

# **MAHA BARATHI ENGINEERING COLLEGE**

**(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)**

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## **GREEN CAMPUS POLICY**

  
**PRINCIPAL**

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## GREEN CAMPUS POLICY

### Introduction

The relationship between **MAHA BARATHI ENGINEERING COLLEGE** and nature is a long and enduring one, something that students and staff of the college are aware of. MBEC is known for its Clean and Green Campus where environmental friendly practices and education combine to promote sustainable and eco-friendly practices in the campus and beyond the campus. The green campus concept offers the institution an opportunity to take the lead in redefining its environmental culture through instilling environmental ethics among students and staff. The College also promotes Clean and Green campus through adopting, practicing and promoting environmental friendly practices among students and staff to generate Eco-consciousness among them and in the world around them.

### Scope of the Policy

The Green Campus, Energy and Environment Policies will develop exciting new co-curricular and extracurricular practices that encourage students to take the lead in creating positive change. These initiatives call for a thorough review of all infrastructural, administrative functions from the standpoints of energy efficiency, sustainability and the environment. The focus areas of this policy are:

- ◆ Clean Campus Initiatives
- ◆ Landscaping Initiatives
- ◆ Clean Air Initiatives
- ◆ Infrastructure Initiatives
  - Solar Power Plant
  - Biogas plant
  - Use of LED bulbs
  - Installation of Energy Efficiency Equipment
  - Water Conservation through Rainwater Harvesting System
- ◆ Waste Management processes
  - Solid Waste Management
  - Liquid Waste Management
  - E-Waste Management
- ◆ Awareness Initiatives
- ◆ Paperless operative procedure [Implementation of e-Governance]
- ◆ Implementation of Green Audit, Energy Audit and Environmental Audit
- ◆ Plastic-Free Campus

  
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## Objectives of the Policy

- To continuously improve the efficient use of all resources, including energy and water, and to reduce consumption and the amount of waste produced, recovering and recycling waste where possible.
- To make the campus plastic free.
- To conduct environmental and energy audits from time to time.
- To minimize the use of paper in administration through having policy for E-governance.
- To protect and conserve ecological systems and resources within the campus.
- To ensure judicious use of environmental resources to meet the needs and aspirations of the present and future generations.
- To integrate environmental concerns into policies, plans and programmes for social development and outreach activities.
- To work with all stakeholders and the local community to raise awareness and seek the adoption of environmental good practice and the reduction of any adverse effects on the environment.
- To continuously improve our contribution to climate protection and adaptation to climate change and to the conservation of global resources.

## ENVIRONMENTAL POLICY OF THE COLLEGE

The Institution is committed to managing its campus in accordance with responsibilities towards promoting sustainable environment.

### A. Clean Campus Initiatives

MAHA BARATHI ENGINEERING COLLEGE had pledged to actively coordinate cleanliness activities in the college and beyond the campus in accordance with the vision of Swachh Bharat Abhiyan. The broad vision is as follows:

1. Generating mass awareness on cleanliness and hygiene amongst students and staff members by holding regular cleanliness drives. The idea is to motivate them to contribute in a proactive manner.
2. Activities under 'Swachh Bharat Abhiyan' will be a key component of all the community work being done by NSS volunteers of the college.
3. Staff Members and students will be encouraged to participate in the cleanliness drive in the college campus.
4. Events such as poster and slogan competitions, essay writing, spoken word poetry, speeches, skits on 'Swachh Bharat' will be organised.
5. Rallies on themes connected with 'Swachh Bharat Abhiyan' in and around the college campus will

  
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KALLAKURICHI DIST. 606 201,

be conducted to create mass awareness.

6. Remove all kinds of waste material like broken furniture, unusable equipment etc.
7. Administer of the pledge by students and staff members to maintain cleanliness of the college campus and its surrounding areas on an annual basis.
8. Conduct workshops on the 3Rs: Reduce, reusing and recycling of waste.
9. Commit to manage waste and maintain clean campus especially during college events.

## **B. Landscaping Initiatives**

The campus landscape, like its buildings, can be seen as the physical embodiment of a college's values. It is a vital part of the life of a campus, providing space for study, play, outdoor events, relaxation and aesthetic appreciation. Green campus landscapes also manage runoff, help recharge groundwater, and clean and cool the air on campus. The landscape serves as a visual representation of the campus community's commitment to sustainability. As campus landscapes are so visible and accessible, landscaping initiatives are a great way to build awareness around the environment. The landscape of trees and plants provide the students and staff with clean and cool air and is a soothing environment.

Environmental promotional activities conducted to bring awareness among the students regarding advantages of tree plantation for an Eco-friendly Environment. College celebrates **"The World Environmental day"** on June 5th every year and **"International Plantation Day"** on March 21<sup>st</sup> by conducting competitions among students and also talks by eminent people to bring awareness. This program promotes eco-friendly environment, by stepping up the oxygen levels on the campus.

## **C. Clean Air Initiatives**

We encourage our students and staff to use public/ college bus transportation, instead of using individual vehicle, an activity that will control air pollution and strengthen social interaction. The entry of automobiles inside the campus is restricted to discourage the use of private vehicles. The students are given strict instructions to maintain the campus clean and it is reflected in their handbooks. A gardener and full time adequate support staff are appointed for the maintenance of litter free clean and Green Campus.

  
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In compliance with the framework provided by the National Tobacco Control Programme (NTCP) 2007-2008, the college prohibits smoking and the use of other tobacco products. As a step in this direction, smoking and use of tobacco in and around the campus ["Smoking free Campus"] is strictly prohibited.

#### **D. Infrastructural Initiatives**

##### **Energy conservation:**

The various Energy conservation measures adopted in the college campus, from time to time, includes replacement of all the CRT monitors by LCD monitors in all department laboratories, retrofitting standard fluorescent lamps and CFL lamps with LED lighting, introducing automatic street lighting control to reduce energy wastage due to manual errors, upgrading window air conditioners into split air conditioners and further into BEE certified star rated energy efficient split air conditioners & inverter air conditioners.

Energy audit of college as well as campus has been done. While designing the buildings, the care has been taken to fetch maximum benefit from natural resources, like wind, sunlight to reduce consumption of electricity. The use of transparent glass window provides maximum sunlight to classrooms and Laboratories. We have Centralized UPS systems for computers. Generator is placed away from classroom, to minimize noise pollution.

#### **1. Use of Solar Energy**

The college has installation for connecting solar energy to meet out electricity need as well as to keep our assurance towards sustainability. The Ministry of New and Renewable Energy (MNRE), Govt. of India has been promoting the aim to develop and deploy New and Renewable energy for supplementing the energy requirement of the country. The rooftop solar PV power plant of capacity 33 KVA had been installed on the roof tops of main building, as a consequence an amount of Rs.80,000 saved per month.

All students and faculty members are asked to switch off all electrical things when not in use to conserve the electrical energy. Non-teaching staff are instructed to monitor that the fans, lights, projectors and computers are switched off after the session.

#### **2. Biogas plant**

In MAHA BARATHI ENGINEERING COLLEGE, kitchen waste is used to generate thermal energy for cooking and heating. The bio-gas produced from food waste, decomposable organic material and kitchen waste, consisting of methane and a little amount of carbon dioxide is an alternative fuel for cooking gas (LPG). Kitchen waste is mechanically processed and moistened to produce a suspension that subsequently undergoes a fermentation process. Fermentation produces biogas – a valuable energy source – that is

desulphurised by biological means. Also, the waste materials can be disposed off efficiently without any odour or flies and the digested slurry from the bio-gas unit can be used as organic manure in the garden. The major components of the bio-gas plant are a digester tank, an inlet for feeding the kitchen waste, gas holder tank, an outlet for the digested slurry and the gas delivery system for taking out and utilizing the produced gas.

Eco-friendly technology allows for the production of renewable natural gas in the form of bio methane. The facility processes about 50 tons of kitchen waste every year – mainly the contents of organic waste from Hostels, as well as leftover food from canteens and expired food.

### 3. Wheeling to the Grid

The energy output of the solar panels are utilized for the power requirements for the College and the power output of the solar panel are also connected to the power grid of the TNEB where the excess power produced by the solar panels are supplied to the grid for which subsidy has been provided by the TNEB for the power consumption of the College. The 33 KVA solar panel is to meet out the power requirement of university low range equipment's like lights, fans, etc.

### 4. Sensor Based conservation

Dark areas of Verandahs are light using Automatic Human Sensor Switches, which avoids unwanted usage of electricity. Automatic Street lights are provided which will automatically switch on during night time and switch off during day time. The water level sensor is used to control the waste of water flow inside of the water tank.

### 5. Use of LED bulbs

The college uses a maximum of LED bulbs and tubes for all its lighting needs inside the campus to conserve energy. This is quite visible in all recent renovation projects. The overall college campus is fully focused by LED bulbs. It decreases energy consumption and saves the cost of maintenance. A well designed hi-tech LED lighting system can provide safety and financial benefits for campuses. Apart from financial benefits, there are other benefits like saving energy and going green.

### Energy Saving and Energy Efficient Equipment

The following tips are implemented to save electrical energy

1. Activate power management features on your computer and monitor so that it will go into a low power "sleep" mode when you are not working on it.
2. Turn off your monitor when you leave your table.

3. Activate power management features on your laser printer.
4. Whenever possible, shut down rather than logging off.
5. Turn off unnecessary lights and use daylight instead.
6. Avoid the use of decorative lighting.
7. Use and install environment-friendly electrical appliances that save energy and reduce wasteful inefficiencies
8. Keep lights off in conference rooms, classrooms, lecture halls when they are not in use.
9. Use the fans only when they are needed.
10. **Use of LED Bulbs in College :** Principal's Office, Office of IQAC, Administrative Office, Library, Guest Rooms, Indoor Stadium, Ladies Common Room, Virtual Classrooms, Language Lab, Computer Labs, Science Lab, Departmental Offices, and all classrooms have LED bulbs to save and conserve energy.

### **Water Conservation through Rainwater Harvesting System**

**MAHA BARATHI ENGINEERING COLLEGE** has committed itself to this effort to replenish the groundwater table by practicing rainwater harvesting. This practice helps in the replenishment and recharge of the groundwater.

### **E. Waste Management Processes**

**MAHA BARATHI ENGINEERING COLLEGE** strives to have a minimal impact on the environment and is dedicated to reduce and manage the waste generated by the college campus. The following specific procedures will be undertaken to ensure its contribution in protecting the environment.

### **Solid Waste Management**

The college pays dedicated focus to see that minimal waste is generated in the campus. All Departments and classrooms are provided with dustbins for dry wastage disposal. With its aim to provide holistic education that also has a positive impact on the environment, the college will adopt practices that will mitigate the generation, and manage solid waste through the following methods:

- Systematically engage with the 3Rs of environment friendliness (Reduce, Reuse and Recycle).
- Collect paper waste produced on campus and collaborate with scrap dealers for recycling.

  
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- Reduce use of paper by supporting digitization of attendance and internal assessment records.
- Reduce requirement of printed books by updating the e-books and e-journals collection of the college library.
- Encourage the students and teachers to use modern teaching-learning methodologies for assignment/ Class Notes submissions.
- Take initiatives to spread awareness amongst students about
  - ✓ Food wastage and ways of minimizing it
  - ✓ Minimizing the use of packaged food
  - ✓ The habit of reusing and recycling non-biodegradable products
  - ✓ Organizing workshops for students on solid waste management.

### **Liquid Waste Management**

Students are made aware that conserving water is equivalent to conserving their future. The following procedures are adopted for the effective implementation of Liquid Waste Management.

- ◆ In house - plumbers attend promptly to fix leakages and wastage of water.
- ◆ Maintain leak proof water fixtures.
- ◆ Minimize the use of water by constructing more Indian style toilets instead of western style toilets.
- ◆ Continued employment of a caretaker to take immediate steps to stop any water leakage through taps, pipes, tanks, toilet flush etc.
- ◆ Reuse of wastewater generated by the Reverse Osmosis (RO) system in gardening.

### **Hazardous chemicals and radioactive waste management**

The hazardous chemicals generated from chemistry and waste water engineering laboratories are chemical waste collected separately in a container and disposed periodically in the sundry disposal unit available nearer to each lab.

### **E-Waste Management**

With the proliferation of electronics also comes the challenge of their proper disposal. The College is grappling with ways to efficiently and cost-effectively handle the issue of electronic waste, or e-waste, on campus. It's normal for people to discard of products due to normal wear and tear, but technological



advancements have accelerated e-waste growth as students, faculty and administrators frequently upgrade to better gadgets. This surge has forced college administrators to carefully examine and address the environmentally responsible disposal of these products on a campus-wide scale.

The college adopts most scientific and eco-friendly e-waste disposal mechanisms such as: it is maintained to periodically review the effective functioning of CPU's and Monitors and expert recommendations are followed to dispose the same in the market. All Electronic waste CPU's, Hard disks, Laboratory Equipment scrap is sent periodically to the market for sale. Obsolete workable computers, printers and other equipment discarded by departments are sold as scrap. The cartridges of printers are refilled outside the college campus. UPS Batteries are recharged and repaired by the suppliers.

#### **F. Paperless Operating Procedure**

MAHA BARATHI ENGINEERING COLLEGE is striving towards a paperless office, a work environment in which the use of paper is eliminated or greatly reduced. This is done by converting documents and other papers into digital form, a process known as digitization [E-GOVERNANCE]. We believe that "going paperless" can save money, boost productivity, save space, make documentation and information sharing easier, keep personal information more secure, and help the environment. Wherever possible automation and digitization are introduced which helped in minimization of usage of paper. Digital storage of documents is one such measure. Institutional data to a great extent is stored digitally. Technology is used to a greater extent for communication among the staff and the students through intra net rather than paper communication. What's app - class wise groups, Department wise groups, Committee wise groups facilitate E-communication and use of public address systems reduces usage of paper in notices and circulars.

In addition to going paperless in the classroom, the college has also introduced "Learning Management System" wherein references , notes , syllabus question banks, study material is stored and shared on the e-platform , avoiding massive usage of paper. The teachers have also experimented with alternatives of paper -based testing with e- assignments and other skill -based tests like quiz, MCQs, presentations, group discussions etc.,

#### **G. Awareness Initiatives**

Outreach and education are of utmost importance so that all members of the campus community may value the objectives of the policy and aid in its implementation. This is why **MAHA BARATHI ENGINEERING COLLEGE** supports and encourages awareness campaigns, seminars, workshops, conferences and other interactive sessions to facilitate effective implementation of the Green Campus,

  
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Energy and Environment policies.

#### **H. Implementation of Green Audit, Energy Audit and Environment Audit**

The college aims to regularly conduct a Green Audit of our college campus to assess our strengths and weaknesses to further our goals of long-term sustainability. A green audit is a useful tool to determine how and where most energy or water or resources are being used. The college can then consider how to implement changes and make savings. It can determine the type and volume of waste. Recycling projects or waste minimization plans can be adopted. It will create health consciousness and promote environmental values and ethics. It provides a better understanding of the impact of eco- friendly practices on campus. Green auditing will promote financial savings through reduction of resource use. It is imperative that the college evaluate its own contributions toward a sustainable future.

Our college is committed to create “an environment of educational excellence” adopts the ‘Green Campus’ system for environmental conservation and sustainability. The College conducts Green Audit every year to identify, quantify, describe and priorities a framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. A gardener and full time staff are appointed for the maintenance of clean and Green Campus

An Energy Audit to be conducted as and when required to further reduce its carbon footprint. The importance of reducing energy consumption cannot be overstated. The energy audit, with its specialized tools will identify wastage of energy. Such an inspection often reveals several different flaws which cause a loss of significant amounts of energy which the college will not be able to detect. These flaws often have easy and affordable solutions and provide significant savings.

#### **I. Plastic-Free Campus**

**MAHA BARATHI ENGINEERING COLLEGE** has been observing most of its duties in terms of solid waste management since its inception. In view of the Government of India’s resolution to ban all single use plastics due to the hazardous impact of plastic use and pollution, the college administration strictly bans the use of single use plastics in its premise to make it a ‘Plastic Free Campus’. Following the MHRD and UGC guidelines on 2 October 2019 to educational institutions across the country, our college has issued a notification to Students and all Stakeholders that there would be a ban implemented on the use of single use plastics on the campus.

The institution through NSS, NCC and other clubs conducts sensitization programs on the harmful impact of single-use plastics and mandates all the students to avoid bringing non-bio-degradable plastic

  
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items to the institution, which include plastic bags, cups, plates, small drinking water bottles, straws and sachets. The institution facilitates environment friendly substitutes like stainless steel, washable and reusable tumblers at all water units and mandates the canteen to serve only in paper plates and paper cups to systematically ban the use of plastics on the campus. It also encourages the students to sensitize their respective households about the harmful effects of plastics and make their households plastic-free.

**These strategies are incorporated into the institutional planning and budgeting processes with the aim of developing a clean and green campus.**

  
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