

# (Autonomous)





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Department of Mechanical Engineering

Ref: KEC/EA/2021-22/103

17.04.2021

### **ENERGY AUDIT CERTIFICATE**

This is to certify that, we have conducted an **Energy Audit in M/s.Paavai Engineering College**, Namakkal, Tamil Nadu on 15<sup>th</sup> April 2021. The audit team has identified energy saving measures and the summary of Energy Audit Process is given below.

S.No.	Description	Parameters	
1	Annual Energy/ fuel Consumption	223660 kWh, 90000 lt diesel, 120 cylinders	
2	Annual Energy Cost	Rs 79,33,790	
3	Energy Savings due to the installation of 150 kW roof top solar PV plant (Life cycle time = 20 years)	223660 kWh	
4	Proposed annual Energy Savings	Rs 14,53,790	
5	Initial Investment Required	Rs 54,00,000	
6	Payback period	3.7 years	

### **Equipment/Systems Audited**

Electrical Network
Inverter, UPS and Battery System
Lightings, Fans & Air Conditioning System
LPG Consumption for Cooking Application
Transportation and Gen-set fuel Consumption

Audited and Accounted for April 2020 to March 2021

Yours Truly

Dr.P.NAVANEETHAKRISHNAI BEE Certified Energy Auditor

Regd. No: EA3643 5/83, Namakkalpalayam Road, Chennimalai - 638 051, Erode Dt.



# (Autonomous) PERUNDURAI, ERODE - 638 060, INDIA



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### **GREEN AUDIT CERTIFICATE**

This is to certify that, we have conducted a **Green Audit in M/s.Paavai Engineering College**, Namakkal, Tamil Nadu on 15<sup>th</sup> April 2021. This audit process investigates the following activities;

- I) Coverage of matured trees and turfs
- II) Inspection of the water conservation measures
- III) Inspection of rain water harvesting methods
- IV) Waste disposal methods in use

Audited and Accounted for April 2020 to March 2021

Yours Truly

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17.04.2021

### **ENVIRONMENTAL AUDIT CERTIFICATE**

This is to certify that we have conducted an **Environmental Audit in M/s.Paavai Engineering College**, Namakkal, Tamil Nadu on 15<sup>th</sup> April 2021. This audit process highlights the present CO<sub>2</sub> emission and methods adopted to neutralize the same in the college campus.

S.No.	Description	Type of fuel and their conversion process		
		Electrical energy consumed	Diesel	LPG
1	Annual Energy Consumption	223660 kWh	90000 lt	120 nos.
2	CO <sub>2</sub> Emission (tonne/Annum)	208	234	6.6
3	Total CO <sub>2</sub> emission	448.6		
4	Total No. of students and staff	4002		
5	Per capita CO <sub>2</sub> emission	0.112 T		
6	No. of Matured Trees	452		
7	CO <sub>2</sub> neutralised due to trees	9.5 T		
8	Per Capita CO <sub>2</sub> Emission to be Neutralized		0.109 T	

#### Systems Audited

- ✓ Electricity consumption and generation
- ✓ Diesel consumption
- ✓ LPG consumption

#### Systems Inspected

- ✓ Solid & E waste handling & Management
- ✓ Usage of chemical, salts & acids
- ✓ RO system
- ✓ Waste water treatment

Audited and Accounted for April 2020 to March 2021

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Ref: KEC/EA/2020-21/101

17.01.2020

### **ENERGY AUDIT CERTIFICATE**

This is to certify that, we have conducted an **Energy Audit in M/s.Paavai Engineering College**, Namakkal, Tamil Nadu on 6<sup>th</sup> Jan 2020. The audit team has identified energy saving measures and the summary of Energy Audit Process is given below.

S.No.	Description	Parameters
1	Annual Energy/ fuel Consumption	8,44,691 kWh, 1,62,000 lt diesel, 1200 cylinders
2	Annual Energy Cost	Rs 1,61,99,692
3	Energy Savings due to a)the installation of 100 kW roof top solar PV plant( Life cycle time = 20 years) b)Energy efficiency in Transportation cooking and electricity usage	1,44,000 kWh 15,000 lt diesel + 20 cylinders
4	Proposed annual Energy Savings	Rs 19,39,000
5	Initial Investment Required	35,00,000
6	Payback period	1.8 years

### **Equipment/Systems Audited**

Electrical Network
Inverter, UPS and Battery System
Lightings, Fans & Air Conditioning System
LPG Consumption for Cooking Application
Transportation and Gen-set fuel Consumption

Audited and Accounted for Jan 2019 to Dec 2019

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17.01.2020

### **GREEN AUDIT CERTIFICATE**

This is to certify that, we have conducted a **Green Audit in M/s. Paavai Engineering College**, Namakkal, Tamil Nadu on 6<sup>th</sup> Jan 2020. This audit process investigates the following activities;

- I) Coverage of matured trees and turfs
- II) Inspection of the water conservation measures
- III) Inspection of rain water harvesting methods
- IV) Waste disposal methods in use

Audited and Accounted for Jan 2019 to Dec 2019

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# **ENVIRONMENT AUDIT CERTIFICATE**

This is to certify that we have conducted an **Environmental Audit in M/s.Paavai Engineering College**, Namakkal, Tamil Nadu on 6<sup>th</sup> Jan 2020. This audit process highlights the present CO<sub>2</sub> emission and methods adopted to neutralize the same in the college campus.

S.No.	Description	Type of fuel and their conversion process		
		Electrical energy consumed	Diesel	LPG
1	Annual Energy Consumption	844691 kWh	162000 lt	1200
2	CO <sub>2</sub> Emission (tonne/Annum)	785	421	7
3	Total CO <sub>2</sub> emission	1213		
4	Total No. of students and staff	4000		
5	Per capita CO <sub>2</sub> emission	0.303 T		
6	No. of Matured Trees	435		
7	CO <sub>2</sub> neutralised due to trees	9.135 T		
8	Per Capita CO <sub>2</sub> Emission to be Neutralized	0.300 T		

### Systems Audited

- ✓ Electricity consumption and generation
- ✓ Diesel consumption
- ✓ LPG consumption

#### Systems Inspected

- ✓ Solid & E waste handling & Management
- ✓ Usage of chemical, salts & acids
- ✓ RO system
- ✓ Waste water treatment

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Ref: KEC/EA/2019-20/105

10.01.2019

### **ENERGY AUDIT CERTIFICATE**

This is to certify that, we have conducted an Energy Audit in M/s.Paavai Engineering College, Namakkal, Tamil Nadu on 7th Jan, 2019. The audit team has identified energy saving measures and the summary of Energy Audit Process is given below.

S.No.	Description	Parameters  883931 kWh, 1,69,500 lt diesel, 128 cylinders  Rs 1,69,42,252  2,88,000 kWh	
1	Annual Energy/ fuel Consumption		
2	Annual Energy Cost		
3	Energy Savings due to the installation of 200 kW roof top solar PV plant (Life cycle time = 20 years)		
4	Proposed annual Energy Savings	Rs 18,72,000	
5	Initial Investment Required	Rs 70,00,000	
6	Payback period	3.73 years	

### **Equipment/Systems Audited**

Electrical Network Inverter, UPS and Battery System Lightings, Fans & Air Conditioning System LPG Consumption for Cooking Application Transportation and Gen-set fuel Consumption

Audited and Accounted for Jan 2018 to Dec 2018

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- I) Coverage of matured trees and turfs
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This is to certify that we have conducted an Environmental Audit in M/s.Paavai Engineering College, Namakkal, Tamil Nadu on  $7^{th}$  Jan, 2019. This audit process highlights the present  $CO_2$  emission and methods adopted to neutralize the same in the college campus.

S.No.	Description	Type of fuel and their conversion process		
		Electrical energy consumed	Diesel	LPG
1	Annual Energy Consumption	883931 kWh	1,69,500 lt	128 nos.
2	CO <sub>2</sub> Emission (tonne/Annum)	822	440	7
3	Total CO <sub>2</sub> emission	1269 T		
4	Total No. of students and staff	3980		
5	Per capita CO <sub>2</sub> emission	0.318 T		
6	No. of Matured Trees	422		
7	CO <sub>2</sub> neutralised due to trees	9.2 T		
8	Per Capita CO <sub>2</sub> Emission to be Neutralized	0.316 T		

#### Systems Audited

- ✓ Electricity consumption and generation
- ✓ Diesel consumption
- ✓ LPG consumption

#### Systems Inspected

- ✓ Solid & E waste handling & Management
- ✓ Usage of chemical, salts & acids
- ✓ RO system
- ✓ Waste water treatment

Audited and Accounted for Jan 2018 to Dec 2018

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