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## RM. MAYILERU & Co.,

CONSULTING ENGINEERS (CIVIL & MECH) ☆ CHARTERED ENGINEERS  
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GSTIN : 33ADJPM0983E1ZN

June 3, 2020

### **CERTIFICATE ON ENVIRONMENT AND GREEN AUDIT**

This is to certify that Environment and Green Audit has been carried out at 'Karpagam Academy of Higher Education' on 28.02.2020.

The institution had taken enough measures in planting trees, prohibited usage of plastic within the campus and taken necessary measures to keep the environment clean.

However, our report has pointed out a few areas of further improvement.

  
**RM.MAYILERU**

**ACCREDITED ENERGY AUDITOR – AEA – 0041**





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GSTIN : 33ADJPM0983E1ZN

June 3, 2020

### **CERTIFICATE ON ENERGY AUDIT**

This is to certify that Energy Audit has been carried out at 'Karpagam Academy of Higher Education' from 27.02.2020 to 29.02.2020.

We appreciate the interest and the commitment shown by the Institution and we have also suggested few measures for strengthening their energy saving system.

  
**RM.MAYILERU**

**ACCREDITED ENERGY AUDITOR – AEA – 0041**







# RAM KALAM -CENTRE FOR ENERGY CONSULTANCY & TRAINING

CHENNAI

COIMBATORE

ERODE

(Regt. Office No. 8, VPK Garden, Coimbatore-641 062,

Mobile: +91-99420 14544, 80567 19372, Email: ramkalamcect@gmail.com)

## CERTIFICATE

To whomsoever it may concern

This is to certify that, we have conducted a preliminary **Energy & Environment Audit** conducted in M/s. KARPAGAM ACADEMY OF HIGHER EDUCATION, Pollachi Main Road, Eachanari Post, Coimbatore - 641 021, Tamil Nadu, India on **28 August 2019**. The summary of the audit process along with achievable recommendations are given below:

- Represent energy consumption for each application graphically and identify which application consumes higher power
- Prepare a target plan to convert the conventional system into energy efficiency system indicating their i) Initial cost involved, ii) Annual energy savings, iii) Simple payback and iv) Reduction of CO<sub>2</sub> emission. Submit the same to the management, get approval start implementing the measures in fixed time scale.
- Also prepare the annual energy consumption of all types of energy usage like i) Electricity, ii) LPG (for cooking), and iii) any other fuels used for regular applications
- Concentrate on E-waste generation. Identify the possible list of E-waste generated in the college campus. Form a committee to manage the E-waste. Identify a separate space to store the E-waste along with all standard precautions. Quantify the E-waste at regular interval and establish a MoU with third party for safe disposal.
- Conduct an Ambient Air quality study inside the college premises and measure the major air pollutions (SO<sub>x</sub>, NO<sub>x</sub>, PM, O<sub>3</sub> etc) and ensure that these values are within the limits (as per NAAQS or TNPGB). Try to install the system permanently in the college campus.

Equipment's/Systems Audited (Audited and Accounted for the year 2018-2019);

- Electrical and Thermal Utilities
- E-waste generation and storage
- Ambient analysis for entire campus

Thank You

Yours Truly,

(Dr. S.R. SIVARASU)

M/s. Ramkalam - Centre for Energy  
Consultancy & Training (RK-CECT),  
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**Dr. S.R. SIVARASU, Ph.D.,**  
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- Conduct a study on STP and develop the water balancing (waste water inlet, treated water outlet, quantity of sludge formation, energy consumption for per litre water treatment and chemicals used if any)
- Conduct a detailed study on energy consumption of each buildings and categorize the buildings based on their energy consumption
- From the study; identify the equipment's which consumes higher energy and prepare a plan to replace the same into energy efficient gadgets in a phased manner
- Graphically represent the energy consumption of all locations and implement best energy conservation practices only to high energy consuming building
- Ensure that the campus energy demand should not exceed the permitted demand. Also ascertain that no penalty was paid to the electrical distribution utility.
- Based on the energy study; prepare a list highlighting the % energy saving after replacing the conventional lights, ballasts and fans into energy efficiency system
- Similar to the energy analysis; conduct green campus study indicating i) total no. of matured trees, ii) flowering bushes and iii) shrubs

Equipment's/Systems Audited (Audited and Accounted for the year 2017-2018);

- Energy consumption of electrical system
- Sewage Treatment Plan (STP)
- Campus greenery and Waste management facilities.

Thank You

Yours Truly,

(Dr. S.R. SIVARASU)

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- Conduct a study on water utilization in the college campus
- Prepare a plan for maximum water utilization from natural source and reduce the water consumption from the bore wells
- Convert the existing conventional pumps into BEE star rated energy efficient pumps which directly saves nearly 15 % of present energy consumption
- Install drip irrigation or low pressure water sprinkler for gardening water supply
- Develop a policy for waste handling and management
- Conduct a study on availability of matured trees inside the campus along with their location, botanical name and landscape area.
- Convert (one to one) the existing Fluorescent Lighting into non-blue tinge LED lightings in most utilized areas.
- Measure the Ambient Air Quality (AAQ) in the college premises as per NAAQS at regular interval and display the values in prominent places to know all stake holders.
- Prepare a plan to increase the coverage of i) tree, ii) renewable energy sources.

### Equipment's/Systems Audited (Audited and Accounted for the year 2016-2017);

- Electrical systems (Including lighting, fans and HVAC)
- Water pumping system
- Campus greenery, Quality of ambience and Waste management facilities.

Thank You

Yours Truly,

(Dr. S.R. SIVARASU)

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- Assess the recycling water usage from the existing Sewage Treatment plant (STP).
- Quantify the total amount of sludge formation
- Identify the best operating practices to re-use the sludge as manure.
- Evaluate the drinking water usage and quantity as per building wise
- Install water flow meters at vulnerable points and measure the water consumption
- Use pressure based water sprinkler for gardening
- Detect the possible ways for water leakage and make swift actions to arrest it
- Segregate bio and non-bio degradable wastes
- Develop and implement some best polices for plastic usages inside the campus
- Identify the sources for Renewable Energy Generation like SPV Plants, Street lights, Bio-gas generation, Solar Hot water generation for cooking application etc.,
- Conduct awareness programmes at regular intervals on Energy-Environment-Ecology for both staffs and students
- Involve the student participation for Energy and Water conservation

### Equipment's/Systems Audited (for the year 2015-2016);

- Electrical networks, Lighting, Fan and AC system
- Water distribution network including STP
- Waste management facilities.

Thank You

Yours Truly,

(Dr. S.R. SIVARASU)

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