

MINISTRY OF POWER & RENEWABLE ENERGY
CABINET MEMORANDUM

Cabinet Memo No. 21/2017/PE

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Provision of Light Emitting Diode Lamps (LED Lamps) to the Households with Less Electricity Consumption under the National Programme of Demand Side Energy Management.

1. Background

The Government has given a high priority to the Demand Side Energy Management and as per the Cabinet approval dated 31.03.2016, a Presidential Task Force was appointed to implement this broadly herein, the Ceylon Electricity Board, Lanka Electricity Company (Pvt) Ltd. and Sri Lanka Sustainable Energy Authority jointly implement the National program of Demand Side Energy Management and making Energy Conservation and Energy Efficiency popular among the consumers.

Under this program, it has been proposed to distribute LED light bulbs among the consumers with less electricity consumption at a concessionary loan scheme to encourage them to use energy efficient bulbs.

In the case of last year, the annual electricity demand was 14,200 GWh and domestic consumers have consumed approximately 40% of this, in this year the daily electricity demand is 40-45 GWh and the required capacity at night peak hours is about 2,300 - 2,400 MW.

The demand of electricity is increasing rapidly these days due to the prevailing dry weather condition and the daily electricity demand is about 40-45 GWh. A substantial amount of this is consumed for lighting during the peak hours at night. This is use of approximately 340 MW of capacity during the peak hours. This situation aggravates as the unit cost of electricity generated during peak hours at night is high. Electricity customers of Sri Lanka still use inefficient bulbs for lighting and this happens largely among low income families who consume less amount of electricity. The basic reason for this is, the households who consume less amount of electricity are incapable to purchase efficient bulbs due to the situation that the up-front cost for efficient bulbs is considerably high. Electricity consumption can be considerably reduced by introduction of efficient bulbs while replacing inefficient bulbs that use in households who consume less amount of electricity. This will pave the way to reduce the peak demand of electricity. The average cost for generation of one unit at the peak hours at night is considerably higher than the average cost for the generation of one electricity unit by the Ceylon Electricity Board. Further, electricity price for the families who consume less electricity is considerably lesser than the average selling price of an electricity unit as per the existing pricing system.

2. Description

It will be able to replace inefficient incandescent bulbs which are used by low income families by distribution of high quality and efficient LED bulbs to the said consumers. It has been proposed to provide LED bulbs by Ceylon Electricity Board under this program to the households that consume less amount of electricity. Further, it is calculated that a considerable amount of electricity can be saved by providing LED bulbs to the identified electricity consuming family units as mentioned in the table below.

Electricity Consumption (kWh per month)	1-30	30-60	60-90	Total
Number of LED bulbs proposed to supply to a household	2	3	4	
Number of houses	883,219	1,626,700	1,383,602	3,893,521
Required Total Number of LED bulbs in Million	1.59	3.90	4.43	9.92
Electricity that can be saved (GWh)	6	14	16	36
Reduction of peak electricity demand (MW)	49	119	135	304

By providing LED bulbs under this project, below mentioned benefits can be achieved.

- i. Purchasing LED light bulbs for the low income household customers who consume less amount of electricity, within the system of replacement of incandescent bulbs and the system of recovery of the cost of the LED bulbs with the monthly bill of the consumers through a concessionary method.
- ii. Solution for the health and environmental problems occurred due to the usage bulbs such as CFL.
- iii. Encourage the electricity consumers for demand side energy management by using high efficient bulbs.
- iv. Creation of new demand for LED bulbs. As a result of that, in future consumers will get the opportunity to purchase efficient LED lamps at low prices.
- v. Ability to replace the existing inefficient incandescent bulbs systematically through the popularization of efficient LED bulbs among the electricity customers.

It is proposed to implement this proposal expeditiously and the LED bulbs will be provided by Ceylon Electricity Board and the Lanka Electricity Company to the consumers on the customers' willingness.

The cost of the bulbs will be recovered from the customers in equal monthly installments within 24 months with the monthly electricity bill, without any interest charge. The said purchasing will be carried out under the Government approved procurement process, i.e. competitive tender process.

Herein, the qualifications of the importers and manufacturers and the technical features of the LED bulbs will be properly evaluated. It is expected to complete this project within 03 months and subsequently the progress of the project will be monitored monthly.

It has been proposed to purchase 10 Million LED bulbs under this project, and the estimated cost for this is Rs. 2,000 Million. The said money will be borne by the Ceylon Electricity Board. Further, Rs. 5,980 Million could be saved annually due to saving of electricity as a result of distribution and use of the said 10 Million LED bulbs. Moreover, the cost of the said project could be completely recovered approximately within 04 months through the reduction of the electricity generation. However, it has been proposed to purchase 01 Million LED bulbs as the first phase and subsequently the other light bulbs could be purchased on the success of the programme.

3. Proposal

The approval of the Cabinet of Ministers is sought to authorize the Ceylon Electricity Board for the implementation of the below mentioned proposals to introduce the high efficient LED bulbs replacing inefficient incandescent bulbs.

- i) To purchase 01 Million LED bulbs through the international competitive tenders in order to encourage use of efficient LED bulbs among the customers.
- ii) Distribution of the said LED bulbs to the low income families as mentioned in chapter 02 and to recover the cost from the customers in equal monthly installments within 24 months without any interest with the monthly electricity consumption charges.

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