



Ministry of Environment , Climate
Change and Technology

HAKATHARI PROGRAM

A SUCCESS STORY OF THE LCEI PROJECT



Promoting Energy Efficient Buildings through
Strengthening Low Carbon Energy
Island Strategies (LCEI) Project



Electricity is a very important part of our daily lives. Electrical appliances are routinely used in our day-to-day activities. From small businesses to large corporations, electricity plays a major role in the country's progress and economic development. The establishment and operation of powerhouses across the Maldives over the years, and ensuring that they run 24 hours a day, was a major investment on the part of the citizens and the government of the Maldives. These powerhouses use up to 50% of the oil imported into the Maldives to generate electricity.



Figure 1: Hakathari Program was inaugurated by Honourable Aminath Shauna, the Minister of Environment, Climate Change and Technology

A significant amount of energy is used to regulate the temperature, lighting and for other purposes within buildings. Therefore, in addition to reducing the amount of fossil fuel used to generate electricity, further effort is required to decrease energy wastage due to inefficiencies. To achieve the goal of minimizing the amount of energy used in buildings, it is important to incorporate energy efficiency into the building's design, and encourage the use of energy-efficient appliances within them. As such, the government is

prioritizing several efforts to establish policies and procedures to promote energy efficiency. This includes the introduction of an energy efficiency Standards and Labeling Program in the Maldives. The program aims to enable meaningful comparisons of the energy consumption among appliances and introduce the most efficient and environment friendly product in the market. Furthermore, the program considers the appliances which have environment friendly refrigerants (ODP and GWP) and safety aspects.



Figure 2: Various stakeholders from the government and private sector attended the Hakathari launching ceremony

The Standards and Labeling Program by the name of “Hakathari” was launched on 16th September 2021. The name is given with the combination of words “hakatha” which means “energy” and “thari” which means “star” in Dhivehi language. The program was launched as a voluntary program and importers were invited to participate and register their products for attaining the Hakathari Label. The program was initiated with three appliances. They are air conditioners, refrigerators and washing machines.

Development process of the Standards and Labeling Program

The Hakathari program was developed through a consultative process with the feedback from various stakeholders including Maldives Customs Service, the Ministry of Economic Development, importers and retailers of electrical appliances as well as the general public. This includes surveys¹ and market study² that were conducted prior to the development of the program, as well as multiple stakeholder sessions that took place during the development of the program.



Figure 3: A half-day inception workshop held on 7th February 2018



Figure 4: First stakeholder workshop was held on 1st August 2018



Figure 5: Second stakeholder workshop was held on 5th March 2019



Figure 6: Third stakeholder workshop was held on 23rd October 2019

The Hakathari Label Design

In order to develop a locally appropriate and consumer friendly label, a consumer survey was conducted and based on the feedback from the public, the label was finalized. The meter on the top of the label shows the efficiency level of the product. The most efficient products will receive 5 stars. The label also shows the annual energy consumption of the equipment under standard conditions and includes additional information about the product.

¹ [Research on Consumer Behaviour and Preferences Regarding Energy Efficiency in Households](#)

² [Technical Analysis of Market to Develop Energy Efficiency Labels in Maldives](#)

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The efficiency levels for air conditioners and refrigerators are determined based on their energy consumption. And the energy efficiency levels of washing machines are determined based on both electricity and water utilized for every wash cycles. Thus, water consumption level is also displayed in the label of washing machines.



Figure 7: Orientation session held for the energy efficiency label design surveyors

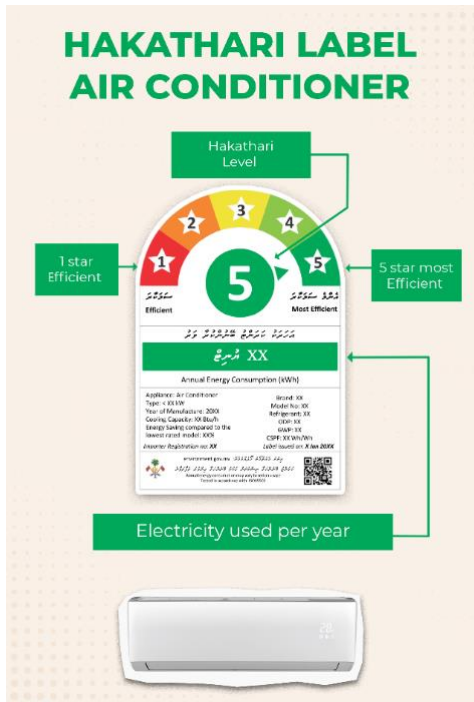


Figure 8: Air Conditioner Label

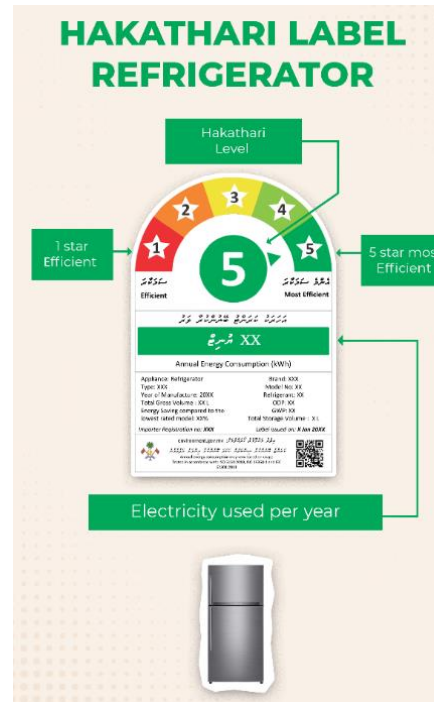


Figure 9: Refrigerator Label

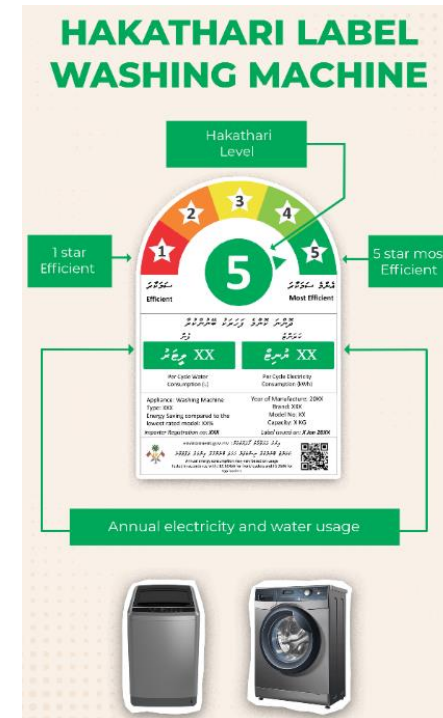


Figure 10: Washing Machine Label

Institutional arrangement

In order to implement the Standards and Labeling Program successfully, the Energy Efficiency Section was established in the Energy Department of the Ministry. The Section is responsible for the day to day implementation, monitoring and overall impact assessment of the program.

During the voluntary phase of the program, importers who wish to participate should first get themselves registered under the program and thereafter obtain approval for the models that they intend to get labeled.

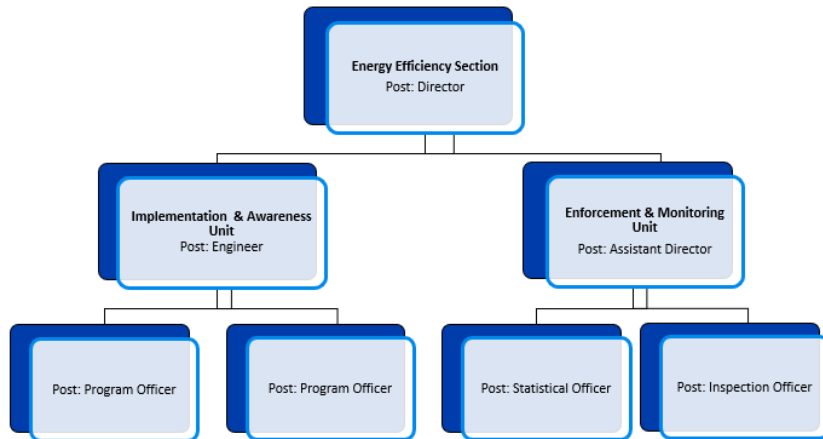


Figure 11: Organizational chart of energy efficiency section



Figure 12: For more information about the label check out: [What is the Hakathari Label?](#)



Figure 13: [Web page](#) developed and published to provide information about the program

Capacity building of stakeholders

A range of trainings has been conducted for capacity building of key stakeholders to implement the Hakathari program. A total of 127 stakeholders from Maldives Customs Services, relevant government agencies, importers, retailers and sales persons were trained under the LCEI project.

Details of the capacity buildings activities conducted

A four-day training program on energy efficiency standards and labeling programs was conducted in association with Energy Efficiency Services Limited



Figure 14: Participants of the training program with officials from Energy Efficiency Services Limited (EESL) of India

(EESL) of India. The training program was held in New Delhi, India from 25th -28th September 2017 with the participation of 6 stakeholders. The aim of the program was to build technical capacity to implement standards and labeling programs. The participants of the training were exposed to program design and administration, institutional mechanism, test procedures, consumer awareness programs, monitoring and verification etc. pertaining to standards and labeling programs with special reference to lights & air conditioners.

A training program of the Hakathari label for trainers, regulatory bodies, importers and retailers was conducted from 5th to 8th December 2021, with the participation of 115 stakeholders. The training program served as a capacity-building exercise for officers of regulatory bodies on the scope & applicability, implementation framework covering their roles and responsibilities, and monitoring and verification of the Standards and Labeling Program.



Figure 15: Hakathari training session held for importers, retailers and sales persons of electrical appliances



Figure 16: Hakathari training session held for the officials of Maldives Customs Service



Figure 17: Participants of the study tour with Department of Alternative Energy Development and Efficiency of Thailand

study tour of the Energy Efficiency Labeling Programme was conducted from 18th to 20th July 2022 for officials from the Ministry and Utility Regulatory Authority, in association with the International Institute of Energy Conservation in Bangkok, Thailand.

6 Stakeholders participated in the training program. The study tour included sharing of knowledge and experience of the Thai agencies in the implementation of their standards and labeling program, along with training regarding testing of electrical appliances for the attainment of energy efficiency labels. Visits were conducted to the Electrical and Electronics Institute, Electricity Generating Authority of Thailand and the Department of Alternative Energy Development and Efficiency.

Hakathari labeled appliances in the market

On 19th May 2022, State Trading Organization (STO) became the first company to initiate sales of Hakathari labeled appliances in the Maldives. The company registered 6 models of air conditioners with energy efficiency ratings between 4 and 5 stars. Additionally, 4 models of air conditioners with efficiency rating of 5 stars has been registered by the private importer Ranfaun.

Details of the approved models are available from: <https://www.environment.gov.mv/v2/en/hakathari-program>

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Figure 18: Awarding of Label Approval Certificates to STO on 12th May 2022



Figure 20: Training session on Hakathari program for STO staff was conducted on 18th May 2022



Figure 19: Awarding of Label Approval Certificates to Ranfaun Private Limited on 08th September 2022



Figure 21: Hakathari label launching event held at STO on 19th May 2022

Driving the demand for Hakathari labeled appliances

Hakathari awareness campaign was initiated prior to the launching of the program. The first phase of the awareness campaign was carried out to increase the general public's awareness on energy efficiency, climate change, and contribution of electrical appliances to these aspects. The second phase of the awareness campaign began with the launching of the program. The program was launched at a grand ceremony, with all stakeholders including importers in attendance. The launching was highly publicised following which specific information was relayed through public news channels and several tv and radio programs. Information distribution and awareness creation towards to the Hakathari program was continued through audio and visual means and through different channels – social media, tv channels, billboards and radio.

A list-based financing scheme for Hakathari labelled appliances was initiated on 15th August 2022. This scheme was initiated via an agreement between the Ministry and Maldives Islamic bank (MIB) which was made to facilitate affordable access to Hakathari labelled appliances. Under the agreement, MIB will facilitate the purchase of 3, 4 and 5-star rated appliances from the list of items labeled under the Hakathari Program. Under this financing scheme, Hakathari labelled appliances can be purchased at a rate of 10%, which is a 5% reduction from their original market rate of 15%. From the LCEI project, MVR 12,288,000 was allocated for the implementation of the financing scheme which the bank will use as a guarantee to run the scheme. The bank will provide financing from its own funds of up to MVR 15,360,000 for the purchase of Hakathari-labelled appliances. The funds will be revolved and customers can continue to utilize the scheme to purchase Hakathari labelled appliances.



Figure 22: Maldives Islamic Bank promoting the financing scheme of Hakathari labeled appliances

Impact of Standards and Labeling Program

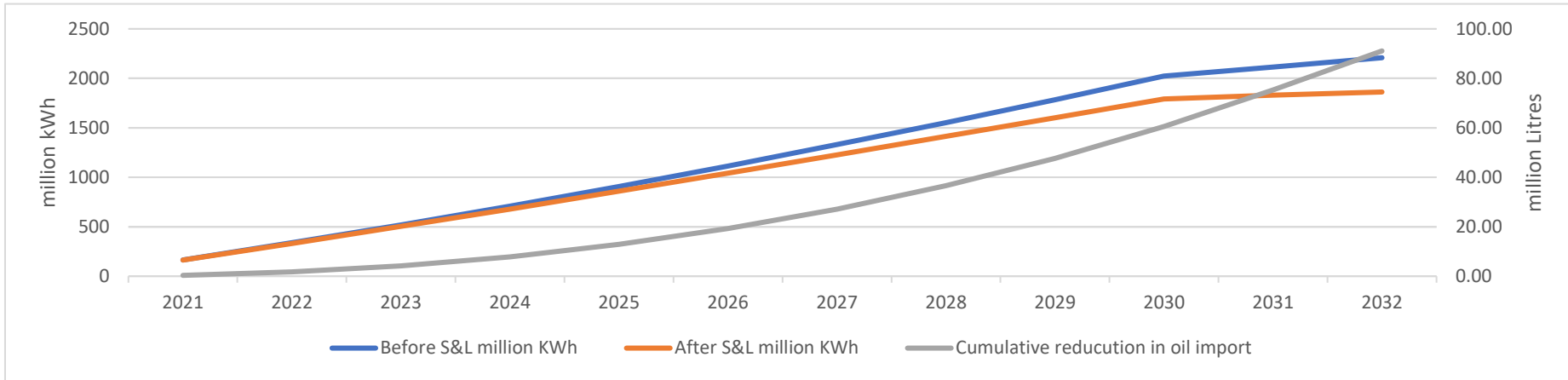


Figure 23: Estimated energy consumption for 3 appliances before and after implementation of Standards and Program & cumulative reduction in oil consumption as a result of Standards and Labeling Program

Overall, the total energy consumption in the baseline scenario (without energy label) and the ideal scenario (with label implementation) contributed from the three appliances by 2032 is shown below. With the successful implementation of this program, by 2032, the Hakathari labeling program will reduce energy consumption by 16%.

In addition to this, due to the efficiency gains, it is expected that the need for additional generation capacity will be avoided by approximately 147 MW. As a result, MVR 800 million will be saved from acquiring and establishing new powerhouses.

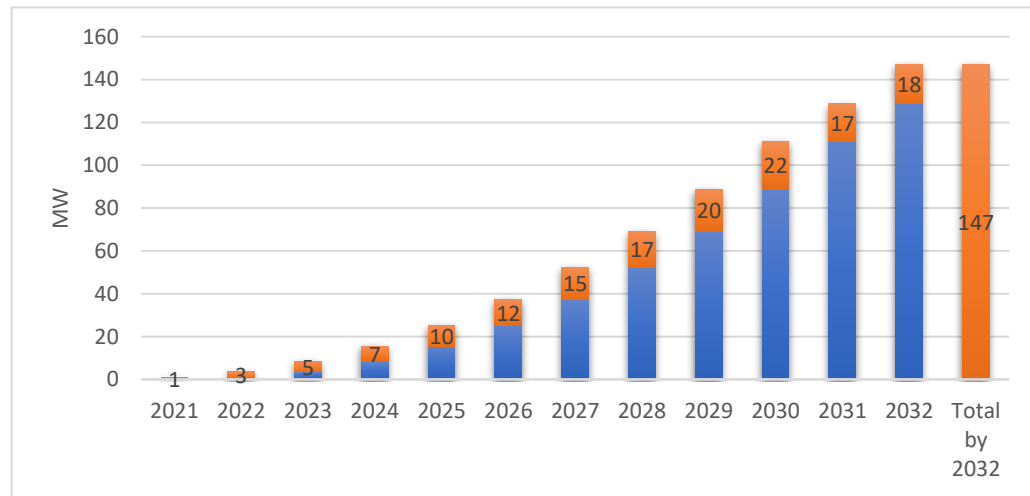


Figure 25: Generation capacity avoided by 2032

The avoided energy consumption corresponds to reduced fossil fuels used by the powerhouses, saving 91 million litres of oil by 2032. Alongside this, using energy-efficient washing machines will save 14 million litres of water. Therefore, as a result of the Hakathari program, a total of 1,020,903 tonnes of carbon dioxide equivalent is estimated to be reduced within a 10-year period.

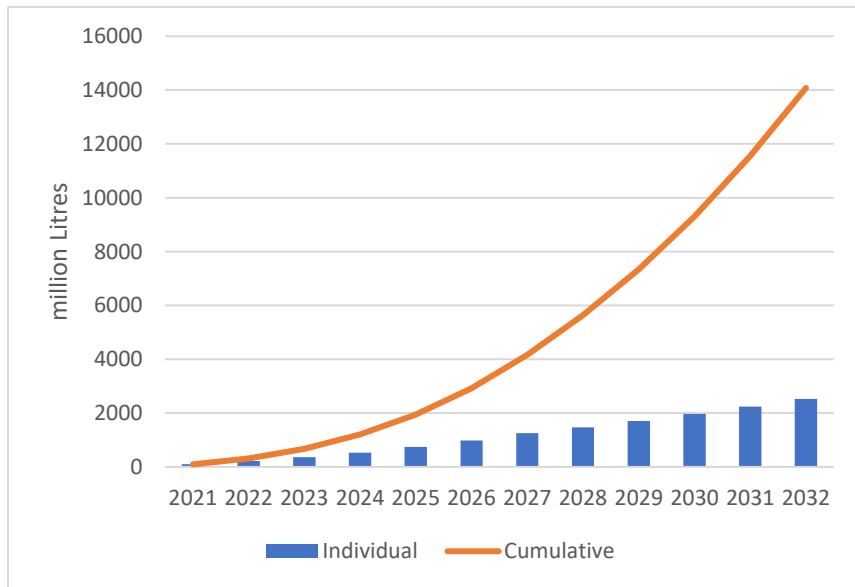


Figure 26: Water savings from Standards and Labeling Program

Future plans

The public awareness campaign will be continued by the energy efficiency section of the Ministry. This will help to get more importers on board the Hakathari program. The campaign will also educate consumers on the benefits of using energy-efficient appliances and encourage them to purchase Hakathari labeled appliances. More importers are expected to participate in the program once the Hakathari online portal is launched as it will significantly streamline the application process. In addition to this, once an adequate number of appliances are registered under the program, the Ministry plans to propose the collection of import duty from appliances not registered under the Hakathari program. To further promote the Hakathari program, the Ministry also plans to work with the Ministry of Finance to revise the public procurement policy so that only Hakathari labelled appliances that meet a certain energy efficiency level is procured by public offices. The program is planned to be made mandatory after a period considering market performance. Once the program becomes mandatory, all relevant equipment sold in the market will be required to have the Hakathari label.



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For more information visit: <http://www.environment.gov.mv/v2/en/project/2232>

Ministry of Environment, Climate Change and Technology (MECCT)
Green Building, Handhuvaree Hingun,
Maafannu, Male', 20392, Republic of Maldives.
www.environment.gov.mv