RAM KALAM -CENTRE FOR ENERGY CONSULTANCY & TRAINING

CHENNAI COIMBATORE ERODE

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CERTIFICATE FOR ENERGY-ENVIRONMENT-GREEN AUDIT PROCESS

This is to certify that, we have conducted an ***ENERGY-ENVIRONMENT-GREEN AUDIT*** in THAMIRABHARANI ENGINEERING COLLEGE, Thatchanallur, Tirunelveli – 627 358, Tamil Nadu, India on 12 JUNE 2017. The description of the audit process is given below.

S. No.	Description	Parameters
1.	Present Annual Energy Consumption	1,09,129 kWh + 6,256 kg of LPG
2.	Proposed % of Energy Savings	10.0 % Electrical + 5.0 % LPG
3.	Proposed Annual Energy Savings	10,913 kWh + 313 kg of LPG
4.	Proposed Financial Savings	Rs. 1.1 Lakhs
5.	Initial Investment Required	Rs. 2.0 Lakhs
6.	Simple Payback Period	Nearly 1.8 Years

Analysis of Environment Audit Process and CO_2 Balance Sheet:

S. No.	Annual Energy Consumption & CO_2 Emission			Annual CO_2 Neutralization		
	Description	Annual Usage	CO_2 Emission (Tons)	Description	Annual Usage	CO_2 Neutralized (Tons)
1.	Diesel	53,298 Litres	140.7	Mature Trees	626 No's	13.6
2.	Electrical Energy	1,09,129 kWh	89.5			
3.	LPG	6,256 kg	18.8			
4.	Total Emission		249.0	Total-Neutralized		13.6
Balance CO_2 to be Neutralized = 235.4 Tons/Annum & Per Capita CO_2 Consumption = 0.30 Tons/Annum [1]						

([1] Total strength of students, teaching and technical staff = 775)

Recommendations of the Audit Process:

I. Energy Conservation & Management:

1. Reduce the LPG consumption by regularly clean the burners
2. Decrease the LPG consumption by arresting the leakages on the distribution pipes.
3. Foot valve of all the submersible and open well pipes must be cleaned at regular intervals and this ensure i) free flow of water and ii) reduced power consumption.
4. Awareness programmes must be conducted to all the students and staffs. Disseminate the success stories on achieved energy conservation.

II. Environmental Management:

1. Evaluate the drinking water usage and quantity as per building wise
2. Install water flow meters at vulnerable points and measure the water consumption
3. Use pressure based water sprinkler for gardening

PRINCIPAL
THAMIRABHARANI ENGINEERING COLLEGE
Chathirampudukulam Village,
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4. Detect the possible ways for water leakage and make swift actions to arrest it
5. Segregate bio and non-bio degradable wastes
6. Restrict the use of single use plastics inside the college campus
7. Create an awareness among the students not to use the plastic items inside the campus
8. To conduct an Indoor Lighting Audit and asses the illumination level at various places
9. Use environmental friendly refrigerants in air conditioning system

Equipment's/Systems Audited:

- Electrical System & Network
- Lighting, Fan & Air Conditioning System
- Motors & Water Pumping Systems
- Inverter, UPS & Battery System
- Diesel Consumption (Vehicles + DG)
- Boiler and Steam Distribution System
- LPG & Wood Consumption
- Usage of Chemical, Salts & Acids
- Solid & E-Waste Handling & Management
- RO Plant, Water Distribution System
- Sewage Treatment Plant (STP) and Liquid Waste Management
- Pollution certificates for all transport vehicles
- Coverage of mature trees
- Rain Water Harvesting
- Survey on Bio-diversity

Note: Audited and Accounted from June-2016 to May-2017

Audit Conducted and Certified by

S.R. Sivarasu

(Dr. S.R. SIVARASU)

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