

Nutan Urja Solutions

A 703, Balaji Witefield, Near Sunni's World,

Sus Road, Sus, Pune 411 021

Phone: 83568 18381. Email: nutanurja.solutions@gmail.com

Date: 23/10/2022

CERTIFICATE

This is to certify that we have conducted Environmental Audit at Brahma Valley College Of Engineering And Research Institute, Nashik in the year 2021-22.

The College has already adopted following projects for making the campus **Energy Efficient**.

- Installation of Bio Composting Pit
- Installation of Biogas Generation Plant
- Installation of Rain Water Harvesting System
- Installation of Solar Thermal Hot water System
- Installation of Sewage Treatment Plant

We appreciate the support of Management, involvement of faculty members and students in the process of Energy Conservation & making the campus Green.

Nutan Urja Solutions,

K G Bhatwadekar

K G Bhatwadekar,
Certified Energy Auditor,
EA – 22428



**Report
On
Environmental Audit
At
Brahma Valley College Of Engineering And Research Institute,
Nashik
(Year 2021-22)**



Prepared by

Nutan Urja Solutions

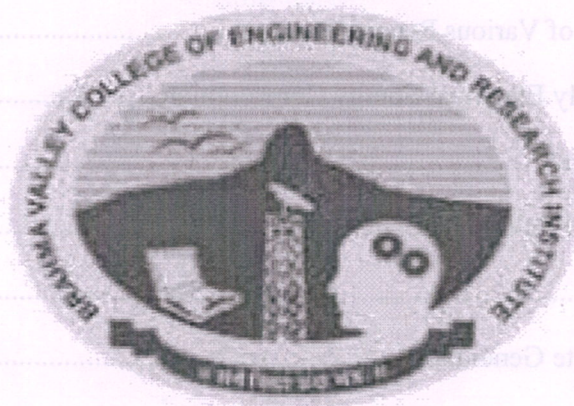
A 703, Balaji Witefield, Near Sunni's World,

Sus Road, Sus, Pune 411 021

Phone: 83568 18381. Email: nutanurja.solutions@gmail.com



Report
On
Environmental Audit
At
Brahma Valley College Of Engineering And Research Institute,
Nashik
(Year 2021-22)



Prepared by

Nutan Urja Solutions

A 703, Balaji Witefield, Near Sunni's World,

Sus Road, Sus, Pune 411 021

Phone: 83568 18381. Email: nutanurja.solutions@gmail.com



Acknowledgement

We at Nutan Urja Solutions, Pune wish to express our sincere gratitude to the management of Brahma Valley College Of Engineering And Research Institute, Nashik for assigning the work of Environmental Audit of college campus.

We appreciate the co-operation and support extended to our team members during the entire tenure of field study.

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

We are also thankful to all other staff members who helped us during the Measurements at the field and for giving us the necessary inputs to carry out this vital exercise.

Sr no	Parameter	Energy consumed (Units)	CO ₂ Emission (MT)
1	Maximum	22,433	20.32
2	Minimum	9,382	7.21
3	Average	17,907	14.37
4	Total	212,609	172.49

3. The various projects already implemented for Environmental Conservation:

- > Usage of Energy Efficient BEE STAR Rated ACs
- > Usage of Natural Day light in corridors
- > Implementation of Bio Composting pit for disposal of Bio degradable waste
- > Implementation of Rain Water Harvesting
- > Installation of Solar Thermal Hot Water System.
- > Installation of Biogas Generation Plant.

4. Notes & Assumptions:

1 kW of Electrical Energy releases 0.8 Kg of CO₂ into atmosphere
1 kWh Solar PV plant generates 2 kWh/day Electrical Energy for 300 days in a year.



Abbreviations

AC	: Air conditioner
PES	: Progressive Education Society
CFL	: Compact Fluorescent Lamp
FTL	: Fluorescent Tube Light
LED	: Light Emitting Diode
kWh	: kilo-Watt Hour
Qty	: Quantity
W	: Watt
kW	: Kilo Watt
PF	: Power Factor
M D	: Maximum Demand
PC	: Personal Computer
MSEDCL	: Maharashtra State Electricity Distribution Company Ltd

1927	The Indian Forest Act
1972	The Wildlife Protection Act
1974	The Water (Prevention and Control of Pollution) Act
1977	The Water (Prevention & Control of Pollution) Cess Act
1980	The Forest (Conservation) Act
1981	The Air (Prevention and Control of Pollution) Act
1986	The Environment Protection Act
1991	The Public Liability Insurance Act
2002	The Biological Diversity Act
2010	The National Green Tribunal Act

1989	Hazardous Waste (Management and Handling) Rules
1989	Manufacture, Storage and Import of Hazardous Chemical Rules
2000	Municipal Solid Waste (Management and Handling) Rules
1998	The Biomedical Waste (Management and Handling) Rules
1999	The Environment (Siting for Industrial Projects) Rules
2000	Noise Pollution (Regulation and Control) Rules
2000	Ozone Depleting Substances (Regulation and Control) Rules



2011	E-waste (Management and Handling) Rules
2011	National Green Tribunal (Practices and Procedure) Rules
2011	Plastic Waste (Management and Handling) Rules

1.1.6 National Environmental Plans & Policy Documents: Table No-3:

1.	National Forest Policy, 1988
2.	National Water Policy, 2002
3.	National Environment Policy or NEP (2006)
4.	National Conservation Strategy and Policy Statement on Environment and Development, 1992
5.	Policy Statement for Abatement of Pollution (1992)
6.	National Action Plan on Climate Change
7.	Vision Statement on Environment and Human Health
8.	Technology Vision 2030 (The Energy Research Institute)
9.	Addressing Energy Security and Climate Change (MoEF and Bureau of Energy Efficiency)
10	The Road to Copenhagen; India's Position on Climate Change Issues (MoEF)

1.2 Objectives

1. To study present usage of Natural resources the College is consuming
2. To Study the present pollution sources
3. To study various measures to make the campus Self sustainable in respect of Natural resources
4. To suggest the various measures to reduce the pollution: Air, Water, Noise

1.3 Audit Methodology:

1. Study of College as System
2. Study of Electrical Energy Consumption
3. Study of CO₂ emissions
4. Suggestions on usage of Renewable Energy

1.4 General Details of College

No	Head	Particulars
1	Name of Institution	Brahma Valley College Of Engineering And Research Institute, Nashik
2	Address	Brahma Valley College Of Engineering And Research Institute, Anjaneri, Trimbak Road, Nashik, Maharashtra 422 213.
3	Affiliation	Savitribai Phule Pune University

Table 2.1: Electrical Energy Consumption

No	Month	Energy (kWh)
1	Jun-22	20,521
2	May-22	17,499
3	Apr-22	20,976
4	Mar-22	25,433
5	Feb-22	22,635
6	Jan-22	22,185
7	Dec-21	23,893
8	Nov-21	14,360
9	Oct-21	19,078
10	Sep-21	9,953
11	Aug-21	9,694
12	Jul-21	9,382
	Total	215,609
	Maximum	25,433
	Minimum	9,382
	Average	17,967

2.1 Variation of Monthly Electrical Energy Consumption

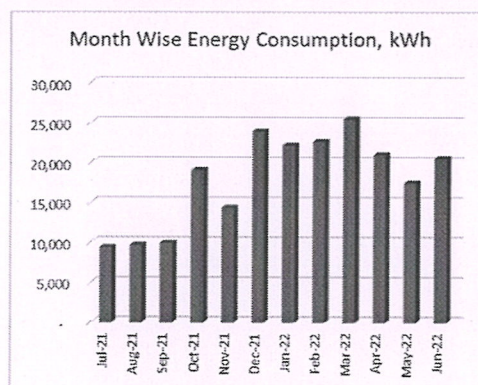


Figure 2.1 : Monthly Electrical Energy Consumption



3. Study of Environmental Pollution

In this Chapter, we present the various types of Pollution as under:

3.1 Air Pollution

The College is using two forms of Energies, namely: Thermal in the form of LPG and Electrical Energy used for day to day operations of the College. The major pollutant on account of above Energy forms is the Carbon Di Oxide.

- 1 unit (kWh) of Electrical Energy emits 0.8 Kg of CO₂ in the atmosphere
- 1 Kg of LPG emits 3 Kg of CO₂ in the atmosphere

In the following Table, we present the CO₂ emissions.

Table 3.1: Month wise Consumption of Electrical Energy & CO₂ Emissions:

No	Month	Energy Consumed, kWh	CO2 Emissions, MT
1	Jun-22	20,521	16.42
2	May-22	17,499	14.00
3	Apr-22	20,976	16.78
4	Mar-22	25,433	20.35
5	Feb-22	22,635	18.11
6	Jan-22	22,185	17.75
7	Dec-21	23,893	19.11
8	Nov-21	14,360	11.49
9	Oct-21	19,078	15.26
10	Sep-21	9,953	7.96
11	Aug-21	9,694	7.76
12	Jul-21	9,382	7.51
	Total	215,609	172.49
	Maximum	25,433	20.35
	Minimum	9,382	7.51
	Average	17,967	14.37



4. Study of Rain Water Harvesting

The College has already installed Rain Water Harvesting project, wherein the rain water falling on the terrace is collected and through pipes it is fed to underground Water Storage tank. This stored water is then reused for domestic purpose.

Photograph of Rain Water Harvesting pipe

