Criterion 7

Institutional Values and Best Practices

Key Indicator - 7.1.3 Institutional environment and energy

7.1.3

POLICY DOCUMENT

for the Environment and Energy Usage

ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY

MANGALWARI BAZAR ROAD, SADAR, NAGPUR - 440 001.

(Managed by Anjuman Hami-E-Islam, Sadar, Nagpur.)

Ph. : 0712-2582749, 2583559, 6604502, Fax : 0712-2583559

Web Site : www.anjumanengg.edu.in **E-mail :** eng_acet@rediffmail.com/eng.acet@gmail.com

Ref. No. ACET/P/1609(A)/23 Date : 10.10.2023

GREEN ENVIRONMENT ENERGY POLICY

We are committed to conserve environment and biodiversity, develop sustainable solutions, continual improvement through innovations, start-ups, green initiatives and energy conservation through-

- Building awareness amongst the student, staff and stakeholders
- Conserving natural resources and sustainable development
- Adopting energy efficient technology and 3R (Recycle, Reuse, Reduce) approach
- Abiding by applicable statutory and regulatory requirements
- Building up the societal approach for conservation, creation and harmony of nature
- Reducing the pollution and waste

The Policy is reviewed once in year for system suitability and its effectiveness.

Dr. Archana Shirbhate
IQAC CORDINATOR
Anjuman College of Engineering & Technology, Nagpur

ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY ACET 016 SADAR, NAGPUR

Dr. S. M. Ali
PRINCIPAL
Anjuman College of Engineering & Technology, Nagpur

Dr. SYED MOHAMMAD ALI
Principal
Anjuman College of Engineering & Technology, Sadar, Nagpur,

ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY

MANGALWARI BAZAR ROAD, SADAR, NAGPUR - 440 001.

(Managed by Anjuman Hami-E-Islam, Sadar, Nagpur.)

Ph. : 0712-2582749, 2583559, 6604502, Fax : 0712-2583559

Web Site : www.anjumanengg.edu.in **E-mail :** eng_acet@rediffmail.com/eng.acet@gmail.com

Ref. No. ACET/P/1609(c)/22 Date : 10-10-2022

GREEN ENVIRONMENT ENERGY OBJECTIVES

- Reduce specific electrical consumption
- Reduce specific water consumption
- Increase area under Plantation
- Timely compliance to applicable statutory and regulatory requirements
- Optimum usage of resources using 3R approach

Inclusion and conduction of awareness programmes

Dr. Archana Shirbhate
IQAC CORDINATOR
Anjuman College of Engineering & Technology, Nagpur

Dr. S. M. Ali
PRINCIPAL
Anjuman College of Engineering & Technology, Nagpur

ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY ★ SADAR, NAGPUR ★ ACET 016

Dr. SYED MOHAMMAD ALI
Principal
Anjuman College of Engineering & Technology, Sadar, Nagpur.

Criterion 7

Institutional Values and Best Practices

Key Indicator - 7.1.3 Quality audits on environment and energy

7.1.3

Estimation of Carbon footprint

ESTIMATION OF CARBON FOOTPRINT

ANJUMAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Mangalwari Bazar Rd, Sadar, Nagpur-440001 (MS)

Conducted By-

SHREYAS QUALITY MANAGEMENT SYSTEM

(ISO 9001:2015 QMS, ISO 14001:2015EMS, ISO 50001:2018 & ISO 45001:2018 OHSAS Certified Organization;
QCI Life Member (LM/WR/5201) & Registered Lab Management System and Lean Manufacturing Sr. Consultant)

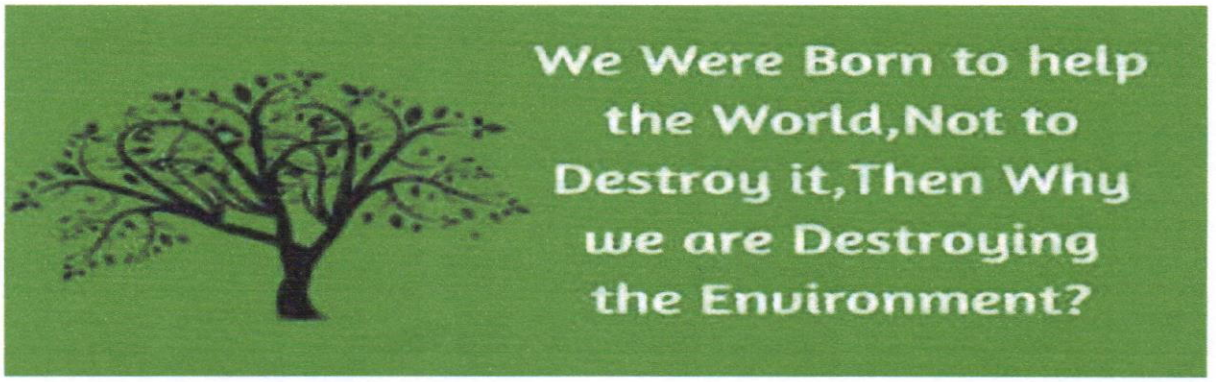
Training Consultancy & Auditing for

- TQM - Quality Award, Quality Cost, SPC, 5S, Lean Six Sigma, Six Sigma
- ISO 9001; ISO 14001 EMS, ISO50001EnMS, OHSAS 18001, ISO29990, ISO 27000
- ISO 17025 &15189 (Medical Lab) Accreditation ,IATF 16949, NABH & School Accreditation

Address: 3rd Floor,Tulsi Vihar Apart,11,Abhyankar Nagar main Road,Abhyankar Nagar Nagpur 440 010.
Phone : 0712-2240012, 09822469560 E-mail : sqmslakhe@gmail.com; www.sqmsindia.com

Dr. M. SOHAIL PERVEZ
Officiating Principal
Anjuman College of Engineering
& Technology, Sadar, Nagpur

This estimation of carbon footprint is in continuation of earlier Green Environment Energy Audit report submitted by us.



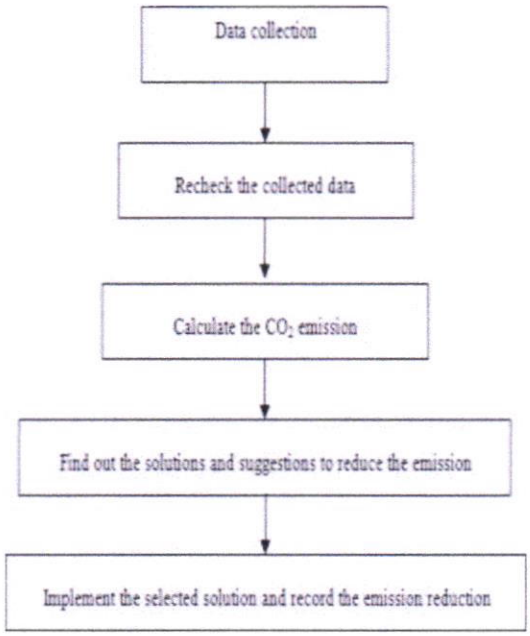
Energy Use and Conservation & Carbon Footprint:

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliance, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment. The college primarily uses energy in the form of electricity provided by Distribution Centre. A proper analysis of energy consumption, we need to understand the electricity consumption over at least one academic year, and ideally three previous years. Major use of the energy is at office and laboratories for lighting, practical and laboratory work. This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliance, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

A Carbon Foot print is defined as the Total Greenhouse Gas emissions (CO_2 emissions), emitted due to various activities. In this we compute the emissions of carbon-Di- Oxide, by usage of the various form of Electrical Energy used by the College for performing its day to day activities.

Carbon footprint, amount of CO_2 emissions associated with all the activities of the College or other entities like building construction and anthropogenic activity by human beings includes direct emissions, such as those that result from fossil-fuel combustion in manufacturing, heating, and transportation, as well as emissions requiredto produce the electricity associated with goods and services consumed. In addition, thecarbon footprint concept also often included the emissions of other greenhouse gases.

Dr. M. SOHAIL PERVEZ
Officiating Principal
Anjuman College of Engineering
& Technology, Sadar, Nagpur



Observations:

College doesn't have owned vehicles that will emit CO2. Also, college doesn't have Hostel. so that substantial waste is not generated that lead to significant CO2 emission.

College has only electrical consumption where CO2 emission get reflected but due to energy saving initiatives, CO2 emission due to electrical consumption is reduced. Conversion of electrical energy to CO2, the guidelines of BEE are followed with the conversion factor 1KWh= 0.82 Kg of CO2 is used.

It is required to monitor and measure the electricity consumption and monthly basis and graph/ table to be prepared.

- Total Energy consumption for last 3 years

Sr. No.	19-20	20-21	21-22	22-23
Electrical Consumption (Solar + MSEB)	-	-	1,33,343	1,48,551

Electrical Bills for last 12 months

Month	March 202	Apr 2022	May 2022	June 2022	July 2022	Aug 2022	Sept 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023

Dr. M. SOHAIL PERVEZ
Officiating Principal
Anjuman College of Engineering & Technology, Sadar, Nagpur

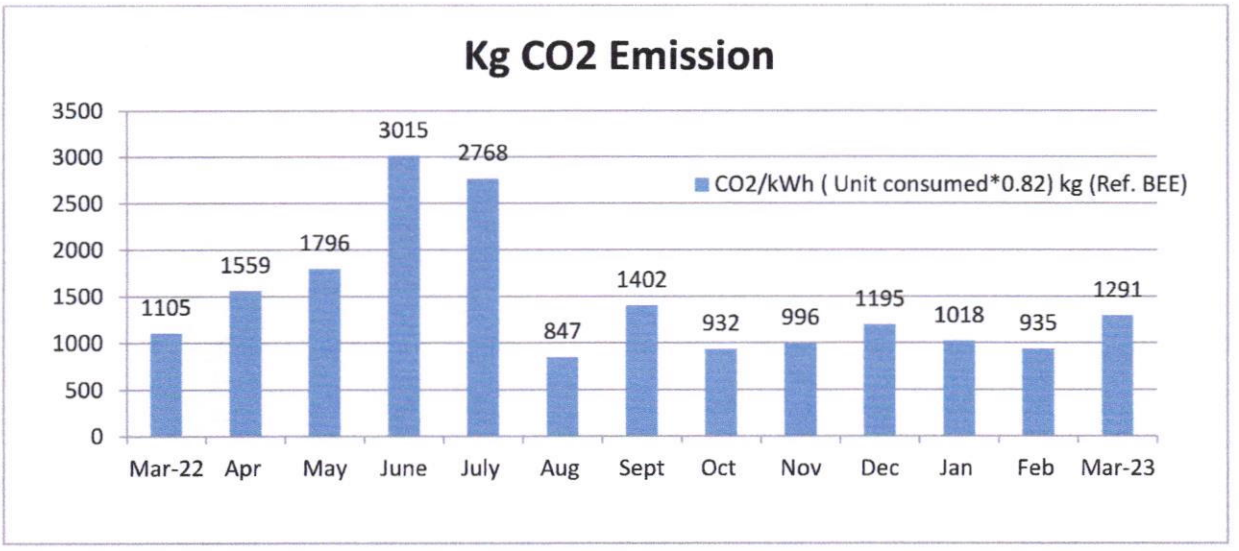
	2												
Electrical Bill (Units)	1316	1856	2138	3589	3295	1008	1669	1110	1186	1423	1212	1113	1537
Amount (Rs)	54,959	61,384	67,119	86,140	79,693	90,944	60,161	52,493	53,641	57,358	54,023	52,785	58,953
CO2/kWh (Unit consumed*0.82) kg (Ref. BEE)	1105.44	1559.04	1795.92	3014.76	2767.8	846.72	1401.96	932.4	996.24	1195.32	1018.08	934.92	1291.08

- Electrical energy consumption per day for institute.407 Units/Day

CO2 emission estimation:

CO2 Release/Day (407 Units)= 84.77 Kg CO2

CO2 Release/Month Avg: (1450.745) = 300.414 Kg CO2



Solar Installations:

- No. of solar panels installed: 289.

Dr. M. SOHAIL PERVEZ
Officiating Principal
Anjuman College of Engineering & Technology, Sadar, Nagpur

- Capacity: 395 Total Capacity = 100 KW

- Amount of energy generated through solar: Approx 380 units

- Amount of solar energy utilization against total energy requirements/year.

380/407= 93.36% Hence, CO_2 emission in college is non-significant.

Reference of Set values of CO_2 level

- 350-1000 ppm: Typical level found in occupied spaces with good air exchange along with pure air.
- 1000-2000ppm: Moderate level associated with complaints of drowsiness and poor air quality.
- 2000-5000 ppm: Critical level associated with headaches, sleepiness, and stagnant, stale, stuffy air. Poor concentration, loss of attention, increased heart rate and slight nausea may present.

Comments: Solar system is also installed in the campus for very limited capacity as an alternate renewable source of energy. It is suggested to enhance the capacity with plan and regular interval so that college become energy producer rather than user only. Equipments like Computers are used with power saving mode. Also, campus administration runs switch –off drill on regular basis.

Auditor:

Dr. Ramesh Lakhe (NBQP, QCI: EMS LA: LA/EMS/2124/001, Lead Auditor ISO50001:2018)

Mr. Sayyad Nasir (BEE Energy Auditor: 7381 Dt. 07.02.2023)

Shreyas Quality Management System had been accredited by Consultancy Development Centre and is member of Quality Council of Indi (QCI).

Submitted by-

Dr. R. R. Lakhe

Director

Shreyas Quality Management System, Nagpur.

Dr. M. SOHAIL PERVEZ
Officiating Principal
Anjuman College of Engineering
& Technology, Sadar, Nagpur