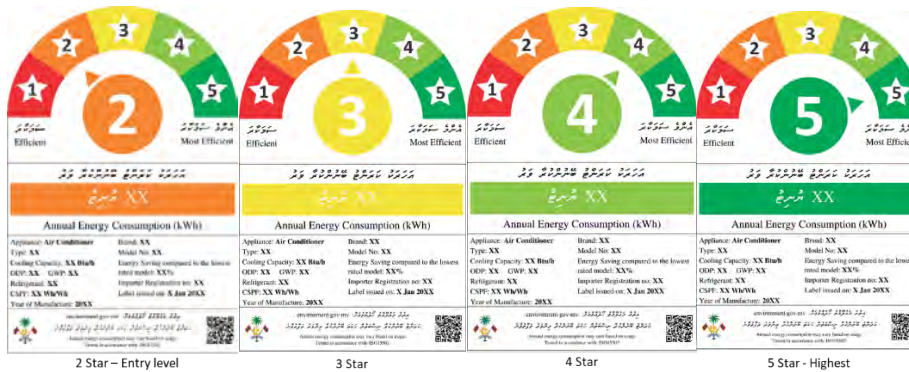
$\text{CSPF}_{\text{Lowest star rating}} = 2.9$ for rated cooling capacity 4.5kW to 7.1kW

$\text{CSPF}_{\text{Measured}} =$ Obtained from test report

Format of the label

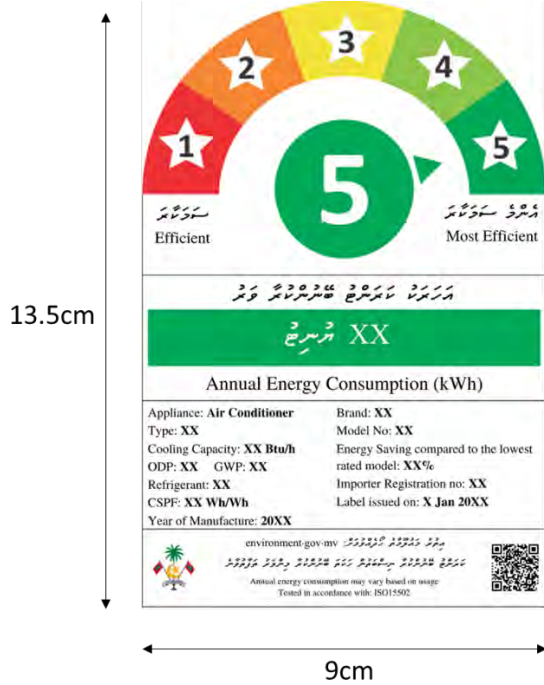


Label variation for different grades

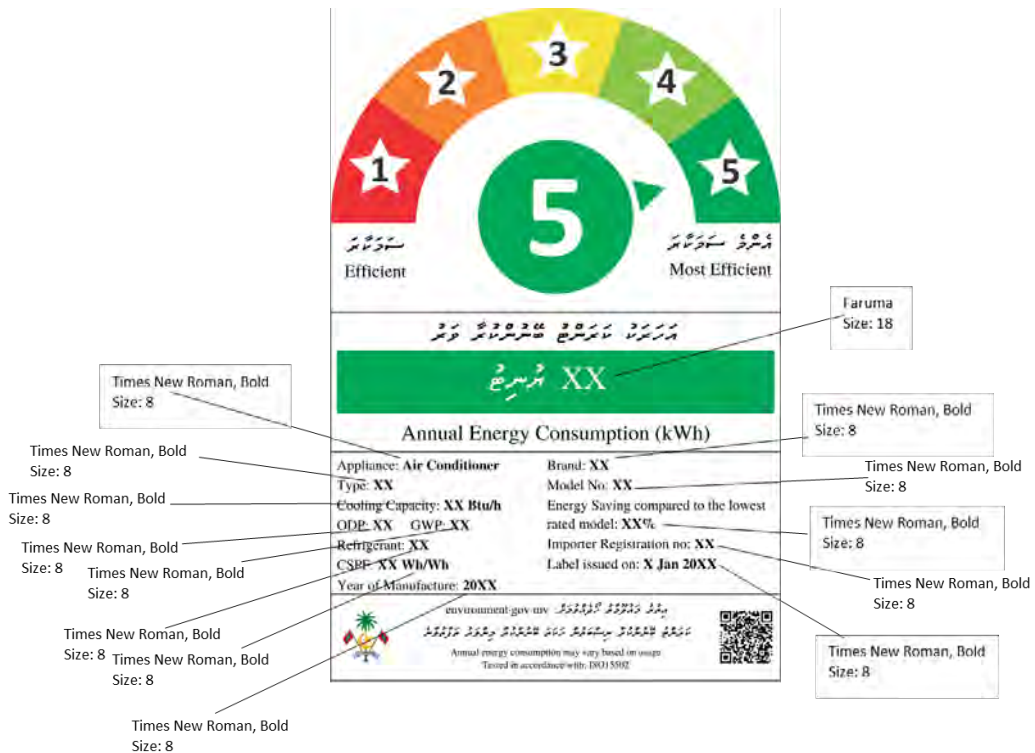


Size of the label

The dimension of the label shall be 13.5 cm length and 9 cm in width.

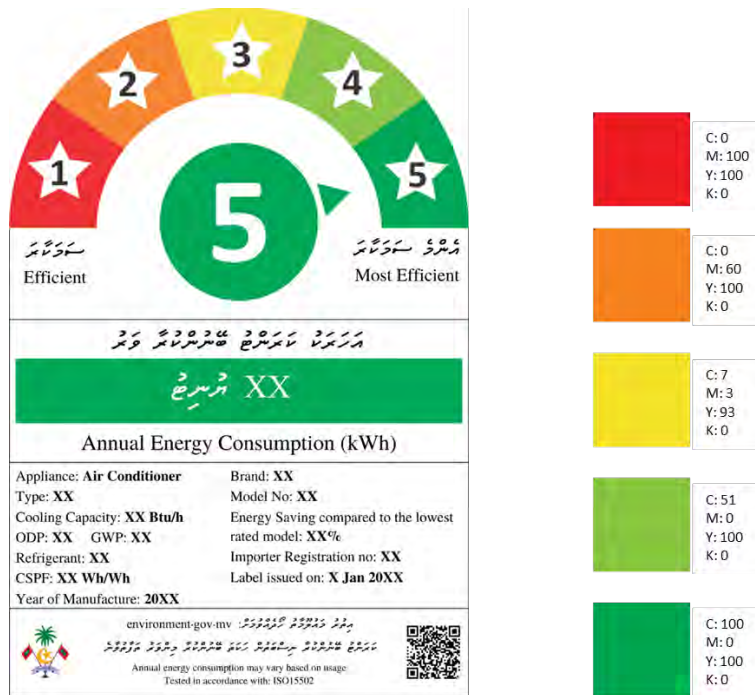


Font specification



Color specification

The label shall be printed according to the color specifications as follows:



Affixation of the energy efficiency label

The label shall be affixed on the appliance and on packaging of the appliance before it is sold to the consumer/retailer by the importer.



Schedule 5A – Forms and letters for labelling of air conditioner

The forms and letters to be used for product registration of air conditioners are included here.

Cover letter

(Sample content of cover letter)

(To be prepared in the letterhead of the organization submitting the application (applicant))

(Single cover letter can be used for energy labeling of one or more appliance type i.e. AC, REF, W/M)

To: **Energy Efficiency Section**
Energy Department,
Ministry of Environment, Climate Change and Technology
Handhuvaree Hingun, Maafannu, 20392,
Male, Republic of Maldives

Date: **[Insert date]**

Subject: Application for seeking approval for energy efficiency label

Dear **[insert recipient name]**,

This is with reference to the above subject and the program published by MECCT on energy efficiency labelling. I, on behalf of the M/s **[insert company name]**, is submitting this application for seeking permission from MECCT for energy efficiency label as per the criterion mentioned in the program.

Enclosures with this application: (List of forms attached and supporting documents attached)

Kindly evaluate the particulars attached with this application and confirm whether the appliances can be considered for EE labelling as per the program rolled out by MECCT.

Regards,

[Insert authorized representative name]

[Insert applicant title]

[Insert applicant organization name]

[Insert applicant address]

Form 2: Air Conditioner - Product registration



Ministry of Environment, Climate Change and Technology

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Male', Republic of Maldives

އެއަރ ޕްރޮޑިއުކްޓް ރިޖިސްޓްރޭޝަން ފޯމް 2

މާލެ، ރިޑުޕްލިކް އޮފް މާލްދީބު



FORM 2- PRODUCT REGISTRATION AIR CONDITIONER

FOR MINISTRY USE ONLY				
<i>FORM CHECKLIST</i>				
Model	1	2	3	4
Form 3				
Test Report				
Cover Letter				
<i>Application received by</i>				Signature
Application No:				
Name:				
Designation:				
Date:				

C. DETAILS ABOUT THE ORGANIZATION	
Importer Registration Number:	
Name of the authorized Representative:	
Designation:	
Mobile no.:	
Office landline no.:	
Email:	

D. DETAILS ABOUT THE PRODUCT				
MODEL	1	2	3	4
Brand:				
Model no.:				
Information on Family of model:				

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Page 1 | 56

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MODEL	1	2	3	4
Product Type: <i>Inverter AC</i> <i>Fixed speed AC</i>				
Year of Manufacture:				
Cooling Capacity (kW):				
Cooling Capacity (Btu):				
CSPF (Wh/Wh):				
Name of Refrigerant:				
Refrigerant's ODP:				
Refrigerant's GWP:				
Safety Standard followed:				
Did the product pass all applicable safety tests? (Y/N)				

Form 3 (Test report format AC)



Ministry of Environment, Climate Change and Technology
Male', Republic of Ma

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މާލެ، ދިވެހިރާއްޖެ



FORM 3 – DETAILS OF TEST RESULTS

AIR CONDITIONER

<i>Application No. (For Ministry use only):</i>	
<ul style="list-style-type: none"> The sections below are to be filled by the applicant based upon the test reports issued by the accredited test laboratories. Test reports will only be accepted from accredited laboratories. An Accredited Laboratory is a laboratory accredited by a recognized accrediting authority which are Mutual Recognition Arrangement (MRA) signatories such as ILAC/APLAC to perform testing as per a certain test standard or protocol. For a list of accredited laboratories please visit Ministry of Environment, Climate Change and Technology website. Copy of the original test results should be submitted with this form for both performance and safety tests. For each model stated in Form 2, separate Form 3 should be filled and submitted. 	
A. DETAILS OF THE TEST RESULTS	
<i>Details of the test laboratory, where the tests as specified by the test standards has been conducted</i>	
Name of the test laboratory:	
Address:	
City:	
Province:	
Postal Code:	
Phone Number:	
Fax:	
Email:	
Website:	

B. DETAILS OF AUTHORIZED REPRESENTATIVE OF TEST LABORATORY	
Name of the Authorized Representative:	
Designation:	
Phone no:	
Email:	

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Page 1 | 56

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The following test standard should be followed, and the following tests should be conducted.

1. Test standards followed	ISO 5151:2010 and IEC 62301:2011 test procedure; ISO 16358-1:2013 for test conditions
2. Tests to be conducted	<ol style="list-style-type: none"> 1. Cooling capacity at full load 2. Cooling capacity at half load 3. Input power at full load 4. Input power at half load 5. Standby mode power consumption
3. Safety test	IEC 60335 or the safety standard followed in the country of origin.

C. INFORMATION ON PRODUCT SAMPLES AND TESTS CONDUCTED

Test Report no:	
Date of receipt of sample by the lab:	
Date on which the tests are conducted:	
Product type (Tick the product type):	Inverter AC
	Fixed Speed AC
Brand:	
Model No.:	
Information of Family of Model:	
Dimensions:	

D. SUMMARY OF TEST RESULTS

Serial no. of the sample tested:	
Cooling capacity at half load (kW):	
Input power at half load (kW):	
Cooling capacity at full load (kW):	
Input power at full load (kW):	
CSPF value (Wh/Wh):	
CSEC value (kWh) as per ISO 16358:	
Year of Manufacture:	
Safety Test Standard followed : (IEC 60335 or if any other, specify standard and country of origin)	
Did the product pass all applicable safety tests? (Y/N)	

Schedule 6 – Refrigerator

Scope

The scope of the energy efficiency labelling program for refrigerators sold in Maldives is listed below.

Sr.No.	Scope includes
1.	Compression-type refrigerators
2.	Direct-Cool (single-door) refrigerators
3.	Frost-Free (double-door, three-door and side-by-side) refrigerators
4.	Rated capacities of 100 – 650 litres

Reference technical standard

The technical standard to be used as normative reference for energy efficiency labelling program for refrigerators is listed below:

1. **ISO 15502:2005 or IEC 62552-1:2015** – Household refrigerating appliances – Characteristics and test methods - Part 1: General requirements

Test guidelines

The **energy consumption test** is the test for the energy consumption by the refrigeration appliance at an ISO tropical temperature of either 16°C or 32°C. Energy consumption is calculated as:

$$E_x = E_1 + (E_2 - E_1) \times (t_x - t_1) / (t_2 - t_1)$$

t₁ = measured compartment temperature for point 1

t₂ = measured compartment temperature for point 2

t_x = target temperature for the compartment for energy consumption determination

E₁ = measured energy consumption of the appliance at point 1

E₂ = measured energy consumption of the appliance at point 2

E_x = calculated energy consumption of the appliance at the target temperature t_x.

For the given conditions, t_x = 32°C and E_x = E₃₂.

Calculation of V_{adj} – The adjusted volume of a refrigerator shall be calculated through the following formula:

$$V_{adj} = \sum(K_c \times \text{Actual volume of the compartment})$$

K_c is the volume correction factor for a particular type of compartment and is defined as follows:

Compartment Type	Volume Correction Factor (K _v)
Fresh Food	1.00
4 star freezer	1.79
3 star freezer	1.79
2 star freezer	1.57
1 star freezer	1.36
Chill	1.13
Cellar	0.75

Test report requirement

The applicant must submit a copy of original test report for performance and safety requirements issued by an accredited laboratory. The information in the test report must be also submitted in the format shown in **Schedule 6A Form 3**. Any deviation from the specified format is not allowed.

Product certification (safety requirements)

The safety certification requirements for refrigerator imported into Maldives shall either be according to IEC 60335 or the safety standard followed in the country of origin.

Minimum qualification requirements

The minimum qualification requirements for the tested refrigerator in order to be eligible for the energy efficiency label are as per the following criteria:

1. The minimum annual energy consumption (kWh) of the tested refrigerator in order to be eligible for the energy label are as mentioned below:

Type	Annual Energy Consumption (AEC) in kwh
	MEPS level (lower limit of 2-star)
Without freezer	$AEC > [(368 + 0.892 \times V_{adj \text{ tot}}) \times 0.461]$
With freezer (V_{adj tot} ≤ 300 liters)	$AEC > [(465 + 1.378 \times V_{adj \text{ tot}}) \times 0.427]$
With freezer (V_{adj tot} > 300 and ≤ 900 liters)	$AEC > [(465 + 1.378 \times V_{adj \text{ tot}}) \times 0.427]$
With freezer, through-the-door ice dispenser	$AEC > [(585 + 1.378 \times V_{adj \text{ tot}}) \times 0.409]$

2. The refrigerant's ODP should also be zero in order to be eligible for energy efficiency label.
3. Pass all the tests applicable to the product as per safety certification requirements.

All the above requirements must be satisfied for the model to qualify for energy efficiency labelling program.

Energy Efficiency Label

Energy efficiency grading

The energy efficiency grade of a refrigerator model shall be determined on the basis of its Annual Energy Consumption (AEC) in kWh. The table shown below defines the energy efficiency labelling criteria for refrigerators.

Type	Annual Energy Consumption (AEC) in kWh				
	Star 1	Star 2	Star 3	Star 4	Star 5
Without freezer	Not Applicable	$[(368 + 0.892 \times \text{Vadj tot}) \times 0.551] \geq \text{AEC} > [(368 + 0.892 \times \text{Vadj tot}) \times 0.461]$	$[(368 + 0.892 \times \text{Vadj tot}) \times 0.461] \geq \text{AEC} > [(368 + 0.892 \times \text{Vadj tot}) \times 0.332]$	$[(368 + 0.892 \times \text{Vadj tot}) \times 0.332] \geq \text{AEC} > [(368 + 0.892 \times \text{Vadj tot}) \times 0.239]$	$[(368 + 0.892 \times \text{Vadj tot}) \times 0.239] \geq \text{AEC}$
With freezer (Vadj tot ≤ 300 liters)	Not Applicable	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.553] \geq \text{AEC} > [(465 + 1.378 \times \text{Vadj tot}) \times 0.427]$	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.427] \geq \text{AEC} > [(465 + 1.378 \times \text{Vadj tot}) \times 0.312]$	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.312] \geq \text{AEC} > [(465 + 1.378 \times \text{Vadj tot}) \times 0.228]$	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.228] \geq \text{AEC}$
With freezer (Vadj tot > 300 and ≤ 900 liters)	Not Applicable	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.506] \geq \text{AEC} > [(465 + 1.378 \times \text{Vadj tot}) \times 0.427]$	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.427] \geq \text{AEC} > [(465 + 1.378 \times \text{Vadj tot}) \times 0.312]$	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.312] \geq \text{AEC} > [(465 + 1.378 \times \text{Vadj tot}) \times 0.228]$	$[(465 + 1.378 \times \text{Vadj tot}) \times 0.228] \geq \text{AEC}$
With freezer, through-the-door ice dispenser	Not Applicable	$[(585 + 1.378 \times \text{Vadj tot}) \times 0.485] \geq \text{AEC} > [(585 + 1.378 \times \text{Vadj tot}) \times 0.409]$	$[(585 + 1.378 \times \text{Vadj tot}) \times 0.409] \geq \text{AEC} > [(585 + 1.378 \times \text{Vadj tot}) \times 0.298]$	$[(585 + 1.378 \times \text{Vadj tot}) \times 0.298] \geq \text{AEC} > [(585 + 1.378 \times \text{Vadj tot}) \times 0.218]$	$[(585 + 1.378 \times \text{Vadj tot}) \times 0.218] \geq \text{AEC}$

Contents of the label

The following aspects shall be included in the EE label for Refrigerator:

- Rating
- Annual Energy Consumption (AEC) in kwh
- Test standards used
- Appliance details
 - Type
 - Brand
 - Model number
 - Year of manufacture
- Total Gross Volume
- Total Storage Volume
- Refrigerant used
- Ozone depleting potential (ODP)
- Global Warming Potential (GWP)
- Energy Saving compared to the lowest rated model
- Importer registration number
- Date of issue of label

Calculation of Energy Savings compared to lowest rated model

$$\text{Percentage energy saving compared to the lowest rated model} = 100\% - \left(100\% \times \frac{AEC_{\text{Measured}}}{AEC_{\text{Lowest star rating}}} \right)$$

Where:

AEC_{Measured} = Obtained from test report (kWh)

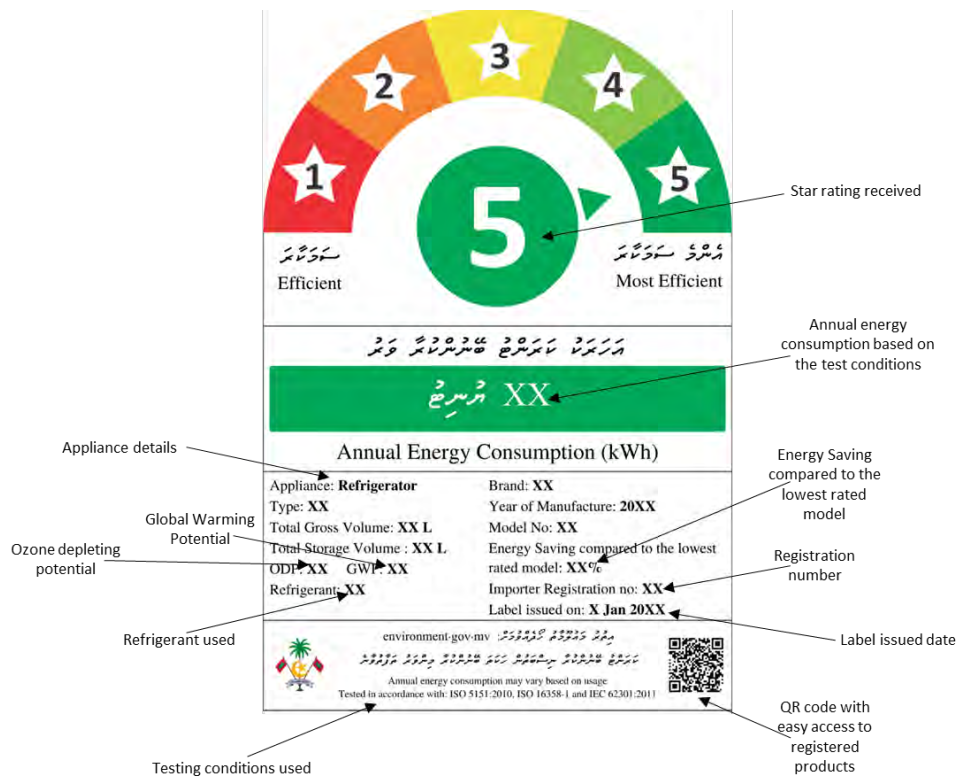
For without freezer, $AEC_{\text{Lowest star rating}} = [(368 + 0.892 \times V_{\text{adj tot}}) \times 0.461]$ kWh

For with freezer ($V_{\text{adj tot}} \leq 300$ liters), $AEC_{\text{Lowest star rating}} = [(465 + 1.378 \times V_{\text{adj tot}}) \times 0.427]$ kWh

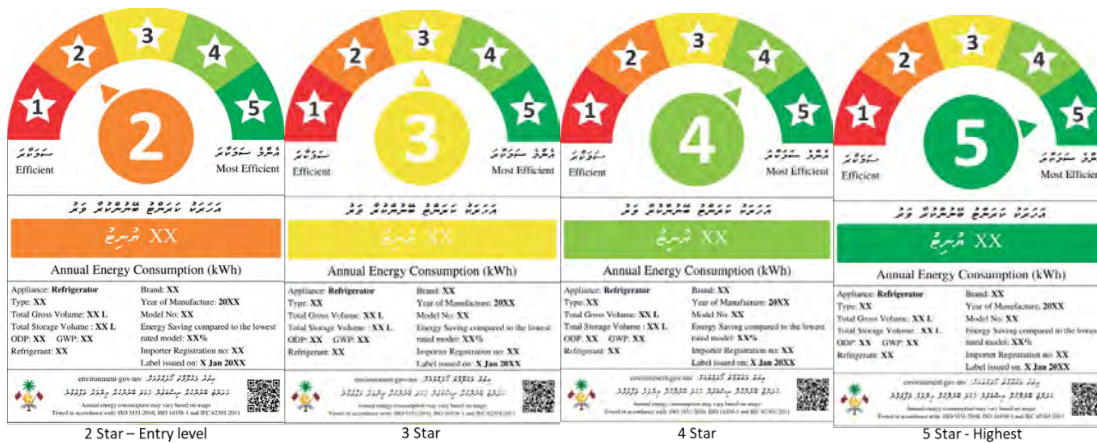
For with freezer ($V_{\text{adj tot}} > 300$ and ≤ 900 liters), $AEC_{\text{Lowest star rating}} = [(465 + 1.378 \times V_{\text{adj tot}}) \times 0.427]$ kWh

For with freezer, through-the-door ice dispenser, $AEC_{\text{Lowest star rating}} = [(585 + 1.378 \times V_{\text{adj tot}}) \times 0.409]$ kWh

Format of the label

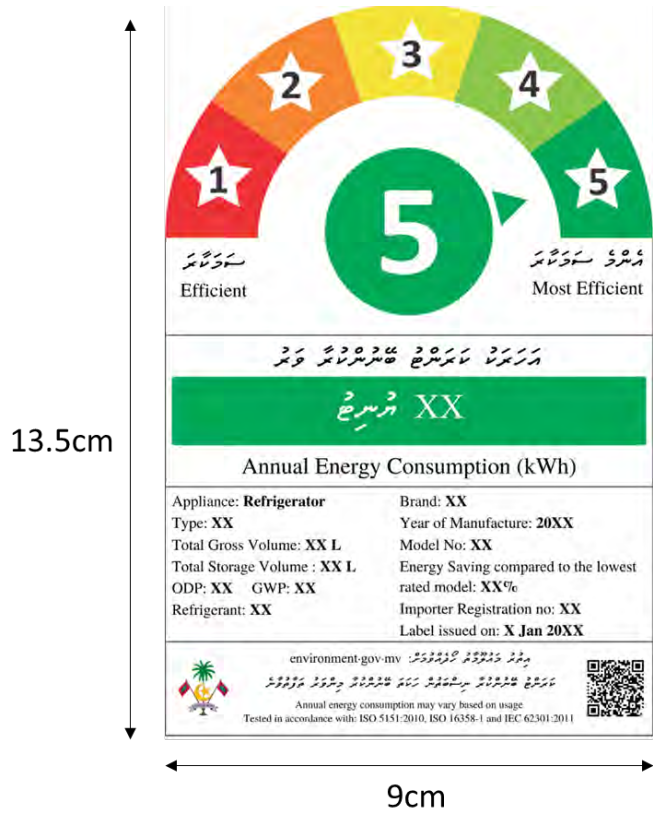


Label variation for different grades.

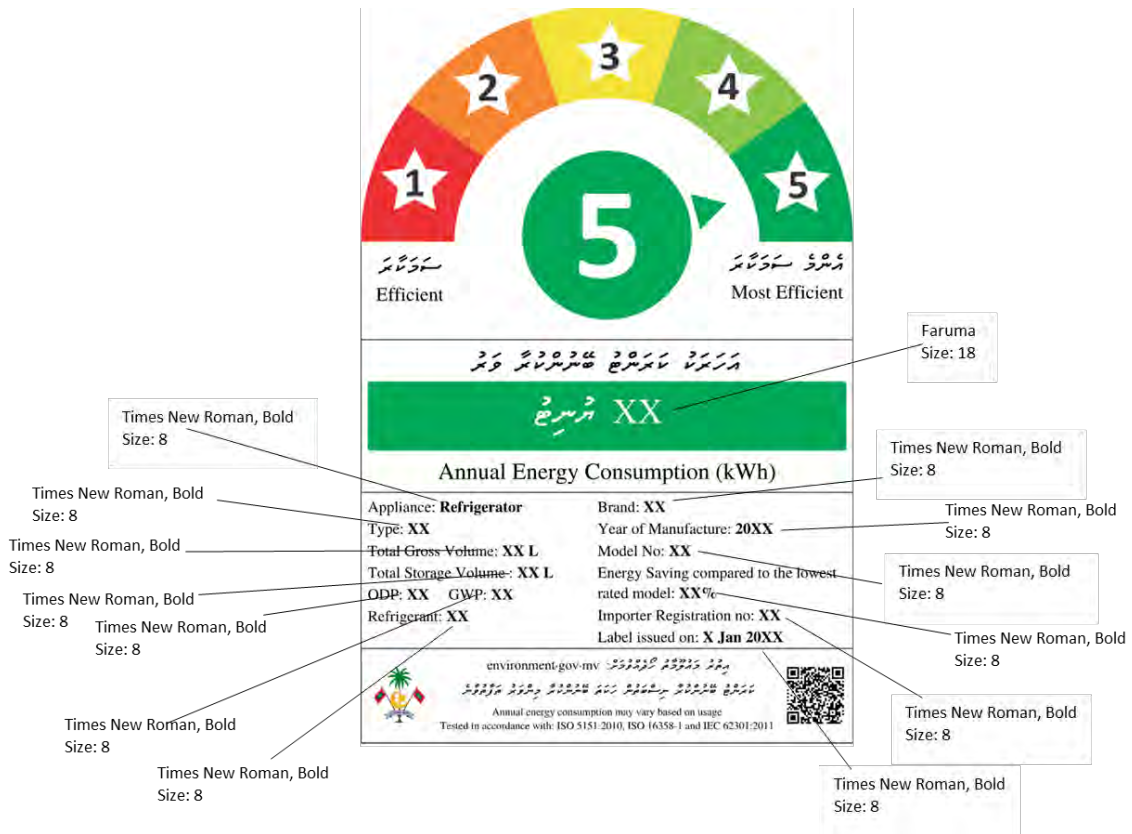


Size of the label

The size and dimension of the label shall be 13.5 cm length and 9 cm in width.

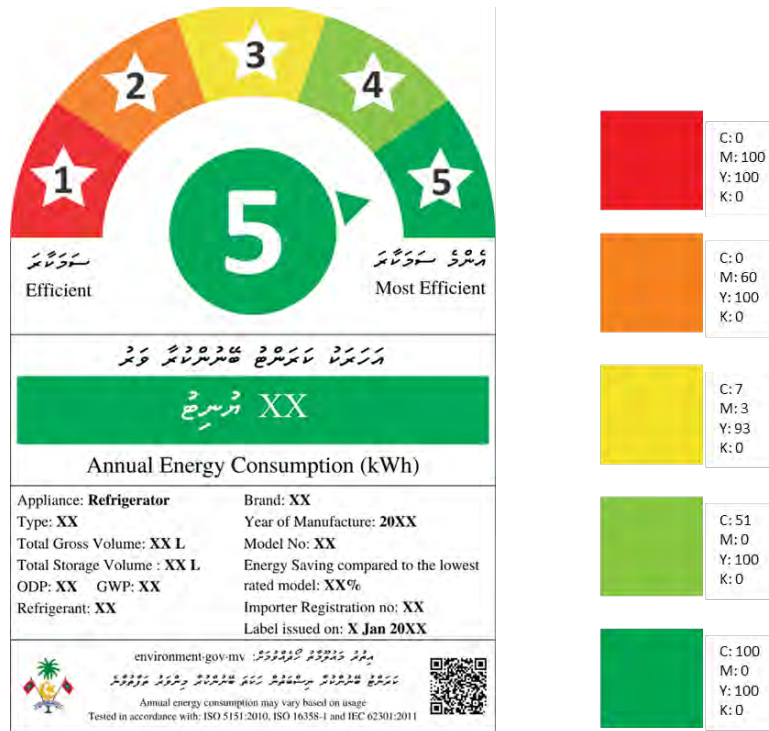


Font specification



Colour scheme

The label shall be printed according to the colour specifications as follows:



Affixation of the energy label

The label shall be affixed on the appliance and on packaging of the appliance before it is sold to the consumer/retailer by the importer.



Schedule 6A – Forms and letters for labelling of refrigerators

The forms and letters to be used for product registration of refrigerator are included here.

Cover letter

(Sample content of cover letter)

(To be prepared in the letterhead of the organization submitting the application (applicant))

(Single cover letter can be used for energy labeling of one or more appliance type i.e. AC, REF, W/M)

To: **Energy Efficiency Section**
Energy Department,
Ministry of Environment, Climate Change and Technology
Handhuvaree Hingun, Maafannu, 20392,
Male, Republic of Maldives

Date: **[Insert date]**

Subject: Application for seeking approval for energy efficiency label

Dear **[insert recipient name]**,

This is with reference to the above subject and the program published by MECCT on energy efficiency labelling. I, on behalf of the M/s **[insert company name]**, is submitting this application for seeking permission from MECCT for energy efficiency label as per the criterion mentioned in the program.

Enclosures with this application: (List of forms attached and supporting documents attached)

Kindly evaluate the particulars attached with this application and confirm whether the appliances can be considered for EE labelling as per the program rolled out by MECCT.

Regards,

[Insert authorized representative name]

[Insert applicant title]

[Insert applicant organization name]

[Insert applicant address]

Form 2: Refrigerator - Product registration

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



Ministry of Environment, Climate Change and Technology
Male', Republic of Maldives

މިނިސްޓްރީ އޮފް ޕްރޮޓެކްޝަން އަންދު ސަލާމަތުގެ ސަރުކާރު، ދިވެހިރާއްޖޭގެ ޖުމްހޫރިއްޔާ
މާލެ، ދިވެހިރާއްޖެ



FORM 2- PRODUCT REGISTRATION REFRIGERATOR

FOR MINISTRY USE ONLY				
FORM CHECKLIST				
Model	1	2	3	4
Form 3				
Test Report				
Cover Letter				
Application received by				Signature
Application No:				
Name:				
Designation:				
Date:				

A. DETAILS ABOUT THE ORGANIZATION	
Importer Registration Number:	
Name of the authorized Representative:	
Designation:	
Mobile no.:	
Office no.:	
Email:	

B. DETAILS ABOUT THE PRODUCT				
MODEL	1	2	3	4
Brand:				
Model no.:				
Information on Family of model:				

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Page 1 | 56

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MODEL	1	2	3	4
Product Type: 1. Without freezer 2. With freezer, Adjusted Volume $\leq 300l$ 3. With freezer, $300l <$ Adjusted Volume $\leq 900l$ 4. With freezer, through-the-door ice dispenser				
Year of make:				
Compartment wise Volume (L)	Fresh food			
	1-star freezer			
	2-star freezer			
	3-star freezer			
	4-star freezer			
	Chill			
Cellar				
Total adjusted storage volume (in L)				
Annual Energy Consumption (kWh/year) :				
Name of Refrigerant:				
Refrigerant's ODP:				
Refrigerant's GWP:				
Safety Standard followed:				
Did the product pass all applicable safety tests? (Y/N)				

Form 3 (Test report format REF)



Ministry of Environment, Climate Change and Technology
Male', Republic of Maldives

ދިވެހިސަރުކާރުގެ ގެޒެޓް، ސަރުކާރުގެ ބޯލަންދުގެ ގޮތުގައި ސަފުޅާކުރި ފޯމް
ދެވިފައިވާ ފޯމް



FORM 3 – DETAILS OF TEST RESULTS REFRIGERATOR

Application No. (For Ministry use only):

- The sections below are to be filled by the applicant based upon the test reports issued by the accredited test laboratories.
- Test reports will only be accepted from accredited laboratories. An Accredited Laboratory is a laboratory accredited by a recognized accrediting authority which are Mutual Recognition Arrangement (MRA) signatories such as ILAC/APLAC to perform testing as per a certain test standard or protocol.
- For a list of accredited laboratories please visit Ministry of Environment, Climate Change and Technology website.
- Copy of the original test results should be submitted with this form for both performance and safety tests.
- For each model stated in Form 2, separate Form 3 should be filled and submitted.

A. DETAILS OF THE TEST RESULTS

Details of the test laboratory, where the tests as specified by the test standards has been conducted

Name of the test laboratory:	
Address:	
City:	
Province:	
Postal Code:	
Phone Number:	
Fax:	
Email:	
Website:	

B. DETAILS OF AUTHORIZED REPRESENTATIVE OF TEST LABORATORY

Name of the Authorized Representative:	
Designation:	
Phone no:	
Email:	

Version 1.0

Page 1 | 3

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The following test standard should be followed, and the following tests should be conducted.

1. Test standards followed	ISO 15502 test procedure (or IEC 62552 edition 1)
2. Tests to be conducted	1. Energy consumption test 2. Pull down temperature test
3. Safety test	IEC 60335 or the safety standard followed in the country of origin.

B. INFORMATION ON PRODUCT SAMPLES AND TESTS CONDUCTED

Test Report no:		
Date of receipt of sample by the lab:		
Date on which the tests are conducted:		
Serial no. of the sample tested:		
Year of Manufacture:		
Product type (Tick the product type):	Without freezer	
	With freezer, Adjusted Volume \leq 300l	
	With freezer, 300l < Adjusted Volume \leq 900l	
	With freezer, through-the-door ice dispenser	
Brand:		
Model No.:		
Information of Family of Model:		
Dimensions:		

C. SUMMARY OF TEST RESULT

Energy consumption test result:

Parameter	Specification	Observation	
		Warm	Cold
Average Temperature of freezer compartment (in °C)			
Average temperature of fresh food compartment (in °C)			
Temperature of cellar compartment (in °C)			
Temperature of crisper compartment (in °C)			
Energy meter reading (Wh)			
Time elapsed (minutes)			
Energy consumption rate per day (Wh/day)			
Annual energy consumption (kWh/year)			

Version 1.0

Page 2 | 3

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Pull down temperature test result:		
Parameters	Specification	Observation after 6 hours in °C (Celsius)
Average temperature of frozen food compartment (in °C)		
Average temperature of frozen food compartment (in °C)		
Temperature of chill compartment (in °C)		
Temperature of cellar compartment (in °C)		

The gross, storage and adjusted volume test result		
Gross volume (in L)		
Freezer compartment	Fresh food compartment	Total
Storage volume (in L)		
Freezer compartment	Fresh food compartment	Total
Compartment Type	Volume Correction Factor (Kc)	Compartment-wise volume (L)
Fresh Food	1.00	
4 star freezer	1.79	
3 star freezer	1.79	
2 star freezer	1.57	
1 star freezer	1.36	
Chill	1.13	
Cellar	0.75	

Total adjusted storage volume	
Total adjusted storage volume (in L)	

Safety test results	
Safety Test Standard followed (IEC 60335 or if any other, specify standard and country of origin)	
Did the product pass all applicable safety tests? (Y/N)	

Schedule 7 – Washing machine

Scope

The scope of the energy efficiency labelling program for washing machines sold in Maldives is listed below.

Sr.No.	Scope includes
1.	Automatic and semi-automatic washing machines
2.	Horizontal axis (front loaders) and vertical axis (top loaders) washing machines
3.	Capacity of up to 14 kgs.

Reference test standard

The technical standards to be used as normative reference for energy efficiency labelling program for washing machine are listed below.

- For front loaders: IEC 60456:2010- Clothes washing machines for household use - Methods for measuring the performance
- For top loaders: JIS 9606:1993 - Electric Washing Machines (Japanese Industrial Standard).

Test guidelines

All terms and definitions for testing of washing machines are as described in IEC 60456 for front loaders and JIS 9606 for top loaders. The guidelines for the conducting test shall be as described in IEC 60456 for front loaders, JIS 9606 for top loaders. The test parameters measured in the testing of washing machines shall be wash performance, rinse performance, spin extraction performance, water consumption per cycle, energy consumption per cycle.

Test report requirement

The applicant must submit a copy of original test report for performance and safety requirements issued by an accredited laboratory. The information in the test report must be also submitted in the format shown in **Schedule 7A Form 3**. Any deviation from the specified format is not allowed.

Product certification (safety requirements)

The safety certification requirements for washing machine imported into Maldives shall either be according to IEC 60335 or the safety standard followed in the country of origin.

Minimum qualification requirements

The minimum qualification requirement for the tested washing machine in order to be eligible for the energy efficiency labelling are as per the following criteria:

1. Meet requirement of 1 Star for Electricity use (max) kWh per cycle per kg, Water use (max) L per cycle per kg and Cleaning Performance (min.)
2. Pass all the tests applicable to the product as per safety certification requirements.

All the above requirements must be satisfied for the model to qualify for energy efficiency labelling program.

Energy Efficiency Label

Energy efficiency grading

The energy efficiency grade of a washing machine model shall be determined based on three parameters:

1. Electricity use kWh per cycle per kg (maximum)
2. Water consumption (L) per cycle per kg (maximum)
3. Cleaning performance (minimum)

The energy efficiency rating awarded to the model shall be the minimum star level of the above three parameters.

The table shown below defines the energy efficiency levels based on the above parameters for both top load and front load washing machines.

Rating	Top load (impeller type)			Front load (drum type)		
	Electricity use (max) kWh per cycle per kg	Water use (max) L per cycle per kg	Cleaning performance (min)	Electricity use (max) kWh per cycle per kg	Water use (max) L per cycle per kg	Cleaning performance (min)
Star 5 (highest)	0.011	14	0.90	0.11	7	1.03
Star 4	0.012	16	0.80	0.13	8	1.03
Star 3	0.015	20	0.80	0.15	9	1.03
Star 2	0.017	24	0.80	0.17	10	1.03
Star 1 (lowest)	0.022	28	0.80	0.19	12	1.03

Contents of the label

The following aspects shall be included in the EE label for Washing machine:

- Rating
- Per Cycle Water Consumption (L)
- Per Cycle Electricity Consumption (kWh)
- Test standards used
- Model specific detail
 - Type
 - Brand
 - Model number
 - Year of manufacture
- Capacity (Kg)
- Importer registration number
- Energy Saving compared to the lowest rated model
- Date of issue of label

Calculation of Energy Savings compared to lowest rated model

$$\text{Percentage energy saving compared to the lowest rated model} = 100\% - \left(100\% \times \frac{E_{\text{Measured}}}{E_{\text{Lowest star rating}}} \right)$$

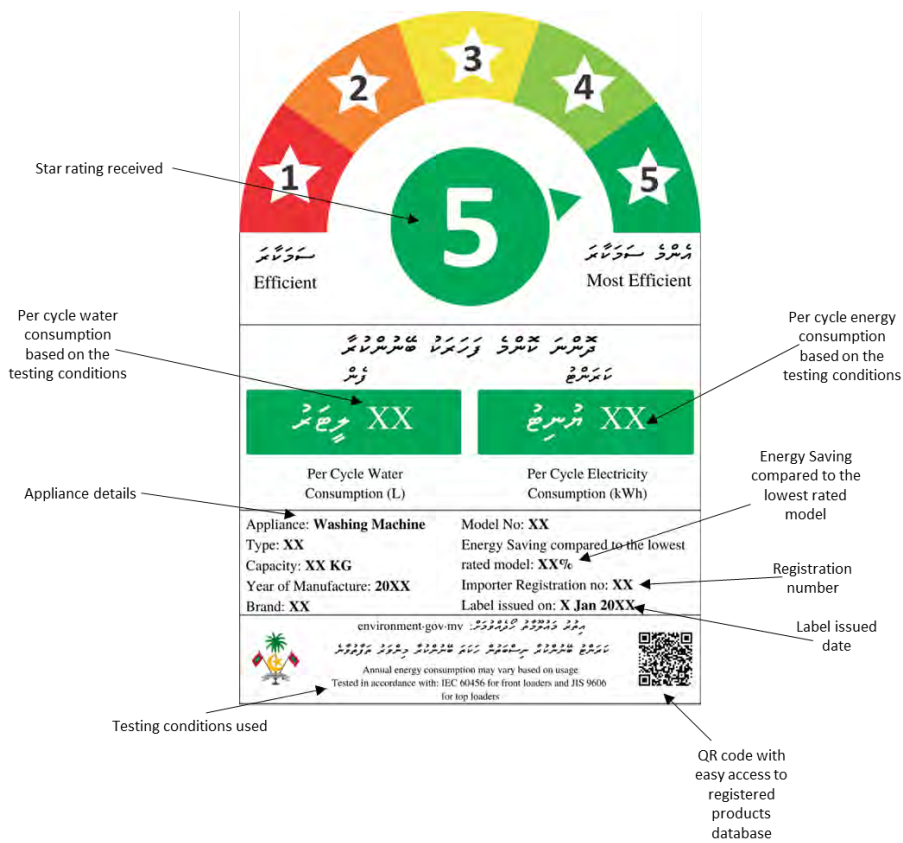
Where:

Electricity consumption per cycle per kg, E_{Measured} = Obtained from test report (kWh)

For top load washing machine, $E_{\text{Lowest star rating}} = 0.017$ kWh per cycle per kg

For front load washing machine, $E_{\text{Lowest star rating}} = 0.17$ kWh per cycle per kg

Format of the label

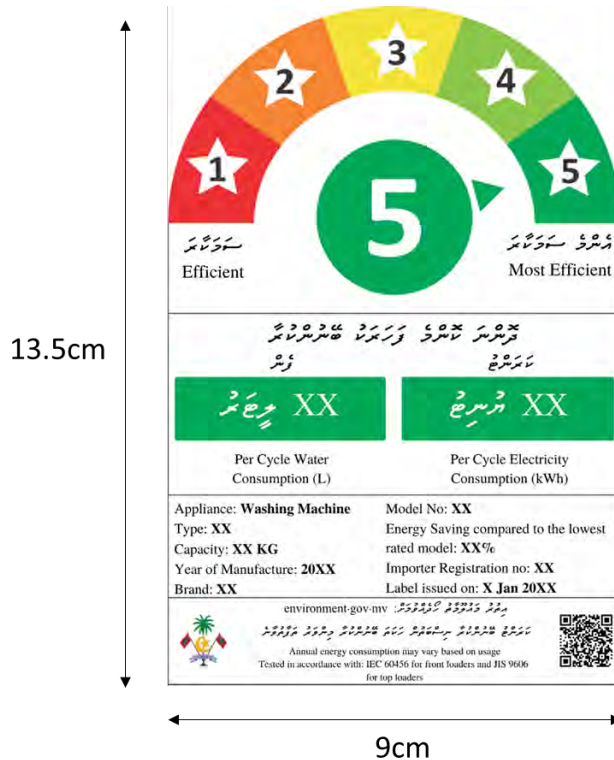


Label variation for different grades

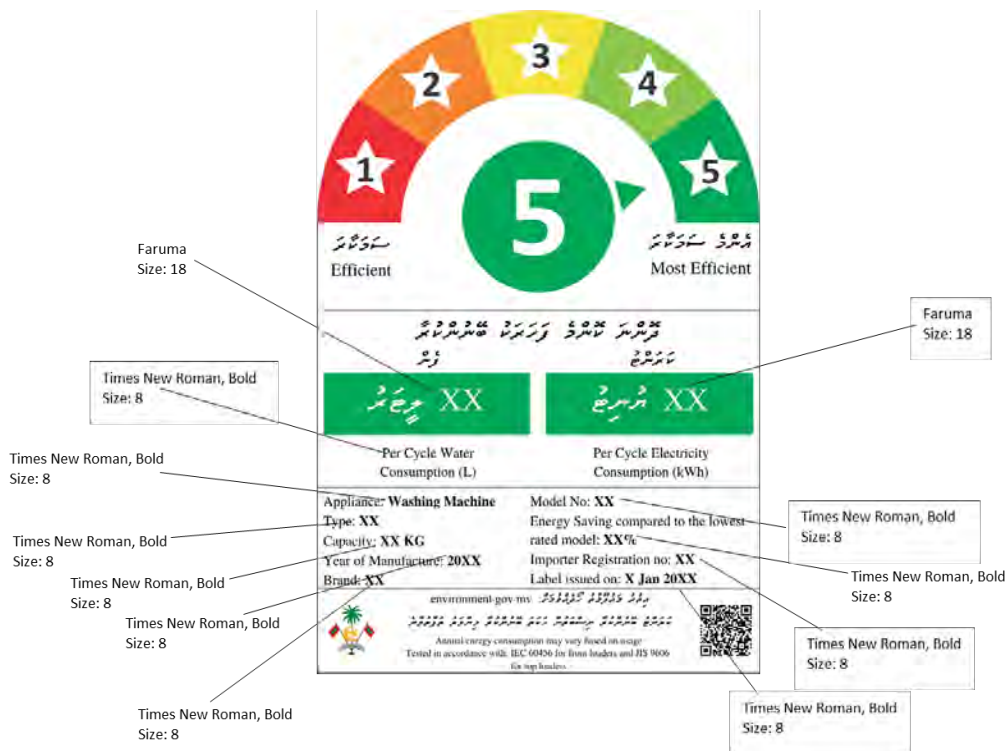


Size of the label

The size and dimension of the label shall be 13.5 cm length and 9 cm in width.

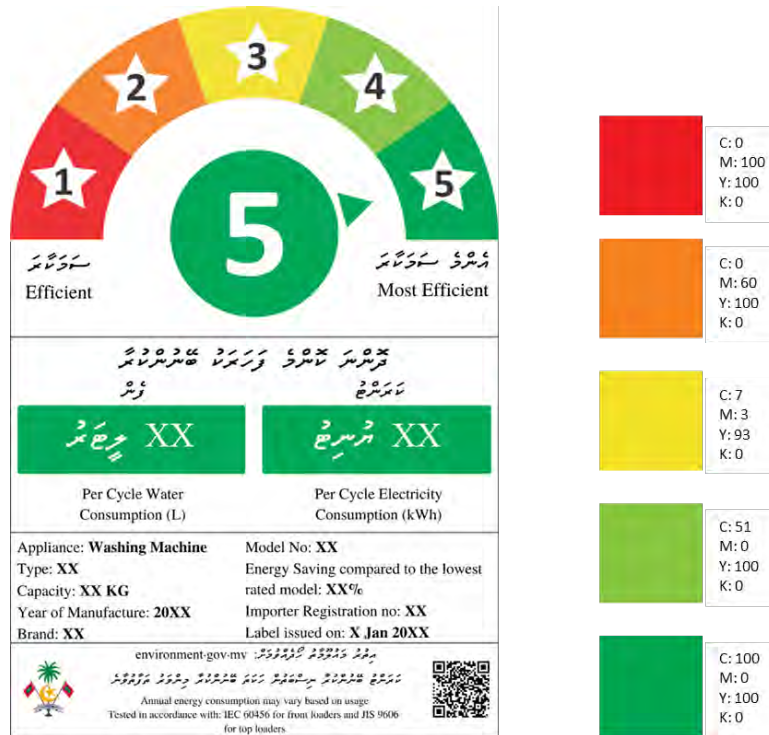


Font specification



Colour scheme

The label shall be printed according to the color specifications as follows:



Affixation of the energy label

The label shall be affixed on the appliance and on packaging of the appliance before it is sold to the consumer/retailer by the importer.



Schedule 7A – Forms and letters for labelling of washing machine

The forms and letters to be used for product registration of washing machine are included here.

Cover letter

(Sample content of cover letter)

(To be prepared in the letterhead of the organization submitting the application (applicant))

(Single cover letter can be used for energy labeling of one or more appliance type i.e. AC, REF, W/M)

To: **Energy Efficiency Section**
Energy Department,
Ministry of Environment, Climate Change and Technology
Handhuvaree Hingun, Maafannu, 20392,
Male, Republic of Maldives

Date: **[Insert date]**

Subject: Application for seeking approval for energy efficiency label

Dear **[insert recipient name]**,

This is with reference to the above subject and the program published by MECCT on energy efficiency labelling. I, on behalf of the M/s **[insert company name]**, is submitting this application for seeking permission from MECCT for energy efficiency label as per the criterion mentioned in the program.

Enclosures with this application: (List of forms attached and supporting documents attached)

Kindly evaluate the particulars attached with this application and confirm whether the appliances can be considered for EE labelling as per the program rolled out by MECCT.

Regards,

[Insert authorized representative name]

[Insert applicant title]

[Insert applicant organization name]

[Insert applicant address]

Form 2: Washing Machine - Product registration



Ministry of Environment, Climate Change and Technology
Male', Republic of Maldives

ދިވެހިސަރުކާރުގެ ގެޒެޓް، ބަނޑުގެ ރިޖިސްޓްރޭޝަން ފޯމް 2
Form 2: Washing Machine - Product registration



FORM 2- PRODUCT REGISTRATION WASHING MACHINE

FOR MINISTRY USE ONLY				
<i>FORM CHECKLIST</i>				
Model	1	2	3	4
Form 3				
Test Report				
Cover Letter				
<i>Application received by</i>				Signature
Application No:				
Name:				
Designation:				
Date:				

A. DETAILS ABOUT THE ORGANIZATION	
Importer Registration Number:	
Name of the authorized Representative:	
Designation:	
Mobile no.:	
Office no.:	
Email:	

B. DETAILS ABOUT THE PRODUCT				
MODELS	1	2	3	4
Brand:				
Model no.:				
Information on Family of model:				
Year of manufacture:				

Version 1.0

Page 1 | 56

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<i>MODELS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Capacity (kg):				
Product Type: <i>Top load</i> <i>Front load</i>				
Electricity consumption KWh/cycle/kg :				
Water consumption L/cycle/kg :				
Wash performance (%):				
Safety Standard followed:				
Did the product pass all applicable safety tests? (Y/N)				

The following test standard should be followed, and the following tests should be conducted.

1. Test standards followed	1. IEC 60456 test procedure (for front loaders) 2. JIS 9606 test procedure (for top loaders & semi-automatic)
2. Tests to be conducted	1. Wash performance (soil removal) 2. Rinse efficiency 3. Energy consumption 4. Water consumption 5. Water extraction
3. Safety test	IEC 60335 or the safety standard followed in the country of origin.

C. INFORMATION ON PRODUCT SAMPLES AND TESTS CONDUCTED

Test Report no:	
Date of receipt of sample by the lab:	
Date on which the tests are conducted:	
Product type (Tick the product type)	Top load
	Front load
Brand:	
Model No.:	
Information of Family of Model:	
Dimensions:	

D. SUMMARY OF TEST RESULTS

Brand /make:	
Model no.:	
Washing machine type	
Serial no. of the sample tested:	
Capacity (kg):	
In-built heater present (yes/no):	
Wash /Rinse program followed:	
Electricity consumption (kWh/kg/cycle):	
Water consumption (L/kg/cycle):	

Version 1.0

Page 2 | 3

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Wash performance:	
Rinse performance:	
Remaining moisture content (RMC) %:	
Year of Manufacture:	
Safety Test Standard followed (IEC 60335 or if any other, specify standard and country of origin)	
Did the product pass all applicable safety tests? (Y/N)	

