

KONGUNADU ARTS & SCIENCE COLLEGE

(AUTONOMOUS)

[Re-accredited by NAAC by 'A+' Grade (4th cycle)]

[College of Excellence (UGC)]

Coimbatore-641029, Tamil Nadu, India



ENERGY AUDIT REPORT

Submitted by

Department of Physics

2021-2022

ENERGY AUDIT CERTIFICATE

This is to certify that an Energy Audit for Kongunadu Arts and Science College has been conducted to access energy consumed by tube lights with conventional & electronic chokes and fans with conventional regulators. Measures to reduce energy consumption by replacing with LED tube lights and electronic regulators for fans are suggested which will lead to cost of saving.

Place: Coimbatore

Date: 11.03.2022


Asst. Executive Engineer
O&M / TOWN / TANGEDCO
CEDC / South Somanur


HoD of Physics 11/3/2022

Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
Coimbatore - 641 029.

Report of Energy Audit

National level workshop on Energy Audit was jointly organized by the Department of Physics, KASC and ISCA Coimbatore Chapter on 16.12.2021. In technical session I, Er.P.Nagarajan, M.E Assistant Executive Engineer, TNEB, Somanur, Coimbatore delivered a lecture on Energy Audit. He also provided Hands on training on Energy Audit of the College to the faculty and students of the Department of Physics.

37 students were divided into 12 groups, and they have been instructed to collect the energy consumption of tube lights and fans by the offices of The Secretary, Principal, Dean – Academics, Dean Research and Development. Students also collected the data from aided office, unaided office, aided departments (Tamil, English, Maths, Physics, Chemistry, Botany, Zoology, Biochemistry and Computer Science) and self- financing departments (Tamil, English, Maths, Chemistry, Biochemistry, Biotechnology, Psychology, Costume Design and Fashion, School of Computer Sciences and School of Commerce), Controller Section, Placement Cell, Physical Education, and library & information Centre.

Energy & Cost Savings by tube lights and fans

It is found that 264 tube lights are with conventional chokes (40 W), 98 tube lights are with electronic chokes (36 W) and 255 fans are with conventional regulators (70 W). Power consumptions per month @ 6 hrs/day has been estimated as 1901 units, 635 units and 3213 units for tube lights with conventional chokes, electronic chokes and fans with conventional regulators respectively.

Cost consumption by the existing tube lights and existing fans are estimated as Rs. 15216 and Rs.19278 respectively. It is suggested that the existing tube lights and regulators for fans can be replaced by LED tube lights and electronic regulators for fans. Energy saving of 1233 units / month by tube lights and 1377 units/month by fans is possible.

Cost of saving/month amounting to Rs.7398 and Rs.8262 (Total Rs. 15660/-) is expected if the existing tube lights and regulators for fans are replaced. It is highlighted that one year payback period for tube lights and 5 months payback period for electronic regulators of fans is required.


11/3/2022
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Table 1: Energy and Cost Savings

S.No	Particulars	Existing Tube lights with conventional chokes (40 Watts)	Existing Tube lights with electronic chokes (36 Watts)	Replacement by LED Tube lights (20 Watts)	Existing fans with conventional regulators (70 Watts)	Replacement by Electronic regulators for fans (40 Watts)
1	Total numbers	264	98	362	255	-
2	Total power consumed per month @ 6 hrs/day (Units)	1901	635	1303	3213	1836
3	Cost/Month @ Rs. 6/unit	Rs.11406	Rs.3810	Rs.7818	Rs.19278	Rs.11016
4	Units Saved /Month	1233			1377	
5	Cost of Saving/Month	Rs. 7398 /-			Rs.8262/-	

Table 2: Pay Back Period

S.No	Particulars	LED Tube Lights (362 numbers)	Electronic Regulator for Fans (255 numbers)
1	New Cost	Rs.250/-	Rs.150/-
2	Investment required	Rs.90500/-	Rs.38250/-
3	Pay Back Period	1 Year	5 Months

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