GREEN AUDIT REPORT OF ALL THE YEARS FROM RECOGNISED BODIES

KONGU ENGINEERING COLLEGE
(Autonomous)
PERUNDURAI, ERODE - 638 060, INDIA

Estd : 1984

CERT No.: 99-100-20788
ISO 9001 : 2015

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Professor
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Department of Mechanical Engineering

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Ref: KEC/GA/2021-22/103 **17.04.2021**

GREEN AUDIT CERTIFICATE

This is to certify that, we have conducted a **Green Audit in M/s.Paavai Engineering College,** Namakkal, Tamil Nadu on 15th 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

17/4/21

Dr.P.NAVANEETHAKRISHNAN
BEE Certified Energy Auditor
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5/83, Namakkalpalayam Road,
Chennimalai - 638 051, Erode Dt.

1. Executive Summary

The Industry Institute Partnership Cell of Kongu Engineering College is thankful to the Management of Paavai Engineering College for providing an opportunity to conduct environment/green and energy audit inside their college premises. Paavai Engineering College had agreed to provide access to Kongu Engineering College to undertake Green Audit at their campus. This Audit has been conducted by a team of faculty members from Mechanical and Electrical Engineering Department of Kongu Engineering College. As there is no standard model for such an audit, the committee brainstormed and evolved a questionnaire. The data was collected, compiled and was finally analysed by the audit team members. By and large, the audit reveals a healthy environment in the campus. The committee has made short term and long-term suggestions to protect environment at higher levels and it is hoped that this will receive due attention of authorities and all stakeholders of the College.

2. About the college

Paavai Engineering College (PEC) was established in 2001 at Namakkal, Tamil Nadu, India. It is affiliated to Anna University and part of the Paavai Institutions along with Paavai College of Engineering, Paavai College of Technology.

3. Objective of the study

The goals of the present environmental/green and energy audits typically include:

- To recognize the effects of an organization on the environment.
- To suggest the best protocols for sustainable development of organization and environment.
- To establish the parameters for maintaining health and welfare of the community of the organization.
- To identify the existing waste disposal methods in practice.
- To minimize the consumption of water and monitor its quality.
- To give preference to the most energy efficient and environmentally sound appliances.

4.Methodology

To achieve the mentioned objectives, following stages were conducted. It includes three stages viz. pre-audit stage, audit stage and post-audit stage. Each of these stages comprises a number of clearly defined objectives, with each objective to be achieved through specific actions and these actions yielding results in the form of outputs at the end of each stage. In the pre audit stage , the questionnaire was provided to the members from Paavai Engineering College. Based on the documents provided , an audit was conducted on 15th April,2021. After the audit, the data were compiled and presented to the management for further actions.

5. Green Audit

Green audit is the tool of management system used methodologically for protection and conservation of the environment. It is also used for the sustenance of the environment. The audit suggests different standard parameters, methods and projects for environmental protection. The green audit is useful to detect and monitor sources of environment pollution and it emphasizes on management of all types of wastes, monitoring of quality and quantity of water, monitoring of hazards, safety of stakeholders and even the management of disasters.

5.1 Matured Trees and green cover

Taking the green related concepts into consideration, the college is committed to protect and to promote greenery in its campus. Almost all the buildings are having trees in the adjacent areas. This reduces the heat island effects and provides good supply of oxygen. Even the roof area of the buildings are having plants. This minimises the amount of radiation entering through the building roof. Green Awareness programmes are conducted periodically in the campus for the staffs and students to keep the campus green forever thereby enhancing the beauty of the campus. Paavai Engineering College is making continuous efforts to protect, raise awareness and improve the quality of the environment. The college is taking the maximum efforts to reduce any adverse effects on environment arising out of the functioning of the college activities. The level of CO_2 can be reduced by growing more trees. A total of 439 matured trees are found inside the campus. The students of agricultural department involve in the agriculture activities also for which separate land is also allocated.

5.2 Indoor air quality

Indoor air quality (IAQ) refers to the quality of the air inside buildings as represented by concentrations of pollutants and thermal (temperature and relative humidity) conditions that affect the health and performance of occupants. It has become one of the most important issues of environment and health worldwide considering the principle of human rights to health that everyone has the right to breathe healthy indoor air. Air quality is maintained at all locations in campus by minimising vehicular and other emissions.

5.3 Water Management

Bore-wells inside the campus cater the total requirement of the college through water tanks of different capacities. Water is collected in separate wells and then pumped to different tanks. The College has a RO plant to cater the drinking water needs. Recharging of ground water and rainwater harvesting are implemented by the college thereby conserving the water from its inception and practice vigorously. These technologies, where surface runoff is effectively collected during yielding rain periods. It has been very helpful to augment the ground water. The college does not depend upon or buy public water supply

from outside the campus. Students and faculty members of the institution are oriented by different programmes about water conservation.

5.4 Waste Water treatment

The waste water generated in the campus is treated in a separate treatment plant within the campus premises. All the treated water is used for gardening purposes. Treat waste water generated on-site avoids polluting the local water bodies and also reduces the dependence on potable water.

5.5 Fuel usage

The management has taken many measures to encourage the reduction of diesel/petrol consumption. Throughout the campus pedestrian walkways are provided for easy movement of persons. For short distance commuting, walking is being preferred by all within the campus . This promotes physical activity and health. Regular monitoring of transportation fuel is done to avoid unnecessary usage. Cooking is mostly carried by the use of LPG cylinders. Apart from this , the waste (biomass) generated in the campus is also used as a fuel for cooking. This minimises the wastes going to the landfill.

5.6 Waste management

The campus is cleaned on daily basis. Waste bins are placed in corridors, office and staff rooms. The waste generated in the campus includes wrappers, glass, metals, paper, etc. Old newspapers, used papers and journal files, workshop scrap etc. are given for recycling to external agencies. Glass, metals and other non-biodegradable wastes are given to external agencies where they are segregated and disposed/ recycled according to the nature of the waste. Non-biodegradable and plastic wastes are disposed by municipal collection centre. Leaf litter is allowed to decompose systematically over a period of time and is used as manure for the gardens in the institute. Electronic goods are put to optimum use; the minor repairs are set right by the Laboratory assistants and teaching staff; and the major repairs are handled by the Technical Assistant and are reused. UPS Batteries are recharged / repaired / exchanged by the suppliers. The waste compact discs and other disposable non-hazardous items are used by students for decoration during college fests as a creative means of showcasing the waste management practice that has been induced in the minds of the students.

----------End of Report--------

17/4/21

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Ref: KEC/EA/2020-21/101 **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 6th 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

Yours Truly

17/01/2020

Dr.P.NAVANEETHAKRISHNAN
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1. Executive Summary

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4.Methodology

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5.1 Matured Trees and green cover

Taking the green related concepts into consideration, the college is committed to protect and to promote greenery in its campus. Almost all the buildings are having trees in the adjacent areas. This reduces the heat island effects and provides good supply of oxygen. Even the roof area of the buildings are having plants. This minimises the amount of radiation entering through the building roof. Green Awareness programmes are conducted periodically in the campus for the staffs and students to keep the campus green forever thereby enhancing the beauty of the campus. Paavai Engineering College is making continuous efforts to protect, raise awareness and improve the quality of the environment. The college is taking the maximum efforts to reduce any adverse effects on environment arising out of the functioning of the college activities. The level of CO_2 can be reduced by growing more trees. A total of 447 matured trees are found inside the campus. The students of agricultural department involve in the agriculture activities also for which separate land is also allocated.

5.2 Indoor air quality

Indoor air quality (IAQ) refers to the quality of the air inside buildings as represented by concentrations of pollutants and thermal (temperature and relative humidity) conditions that affect the health and performance of occupants. It has become one of the most important issues of environment and health worldwide considering the principle of human rights to health that everyone has the right to breathe healthy indoor air. Air quality is maintained at all locations in campus by minimising vehicular and other emissions.

5.3 Water Management

Bore-wells inside the campus cater the total requirement of the college through water tanks of different capacities. Water is collected in separate wells and then pumped to different tanks. The College has a RO plant to cater the drinking water needs. Recharging of ground water and rainwater harvesting are implemented by the college thereby conserving the water from its inception and practice vigorously. These technologies, where surface runoff is effectively collected during yielding rain periods. It has been very helpful to augment the ground water. The college does not depend upon or buy public water supply

from outside the campus. Students and faculty members of the institution are oriented by different programmes about water conservation.

5.4 Waste Water treatment

The waste water generated in the campus is treated in a separate treatment plant within the campus premises. All the treated water is used for gardening purposes. Treat waste water generated on-site avoids polluting the local water bodies and also reduces the dependence on potable water.

5.5 Fuel usage

The management has taken many measures to encourage the reduction of diesel/petrol consumption. Throughout the campus pedestrian walkways are provided for easy movement of persons. For short distance commuting, walking is being preferred by all within the campus . This promotes physical activity and health. Regular monitoring of transportation fuel is done to avoid unnecessary usage. Cooking is mostly carried by the use of LPG cylinders. Apart from this , the waste (biomass) generated in the campus is also used as a fuel for cooking. This minimises the wastes going to the landfill.

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The campus is cleaned on daily basis. Waste bins are placed in corridors, office and staff rooms. The waste generated in the campus includes wrappers, glass, metals, paper, etc. Old newspapers, used papers and journal files, workshop scrap etc. are given for recycling to external agencies. Glass, metals and other non-biodegradable wastes are given to external agencies where they are segregated and disposed/ recycled according to the nature of the waste. Non-biodegradable and plastic wastes are disposed by municipal collection centre. Leaf litter is allowed to decompose systematically over a period of time and is used as manure for the gardens in the institute. Electronic goods are put to optimum use; the minor repairs are set right by the Laboratory assistants and teaching staff; and the major repairs are handled by the Technical Assistant and are reused. UPS Batteries are recharged / repaired / exchanged by the suppliers. The waste compact discs and other disposable non-hazardous items are used by students for decoration during college fests as a creative means of showcasing the waste management practice that has been induced in the minds of the students.

----------End of Report--------

17/1/2020

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Ref: KEC/EA/2019-20/105 **10.01.2019**

GREEN AUDIT CERTIFICATE

This is to certify that, we have conducted a **Green Audit in M/s.Paavai Engineering College**, Namakkal, Tamil Nadu on 7th Jan , 2019. 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 2018 to Dec 2018

Yours Truly

10/1/2019

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1. Executive Summary

The Industry Institute Partnership Cell of Kongu Engineering College is thankful to the Management of Paavai Engineering College for providing an opportunity to conduct environment/green and energy audit inside their college premises. Paavai Engineering College had agreed to provide access to Kongu Engineering College to undertake Green Audit at their campus. This Audit has been conducted by a team of faculty members from Mechanical and Electrical Engineering Department of Kongu Engineering College. As there is no standard model for such an audit, the committee brainstormed and evolved a questionnaire. The data was collected, compiled and was finally analysed by the audit team members. By and large, the audit reveals a healthy environment in the campus. The committee has made short term and long-term suggestions to protect environment at higher levels and it is hoped that this will receive due attention of authorities and all stakeholders of the College.

2. About the college

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3. Objective of the study

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- To identify the existing waste disposal methods in practice.
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4.Methodology

To achieve the mentioned objectives, following stages were conducted. It includes three stages viz. pre-audit stage, audit stage and post-audit stage. Each of these stages comprises a number of clearly defined objectives, with each objective to be achieved through specific actions and these actions yielding results in the form of outputs at the end of each stage. In the pre audit stage , the questionnaire was provided to the members from Paavai Engineering College. Based on the documents provided , an audit was conducted on 7th Jan , 2019. After the audit, the data were compiled and presented to the management for further actions.

5. Green Audit

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5.1 Matured Trees and green cover

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5.2 Indoor air quality

Indoor air quality (IAQ) refers to the quality of the air inside buildings as represented by concentrations of pollutants and thermal (temperature and relative humidity) conditions that affect the health and performance of occupants. It has become one of the most important issues of environment and health worldwide considering the principle of human rights to health that everyone has the right to breathe healthy indoor air. Air quality is maintained at all locations in campus by minimising vehicular and other emissions.

5.3 Water Management

Bore-wells inside the campus cater the total requirement of the college through water tanks of different capacities. Water is collected in separate wells and then pumped to different tanks. The College has a RO plant to cater the drinking water needs. Recharging of ground water and rainwater harvesting are implemented by the college thereby conserving the water from its inception and practice vigorously. These technologies, where surface runoff is effectively collected during yielding rain periods. It has been very helpful to augment the ground water. The college does not depend upon or buy public water supply

from outside the campus. Students and faculty members of the institution are oriented by different programmes about water conservation.

5.4 Waste Water treatment

The waste water generated in the campus is treated in a separate treatment plant within the campus premises. All the treated water is used for gardening purposes. Treat waste water generated on-site avoids polluting the local water bodies and also reduces the dependence on potable water.

5.5 Fuel usage

The management has taken many measures to encourage the reduction of diesel/petrol consumption. Throughout the campus pedestrian walkways are provided for easy movement of persons. For short distance commuting, walking is being preferred by all within the campus . This promotes physical activity and health. Regular monitoring of transportation fuel is done to avoid unnecessary usage. Cooking is mostly carried by the use of LPG cylinders. Apart from this , the waste (biomass) generated in the campus is also used as a fuel for cooking. This minimises the wastes going to the landfill.

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10/1/2019

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Ref: KEC/EA/2017-2018/105

Date: 24/01/2018

This is to certify that, we have conducted a **Green Audit** in M/s.Paavai Engineering College, Namakkal, Tamil Nadu on 24th Jan , 2018. This audit process investigates the following activities;

- ✓ Coverage of matured trees and turfs
- ✓ Inspection of the water conservation measures
- ✓ Inspection of rain water harvesting methods
- ✓ Waste disposal methods in use

Audited and Accounted for Jan 2017 to Dec 2017

Yours Truly

24/1/18

Dr.P.NAVANEETHAKRISHNAN
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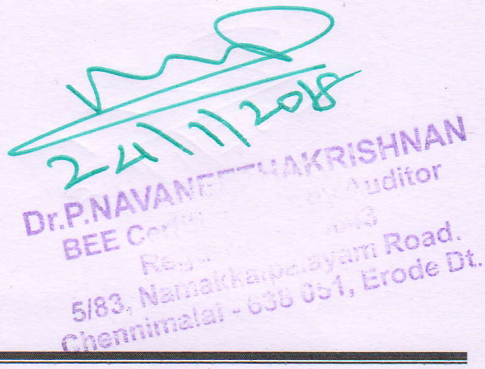

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Ref: KEC/EA/2016-2017/105 Date: 30/01/2017

This is to certify that, we have conducted a **Green Audit** in M/s.Paavai Engineering College, Namakkal, Tamil Nadu on 30th Jan , 2017. This audit process investigates the following activities;

- ✓ Coverage of matured trees and turfs
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- ✓ Inspection of rain water harvesting methods
- ✓ Waste disposal methods in use

Audited and Accounted for Jan 2016 to Dec 2016

Yours Truly

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Chennimalai - 638 051, Erode Dt.

1. Executive Summary

The Industry Institute Partnership Cell of Kongu Engineering College is thankful to the Management of Paavai Engineering College for providing an opportunity to conduct environment/green and energy audit inside their college premises. Paavai Engineering College had agreed to provide access to Kongu Engineering College to undertake Green Audit at their campus. This Audit has been conducted by a team of faculty members from Mechanical and Electrical Engineering Department of Kongu Engineering College. As there is no standard model for such an audit, the committee brainstormed and evolved a questionnaire. The data was collected, compiled and was finally analysed by the audit team members. By and large, the audit reveals a healthy environment in the campus. The committee has made short term and long-term suggestions to protect environment at higher levels and it is hoped that this will receive due attention of authorities and all stakeholders of the College.

2. About the college

Paavai Engineering College (PEC) was established in 2001 at Namakkal, Tamil Nadu, India. It is affiliated to Anna University and part of the Paavai Institutions along with Paavai College of Engineering, Paavai College of Technology.

3. Objective of the study

The goals of the present environmental/green and energy audits typically include:

- To recognize the effects of an organization on the environment.
- To suggest the best protocols for sustainable development of organization and environment.
- To establish the parameters for maintaining health and welfare of the community of the organization.
- To identify the existing waste disposal methods in practice.
- To minimize the consumption of water and monitor its quality.
- To give preference to the most energy efficient and environmentally sound appliances.

4.Methodology

To achieve the mentioned objectives, following stages were conducted. It includes three stages viz. pre-audit stage, audit stage and post-audit stage. Each of these stages comprises a number of clearly defined objectives, with each objective to be achieved through specific actions and these actions yielding results in the form of outputs at the end of each stage. In the pre audit stage , the questionnaire was provided to the members from Paavai Engineering College. Based on the documents provided , an audit was conducted on 30th Jan , 2017. After the audit, the data were compiled and presented to the management for further actions.

5. Green Audit

Green audit is the tool of management system used methodologically for protection and conservation of the environment. It is also used for the sustenance of the environment. The audit suggests different standard parameters, methods and projects for environmental protection. The green audit is useful to detect and monitor sources of environment pollution and it emphasizes on management of all types of wastes, monitoring of quality and quantity of water, monitoring of hazards, safety of stakeholders and even the management of disasters.

5.1 Matured Trees and green cover

Taking the green related concepts into consideration, the college is committed to protect and to promote greenery in its campus. Almost all the buildings are having trees in the adjacent areas. This reduces the heat island effects and provides good supply of oxygen. Even the roof area of the buildings are having plants. This minimises the amount of radiation entering through the building roof. Green Awareness programmes are conducted periodically in the campus for the staffs and students to keep the campus green forever thereby enhancing the beauty of the campus. Paavai Engineering College is making continuous efforts to protect, raise awareness and improve the quality of the environment. The college is taking the maximum efforts to reduce any adverse effects on environment arising out of the functioning of the college activities. The level of CO_2 can be reduced by growing more trees. A total of 425 matured trees are found inside the campus. The students of agricultural department involve in the agriculture activities also for which separate land is also allocated.

5.2 Indoor air quality

Indoor air quality (IAQ) refers to the quality of the air inside buildings as represented by concentrations of pollutants and thermal (temperature and relative humidity) conditions that affect the health and performance of occupants. It has become one of the most important issues of environment and health worldwide considering the principle of human rights to health that everyone has the right to breathe healthy indoor air. Air quality is maintained at all locations in campus by minimising vehicular and other emissions.

5.3 Water Management

Bore-wells inside the campus cater the total requirement of the college through water tanks of different capacities. Water is collected in separate wells and then pumped to different tanks. The College has a RO plant to cater the drinking water needs. Recharging of ground water and rainwater harvesting are implemented by the college thereby conserving the water from its inception and practice vigorously. These technologies, where surface runoff is effectively collected during yielding rain periods. It has been very helpful to augment the ground water. The college does not depend upon or buy public water supply

from outside the campus. Students and faculty members of the institution are oriented by different programmes about water conservation.

5.4 Waste Water treatment

The waste water generated in the campus is treated in a separate treatment plant within the campus premises. All the treated water is used for gardening purposes. Treat waste water generated on-site avoids polluting the local water bodies and also reduces the dependence on potable water.

5.5 Fuel usage

The management has taken many measures to encourage the reduction of diesel/petrol consumption. Throughout the campus pedestrian walkways are provided for easy movement of persons. For short distance commuting, walking is being preferred by all within the campus . This promotes physical activity and health. Regular monitoring of transportation fuel is done to avoid unnecessary usage. Cooking is mostly carried by the use of LPG cylinders. Apart from this , the waste (biomass) generated in the campus is also used as a fuel for cooking. This minimises the wastes going to the landfill.

5.6 Waste management

The campus is cleaned on daily basis. Waste bins are placed in corridors, office and staff rooms. The waste generated in the campus includes wrappers, glass, metals, paper, etc. Old newspapers, used papers and journal files, workshop scrap etc. are given for recycling to external agencies. Glass, metals and other non-biodegradable wastes are given to external agencies where they are segregated and disposed/ recycled according to the nature of the waste. Non-biodegradable and plastic wastes are disposed by municipal collection centre. Leaf litter is allowed to decompose systematically over a period of time and is used as manure for the gardens in the institute. Electronic goods are put to optimum use; the minor repairs are set right by the Laboratory assistants and teaching staff; and the major repairs are handled by the Technical Assistant and are reused. UPS Batteries are recharged / repaired / exchanged by the suppliers. The waste compact discs and other disposable non-hazardous items are used by students for decoration during college fests as a creative means of showcasing the waste management practice that has been induced in the minds of the students.

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30/1/2017

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