

Green & Environment Audit Report

(2022-23)

New Satara Samuh Mumbai's
New Satara College of BCA
Pandharpur -413304 Dist- Solapur



Green & Environment Audit Conducted by

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Energy Auditor

Empaneled MEDA Government of Maharashtra

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Acknowledgement

We express our sincere gratitude to the Principal of New Satara College of BCA for awarding us the assignment of Green & Environment Audit of their Pandharpur Campus.

We are also thankful to various Head of Departments & other Staff members for helping us during the field measurements.



Kedar

Kedar Khamitkar
Energy Auditor

Certified by Bureau of Energy Efficiency, Ministry of Power, Gov. of India
Empanelled Consultant MAHAURJA (Govt. of Maharashtra Institution)

प्रतिज्ञा

हम सत्यनिष्ठा से प्रतिज्ञा करते हैं कि अपने सभी कार्यों में पेट्रोलियम उत्पादों के संरक्षण हेतु सतत प्रयासरत रहेंगे, ताकि देश की प्रगति के लिए आवश्यक इन सीमित संसाधनों की आपूर्ति अधिक समय तक सम्भव हो सके। आदर्श नागरिक होने के नाते हम लोगों को पेट्रोलियम पदार्थों के व्यर्थ उपयोग से बचने तथा पर्यावरण संरक्षण हेतु स्वच्छ ईंधन का प्रयोग करने के लिए जागरूक करेंगे।

EXECUTIVE SUMMARY:

Objective	Observation	Recommendation
Green Cover - Plantation of Trees	Plantation of trees is started in the campus and the green cover is extended every year in the campus. At Present 23% area campus is having the Green cover	It is recommended to increase the Green Cover Further
Use of Renewable Energy	Institute has been installed Solar water heater of (300+300) Liters capacity	Recommended to install Solar Power Generation Plant of 50 W Capacity
Water Conservation	Installed Sign Boards. Awareness for Water Conservation	It is recommended to install taps with reduced water flow
Rain Water harvesting	Rainwater Harvesting has been installed	Institute has been taken good initiative for water conservation
Avoid Misuse/wastage of water	RO water providing safe drinking water	Waste water can used for Gardening
	Encourage to reduce the water usage	Recommended Water Sprinkler system to save water
Bio Waste Management	The Bio Waste – Food Waste generated in the campus is proposed to be feed stock for Bio Gas plant	Recommended for Bio gas plant
Non Bio Waste	Non Bio Waste – Plastic Bottles / Paper Waste Metals waste is being collected in the dust bins placed across the campus.	It is proposed to install plastic bottle crusher, which can be sold as a Feed stock for the Plastic industry
E Waste	E Waste – All Electronic Junk is generated in the campus in the form of Used Computer key boards/ Mouse/ CPU's/ Damaged Printers etc.	An agreement is in place with local Company to pick up the E waste every six month

Carbon Foot Print	Mostly staff commute in the S.T. Buses -	Found Awareness in the Staff
Transportation	Mostly Students commute in the ST Bus from City / rural Areas	Found Good Awareness in the Students
	Mostly Students & Staff using EV Vehicles	Recommended to charge EV vehicles in day time between 9am to 3pm



Chapter No.1 **Scope of Work & Methodology**

New Satara College of BCA entrusted the work of conducting a detailed Green Audit of campus with the main objectives are as bellows:

Objectives of Green Audit:

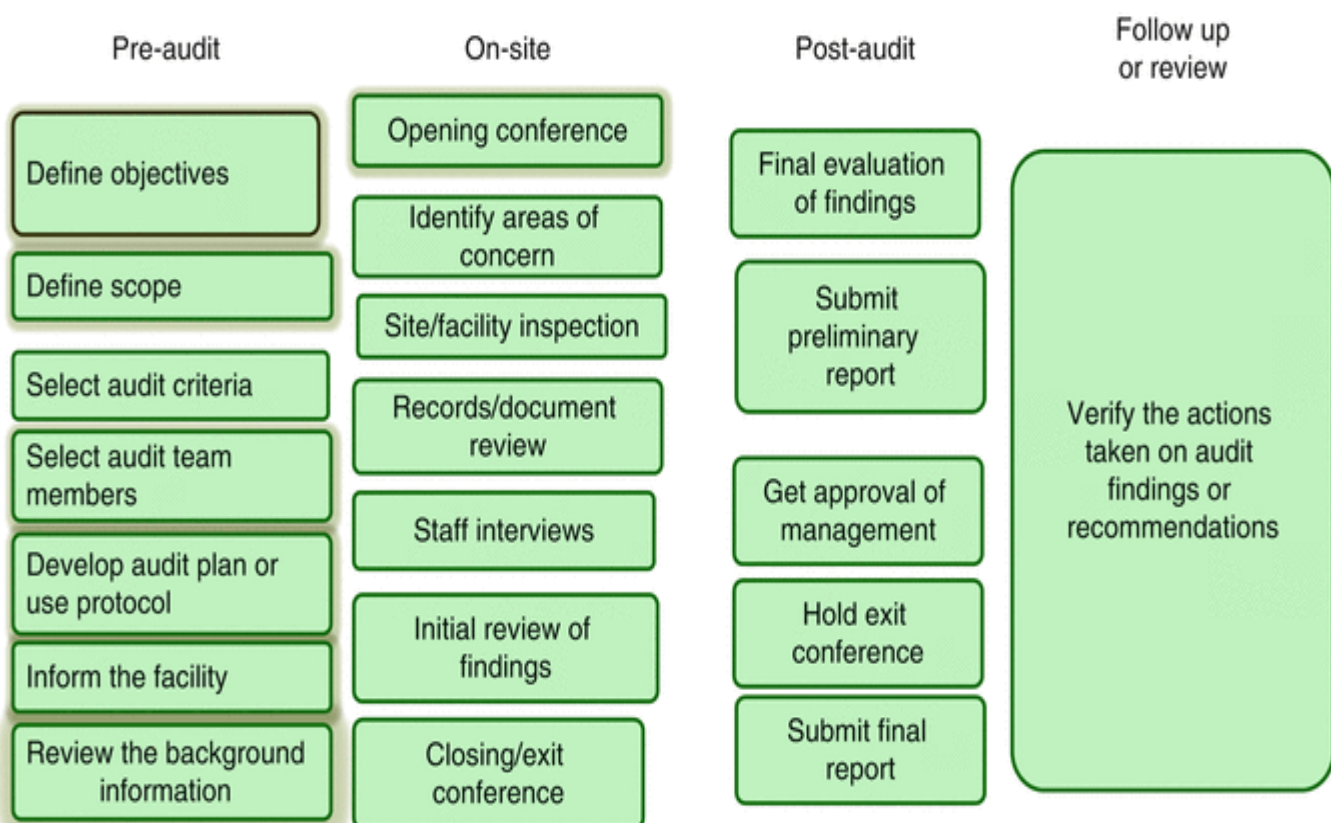
1. To examine the current practices, which can impact on environment such as of resource utilization, waste management etc.
2. To identify and analyze significant environmental issues.
3. Setup goal, vision, and mission for Green practices in campus.
4. Establish and implement Environment Management in various departments.
5. Continuous assessment for betterment in performance in green

Need of Green Audit:

Green auditing is the process of identifying and determining whether institutions practices are eco-friendly and sustainable. Green audit regulates all such practices and gives an efficient way of natural resource utilization. In the era of climate change and resource depletion it is necessary to verify the processes and convert it in to green and clean one. Green audit provides an approach for it. It also increases overall consciousness among the people working in institution towards an environment.

Methodology of Green Audit:

Green Audit of New Satara College of BCA Campus has been conducted with specific methodology as follows:



Goals of Green & Environment Audit:

Conducted a green audit of New Satara College of BCA Campus with specific goals as:

1. Identification and documentation of green practices followed by the Institute.
2. Identify strength and weakness in green practices.
3. Analyze and suggest solution for problems identified.
4. Assess facility of different types of waste management.
5. Increase environmental awareness throughout campus
6. Identify and assess environmental risk.
7. Motivates staff for optimized sustainable use of available resources.
8. The long-term goal of the environmental audit program is to collect baseline data of environmental parameters and resolve environmental Issue before they become problem.

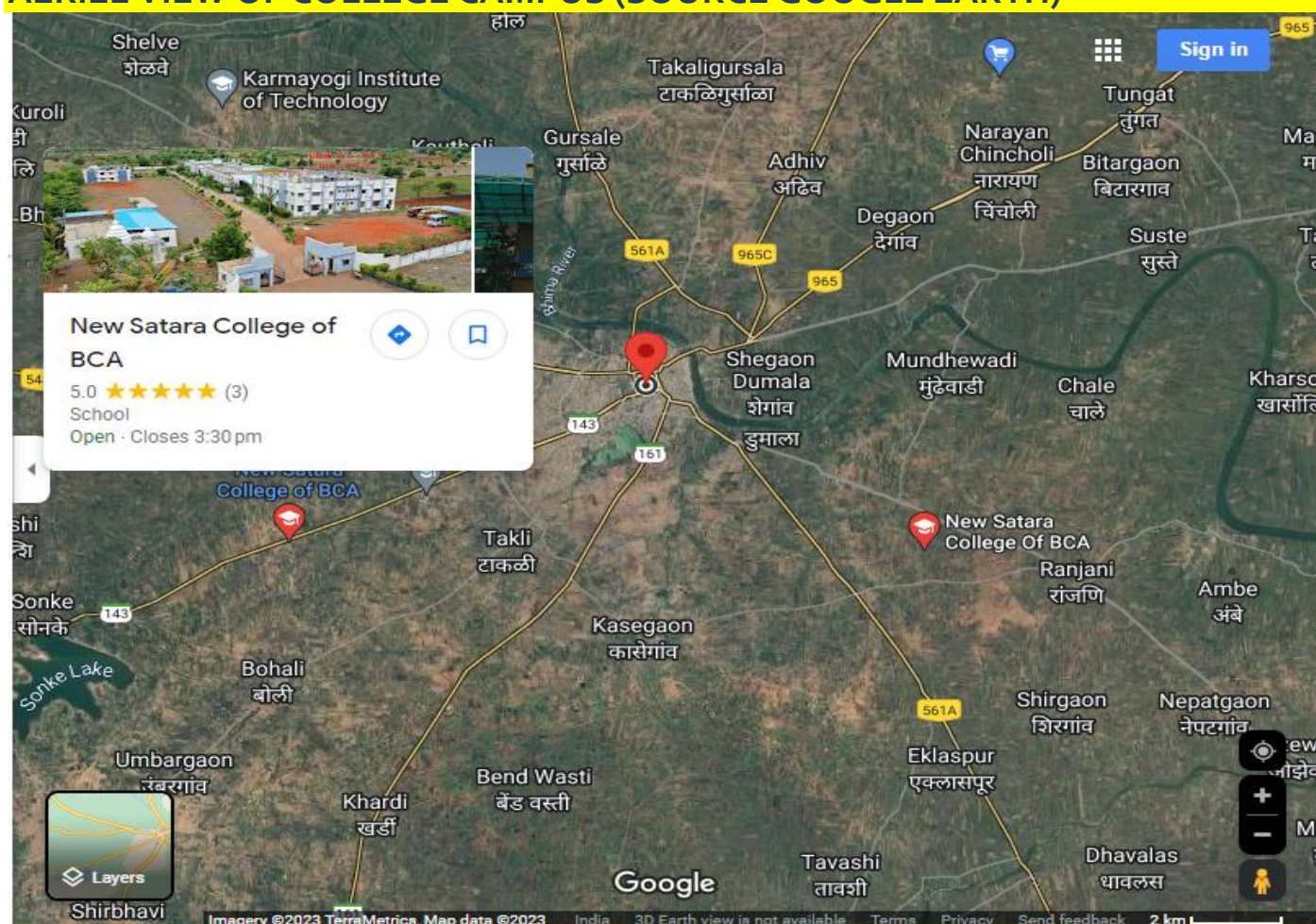


Chapter No.2 Introduction about the Institute

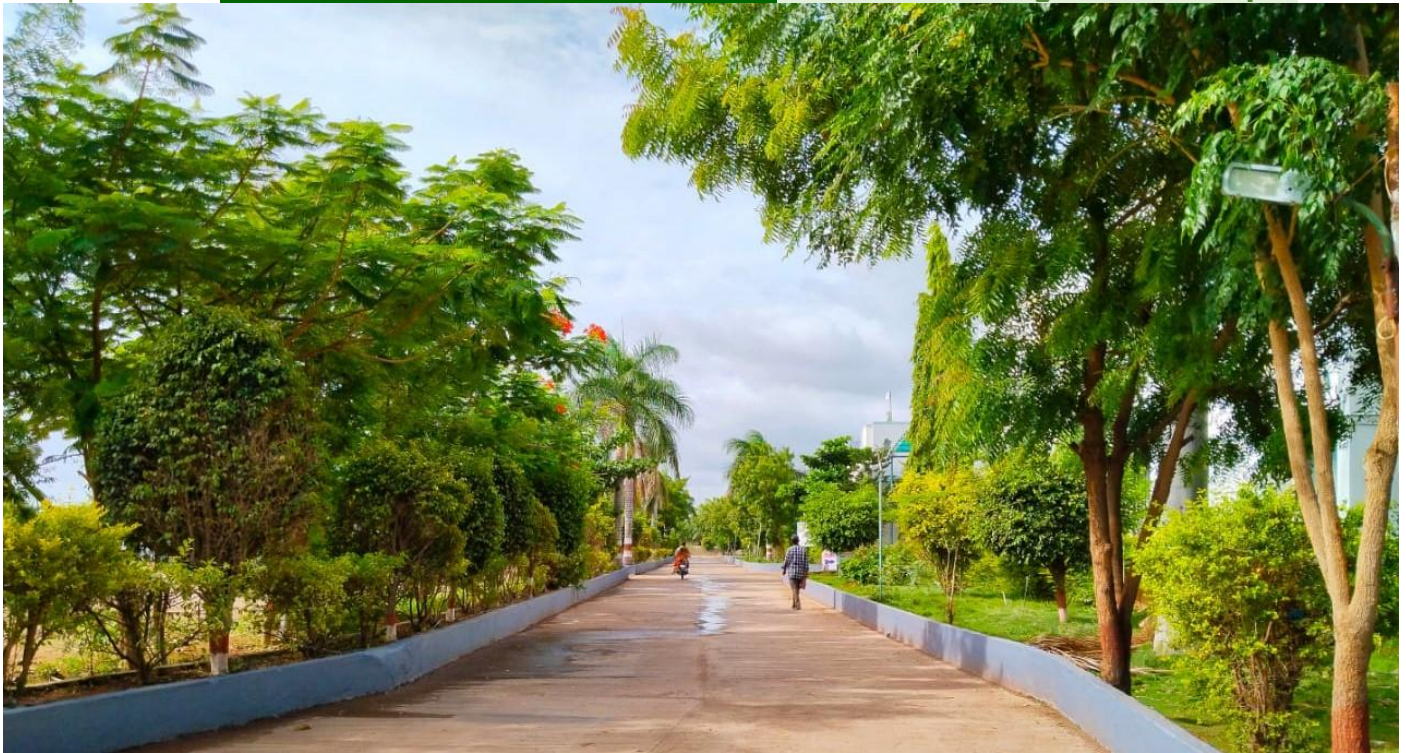
New Satara College of B.C.A. located in Pandharpur Dist. Solapur in Maharashtra state. College was established in 2009. A leading institute in the city offers a UG Degree course in IT & Software. The course is available in Full Time mode. New Satara College of B.C.A. is a well-known institution for BCA course. These programs are delivered by highly experienced faculty. Most importantly, this courses with 60 seats is imparted at affordable fees, which increase accessibility and allow students the opportunity to gain knowledge and skills in their chosen field. For students institute have facilities & infrastructure like Auditorium, Boys Hostel, Cafeteria, Co-ed Hostel, Girls Hostel, Gym, Hospital / Medical Facilities, Hostel, Labs, Library, Sports Complex, Wi-Fi Campus.

Sr.	Head	Particulars
1.	Name	New Satara College of B.C.A.
2.	Address	Solapur Road, Pandharpur (M.S.)
3.	Degree Course Offered	BCA

AERIAL VIEW OF COLLEGE CAMPUS (SOURCE GOOGLE EARTH)



Chapter No.3 **Green Cover - Plantation of Trees** New Satara College of BCA Campus



Faunal diversity is an indicator of soil amelioration. Estimating the population size or density of an animal species in an area is fundamental to understand its status and demography and to plan for its management and conservation.

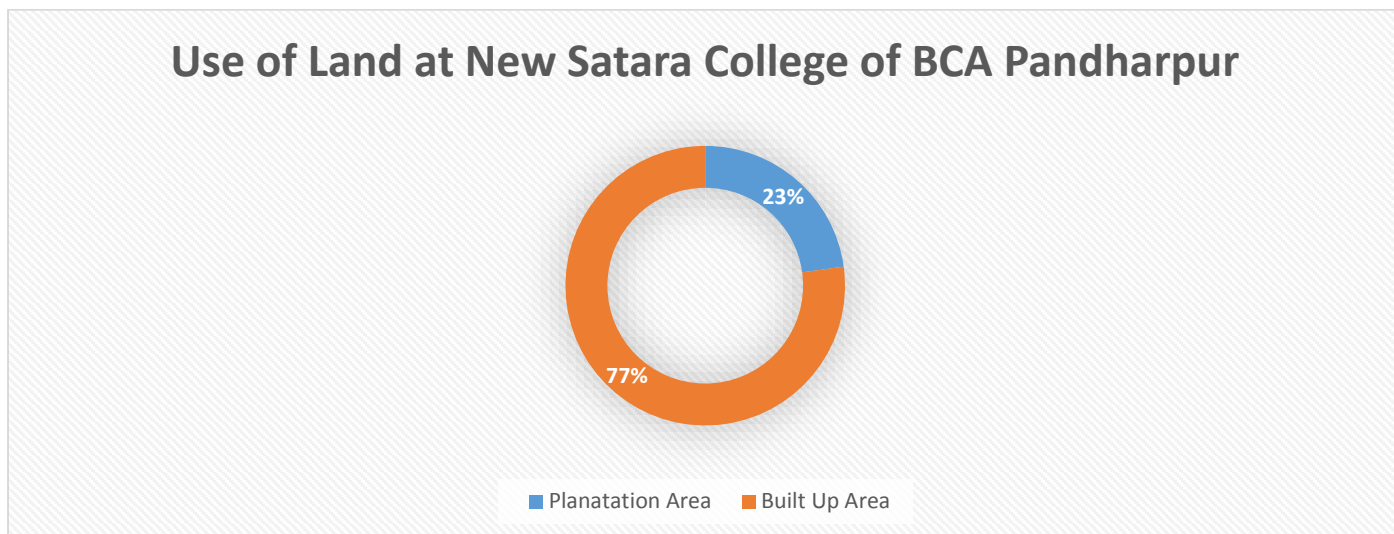


Chapter No.4 Categories of Land Use

Plantation of trees is started in the campus and the green cover is extended every year in the campus.

Audit Framework and detailed findings of the Audit:

Categories of Land use area	Sq. Meter
Plantation Area	650
Built-up area (Include Roads)	2197



Observations At Present **23%** area campus is having the Green cover.



Chapter No. 5: Use of Clean & Green Solar Energy Water Heating System
Institute has been taken good initiative for Electricity conservation.



Observations:

Institute has been taken good initiative for energy conservation.

Solar water heater of Capacity: (300 + 300) Liters.

Total Capacity = 600 Liters installed at Hostel.

Saving of @ 9000 units/year.



Suggestions:

Install Roof top Solar Power generation system of 50W Capacity

Chapter No. 6: Study of Waste Management

Environmental consciousness and sustainability friendly initiatives

The internal communication of the College is through Internet within the staff members. There are hardly any Drives, CDs used for day to day operations. Hence as far as the e-waste is concerned hardly any waste is generated during the day to day operations. In addition to this the College authorities have already finalized Authorized e-Waste management agency to dispose of the old equipment.

Solid Waste management:

1. The college is taking care of cleanliness and hygiene every time. Daily garbage is collected and segregated into degradable and non-degradable waste by housekeeping personnel.



2. Separation of waste:

Collection of solid waste from college building by municipal corporation vehicle

Institute has been done Good Management of the various types of degradable and non-degradable waste. Waste material like plastic, papers, glass, metal, newspapers etc. are collected and sold out to authorize scrap vendors for its recycling from time to time.

Waste Disposal and Management



3. Non-degradable waste is collected separately. Institute has tied up with the local Municipal Committee for the disposal of non-degradable solid waste. This waste is collected in the vehicle and handed over to the Municipal Corporation garbage collecting unit.

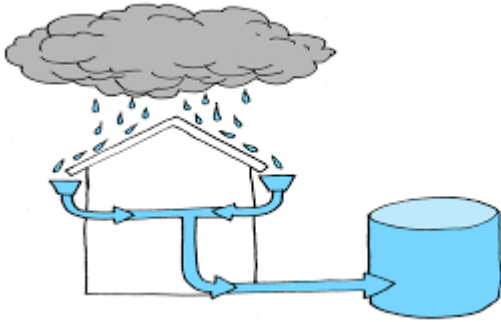
Consciousness and sustainability

Organic Compost prepared



4. College is adopting almost paperless concept by digitization of office procedures through tally ERP, examination work and daily attendance is maintained using software, thus, reducing paper-based waste.
5. One side printed papers are reused for printing drafts before final document, circulating notice, meeting minutes, and notes in office practices. This reduce paper usage and paper wastage.

RAIN WATER HARVESTING:



Water scarcity is a serious problem throughout the world for both urban & rural communities. Urbanization, industrial development & increase in agricultural fields & production has resulted in overexploitation of groundwater & surface water resources and resultant deterioration in water quality. The conventional water sources, namely wells, rivers and reservoirs, etc. are inadequate to fulfill water demand due to unbalanced rainfall. While the rainwater harvesting system investigates a new water source.

Rainwater Harvesting Recharge Points:



Observations: Rainwater percolation pits were built in the campus to recharge bore wells and help the water infiltration.



Observations: Good initiative for Water Conservation.

Chapter No.7: CARBON FOOTPRINTING

Basis for computation of CO2 Emissions: Monthly Electricity Consumption

A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities. In this we compute the emissions of Carbon-Di-Oxide, by usage of the various forms of Electrical Energy used by the College for performing its day to day activities. The College Imports Electrical Energy during Day & Night for various Electrical gadgets.

The basis of Calculation for CO2 emissions due to Electrical Energy are as under

- 1 Unit (kWh) of Electrical Energy releases 0.8 Kg of CO2 into atmosphere. Based on the above Data we compute the CO2 emissions which are being released in to the atmosphere by the College due to its Day to Day operations.

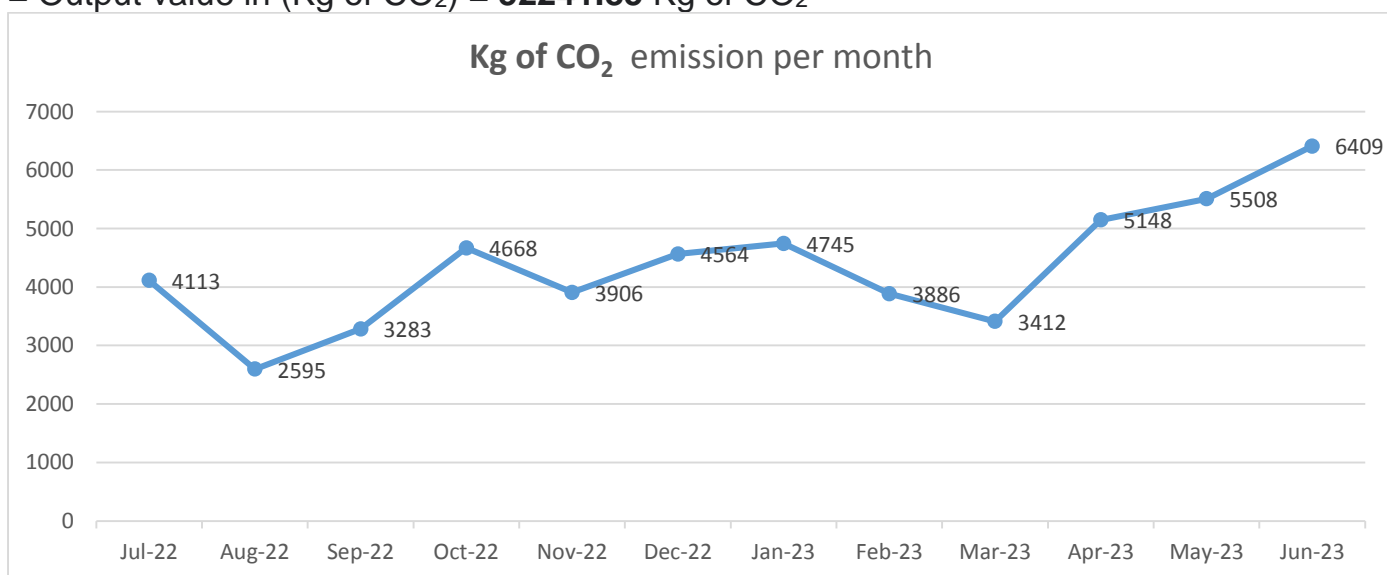
Electricity Import & Co2 Emission (Kg) Month wise details:

Bill Month	Consumption (Units)	Kg of CO ₂ emissions
Jun 2023	7,541	6409.85
May 2023	6,480	5508
Apr 2023	6,057	5148.45
Mar 2023	4,015	3412.75
Feb 2023	4,572	3886.2
Jan 2023	5,583	4745.55
Dec 2022	5,370	4564.5
Nov 2022	4,596	3906.6
Oct 2022	5,492	4668.2
Sep 2022	3,863	3283.55
Aug 2022	3,053	2595.05
Jul 2022	4,839	4113.15

Observations: The College Imports Electrical Energy for various Electrical gadgets. Annual Consumption = **61461** KWH/year

Calculations: Electricity: Input value (in KWh/Yr.) X 0.85 (Emission Factor)

= Output value in (Kg of CO₂) = **52241.85** Kg of CO₂



Suggestions:

1. Reduce the Electricity Import during Day install Solar Power Plant.
2. Install Occupancy Sensors to minimize losses in Lighting System

Chapter No. 8 : Best Practices & Activities

Institute has been declared their Environment Policy

Policy Document On Environment and Energy Usage

- To install LED bulbs in the complete campus to save energy
- To operate institute building in most efficient energy manner.
- Maximum use of Renewable Energy.
- Encourage a culture of Energy conservation on campus.
- To take additional measures to continuously improve our energy consumption.
- To develop and maintain Energy Management System based on ISO: 50001.
- To encourage use of advanced technology to minimize energy consumption.
- To engage in dialogue with the government agencies, and actively work with the local organizations in the areas of environment, energy efficiency and sustainable development.
- To strengthen our employees' and students' environmental knowledge and skills in order to improve our own environmental performance.
- To provide information and training opportunities on energy saving measures.
- To train our employees and students through our Enviro Club to make them 'Go Green Specialists' and partners to plant trees each year.

Principal



Best Practices & Activities

Several significant and fruitful awareness programs both students and staff of the Campus are arranged every year in the campus. Reflections from students are Evident how effective such awareness programs conducted in the campus. Major programs conducted in the campus during the last Five years.

Environmental Awareness




Campaigns: Nature camps, field trips and some of these activities are year round programs and others are regular year wiser semester wise or any other stipulated time bound programs.

Single use plastic has been banned in the Campus

World Environment day celebrations

Plantation by staff & Students in the campus.



 **GPS Map Camera**

Efforts of the College towards environment sensitization.



FIVE WAYS TO CONTROL CLIMATE CHANGE



GREEN YOUR COMMUTE

Explore new options to commute and reduce your carbon footprint. Choose to walk, share car, ride bicycle, or electric vehicle.



CONSERVE FUEL

Stop the reckless of fuel and use it more sensibly. Conserving fuel reduces pollution for a cleaner and greener environment.



GET AN ENERGY AUDIT DONE

Get an energy audit done to determine the overuse of energy.



PLANT TREES

Plant trees and support reforestation. This way CO₂ level will be decreased, as trees use sunlight to absorb carbon dioxide from the atmosphere through photosynthesis and store it as carbon in the form of wood.



REDUCE, REUSE & RECYCLE

Reduce paper use, reuse whatever you can and recycle waste materials into a valuable resource. Be an environmentally conscious consumer.



PCRA COMMITTED TO PETROLEUM CONSERVATION FOR A CLEANER AND GREENER ENVIRONMENT

#JUST CLIMATE ACTION