INDIAN COUNCIL OF AGRICULTURAL RESEARCH
KRISHI BHAWAN: NEW DELHI

F. No. GAC-21-41/2014-CDN Dated the 26th Aug., 2014

ENDORSEMENT

Ministry of Power, Shram Shakti Bhawan, Govt. of India, New Delhi has issued instructions regarding promotion of Light Emitting Diode (LED) bulbs in place of Compact Fluorescent Lamp (CFL) and Incandescent Lamp (ICL). As approved by the competent authority, this D.O. No. 9/20/2014-EC dated 5.8.2014 has been uploaded on the ICAR web-site www.icar.org.in and e-office for information and strict compliance.

(J.N. Bhagat)
Under Secretary (GAC)

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भारतीय कृषि अनुसंधान परिषद
कृषि भवन - नई दिल्ली

फा0सं0.सा.प्र.स.- 21-41/2014-समन्वय

दिनांक 26.8.2014

पृष्ठांकन

ऊर्जा मंत्रालय, श्रम शक्ति भवन ने मंत्रालयो/विभागो द्वारा सीएफ़एल (CFL) ओर आईसील(ICL) बल्ब के स्थान पर एलईडी (LED) बल्बो के खरीद के संबंध मे निर्देश जारी किए है। सक्षम प्राधिकारी द्वारा अनुमोदित दिनांक 05/08/2014 के इस डी॰ ओ॰ स॰ 9/20/2014-ईसी को ई-ऑफिस एवं भा॰ कृ॰ अनु॰ परि॰ कि वेब साइट मे सूचना तथा अनुपालन हेतु अपलोड किया जा रहा है।

(जे. एन. भगत)
अवर सचिव (जीएसी)

वितरण:-

1. भा.कृ.अ.प. के संस्थानों/परियोजना निदेशालयों/राष्ट्रीय अनुसंधान केन्द्रों/परियोजना समन्वयकों/ अनुसंधान परियोजना समन्वयकों/क्षेत्रीय परियोजना समन्वयकों के सभी निदेशक/ब्यूरों के सभी निदेशक।
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3. भा.कृ.अ.प. के सभी अधिकारी/अनुभाग कृषि भवन/कृषि अनुसंधान भवन-1/2, एनएएससी काम्पलेक्स।
4. श्री हंस राज, आईएसओ, (डीकेएमए), कृषि अनुसंधान भवन-1 को आईसीएआर की वेबसाइट पर डालने करने हेतु।
5. सचिव (कर्मचारी पक्ष) सीजेएससी राष्ट्रीय मांस अनुसंधान केन्द्र चंगीचेरला हैदराबाद-500039
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7. गार्ड फाइल/अतिरिक्त प्रतियां

प्रदीप कुमार सिन्हा
सचिव
भारत सरकार

PRADEEP K. SINHA
Secretary
Government of India

D.O. No. 9/20/2014-EC

सत्यमेव जयते

Ministry of Power
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05.08.2014

Dear Dr Ayyappan,

This is regarding promotion of Light Emitting Diode (LED) bulbs in place of Compact / Fluorescent Lamp (CFL) and Incandescent Lamp (ICL). Lighting accounts for more than 15% of the total electricity consumption. The general lighting demand is estimated to be around 40 GW of which the residential demand is about 30 GW and the commercial demand is about 10 GW. The Low Carbon Committee report of the Planning Commission of India estimates that 45-65 TWh of electricity can be saved by 2020 through efficiency measures in lighting.

2. There are approximately 1400 million lighting fixtures in residential and commercial sectors with 50% share of CFL, 25% share of Fluorescent Tube Lights (FTLs) and 25% share of ICL. LED lamps and LED tube-lights relatively have a very small market share. However, LED lamps and LED tube-lights are the most efficient and have a much longer life. They are about 25% more efficient than CFLs, 23% more efficient than T5 tube-lights and 80% more efficient than ICLs. Though the price of LED is relatively high as compared to other light sources, their lifetime cost is much lower. The lifetime cost comparison of LEDs over CFLSs and ICFs is attached as Annexure. Moreover, the cost of LED bulbs will come down significantly as the volume increases.

3. The high energy efficiency of LED can be gauged from the fact that a 9W LED bulb would give the same light output as a 12W CFL or a 60W ICL. An ASSOCHAM study of 2011 shows that widespread use of efficient lighting devices mainly LEDs would save India around 34,723 MW of generating capacity. Apart from this, life of LEDs is about 4-5 times that of CFL and 20-30 times that of ICL and they also work over a wide voltage range.

4. In view of the given consideration, I would like to suggest that your Ministry / Department and attached subordinate offices may procure only LED bulbs instead of CFL or ICL for future lighting.

With regards,

Yours sincerely,

(Pradeep K. Sinha)

Encl : as above

Dr. S. Ayyappan
Secretary,
Department of Agricultural Research & Education,
Krishi Bhawan, New Delhi

Lifetime Cost Comparison of LEDs over CFLs and ICLs:

Parameters	Unit	LED	CFL	ICL
Projected Lifespan	Hours	30000	6000	1000
Watt per bulb	watt	9	12	60
Cost per bulb	INR	400	120	15
KWh of Electricity used over 30000 hrs	kwh	270	360	1800
Lifetime Cost of Electricity (@Rs. 5.00/kwh)	INR	1350	1800	9000
Bulb Needed for 30000 hrs		1	5	30
Cost of appliances	INR	400	600	450
Total Cost for 30000 hrs	INR	1750	2400	9450

This comparison indicates that LED bulbs are the least-cost option even at today's prices. The benefit would increase as prices reduce and performance becomes better.