

**Gokhale Education Society's
RNC Arts, JDB Commerce and NSC Science College.
Green Audit Report 2021 - 2022**

Green Audit Report.

Energy Audit Report.

Water Audit Report

Nashik Pune Road, Nashik – 422 101.

**Gokhale Education Society's
RNC Arts, JDB Commerce and NSC Science College.
Green Audit Report 2021 - 2022**

Green Audit was conducted by

CA. Dr. Ashis .Arun. Palkhiwale.

**Green Audit, Energy Audit, Water Audit
was conducted Online without Actual
Physical Visit.**

For 2021 - 2022.

**For Green Audit the Data considered for
the Period**

**1st June 2021 to 31st May 2022
(Academic Year)**

Date of Audit / Report

14th June 2022

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Inclusions & Exclusions while performing the Green Audit.

- 1) Carbon emissions due to Students Travelling is not considered.
- 2) Carbon emissions due to Faculty & Staff Travelling is considered.
- 3) Carbon emissions during Industrial Visits travelling not considered.
- 4) Carbon emissions from the Construction of Building are not considered as the Building is more than 10 Years old.
- 5) All Wood is more than 6 years old so not considered. (Classroom Faculty Platforms). (Still Details of Wooden Furniture is mentioned)

Wood Furniture details excluding Plywood.

Wooden Chairs	Tables	Cupboards	Shelves	Desks / Benches	Partitions
56	146	115	31	207	26

- 6) Plywood is not considered as Plywood is already recycled.
- 7) Total Consumption of Electricity for the Institute is considered.
- 8) Total Consumption of Water for the Institute is considered.
- 9) LPG Cylinders are consumed mainly in Labs.
- 10) Green Cover is considered of the premises around the College campus which may include some part common to the Nashik Road Campus.
- 11) Emissions from Tiles, Cement, Bricks & Paints & Printers are not considered.
- 12) Ambient Air Quality Monitoring is not performed as it was an Online Remote Audit.
- 13) Analysis of Water entering the drains / soak pits is not performed. as it was an Online Remote Audit. (Sewage water, Lab washing water, Washing & Cleaning water) is let out in drains.
- 14) Raw Water Analysis is not performed as it was an Online Remote Audit..
- 15) Radiation due to Wifi & Mobile Phones is not considered.

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Air.

Since it was an Online Remote Audit. Ambient Air Quality was not monitored. Ideally it should be monitored at 12 locations depending on the area of the Institute.

Since it was an Online Remote Audit. Stack Emissions of the Diesel Generator was not monitored.

Paper.

Each A 4 paper is used from both the sides.

After use on both the sides then it is sold to Old Paper Merchant.

To the extent possible use of soft copies of documents is promoted.

For the period **June 2021 to May 2022**

**The consumption was 230 Reams of A 4 Paper of 75 GSM.
(A 4 500 Sheets in each Ream & each Ream of 2.34 kg)**

**The consumption was 08 Reams of A 3 Paper of 75 GSM.
(A 3 500 Sheets in each Ream & each Ream of 4.63 kg)**

**The consumption was 20 Reams of Legal Paper of 75 GSM.
(Legal 500 Sheets in each Ream & each Ream of 2.81 kg)**

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Water.

Water used for

Drinking, Cleaning, Washing & Flushing, Gardening, In Laboratory.

As per the water meter installed.

Yearly reading of the Water Meter 24,00,000 Liters Per Year

So Average Monthly Water Consumption will be

$24,00,000 / 12 = 2,00,000$ Liters Per Month.

If the Volume of Tanks as informed by the institute is taken as base.

(Volume of water tanks certification not performed).

Two Water Tanks of 2000 Liters each and One Water Tank of 5000 Liters are filled once every day

So it indicates 9000 Liters per day approx. (always at the time of refilling the tanks the tanks may not be full empty).

So if we take working days in a Month as 25 days

$2,00,000 / 25$ Days in a month = 8000 Liters per day

Total Water Consumption from June 2021 to May 2022

24,00,000 Liters per 12 Months.

2,00,000 Liters per Month

So the Water Foot print is

24,00,000 / 365 Days = 6,575 Liters per Day.

So the Water Foot Print is 6,575 Liters of Water Per Day.

A separate Water Foot Print Certificate is given to the Institute.

No Rain Water Harvesting is performed.

Currently no measures are being taken to save water or to recycle water.

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Electricity.

Total Consumption of Electricity is ideally to be considered from the Meter reading shown in the Electricity Bill.

Electricity used for

Air Conditioners, Equipments in Labs, Tube Lights, Lights & Fans. Computers & Printers. To run the Utilities.

Consumption from June 2021 to May 2022 is **51,572 KWH.**

Monthly Average KWH consumed for the Period June 2021 to May 2022 are **4,298 KWH per month.**

Power Generation by running the Diesel Generator. **Generator Details**

Quantity	Make	Power Rating	Diesel Consumed
1	Kirloskar	75 KVA	324 Liters Per Year

So Monthly Average Consumption of Diesel is
324 Liters / 12 = 27 Liters per Month.

Measures taken for Energy / Electricity Conservation.

- 1) Replacing the conventional Florescent Tube Lights with LED Tube Lights. (nearly 50% are replaced).
- 2) Replacing the CFL Blubs with LED Bulbs. (nearly 60% are replaced).

3) Solar Power Generation

Yearly	Monthly
12,396 KWH	1,033 KWH

Power Generated by Solar is fed into the Grid.

- 4) Periodic Maintenance of the Diesel Generator to get Optimum performance.

LPG Consumption

Liquefied Petroleum Gas.

LPG Cylinders are used in Laboratories.

June 2021 to May 2022.

**College consumes on an Average 17 Cylinders of LPG per 3 Months
17 Cylinders of 14.2 Kg of LPG Gas in it per 3 Months.**

So LPG consumption is 80.47 Kg of Gas per Month.

There is no other application of LPG Cylinders in the Institute.

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**Consumption of Petrol / Diesel by
Staff Travelling to & fro the Institute.**

According to the data given by the Institute. For the period
June 2021 to May 2022.

Distance Travelled by staff To & Fro the Institute by 2 Wheeler per Month based on a 25 days working Month	Petrol Consumption per day by 2 Wheeler in a month by taking an average Fuel efficiency of 40 KMPL
1568 Km per day so 1568 X 25 = 39,200 Km per Month	980 Liters Per Month
So 980 Liters per Month X 12 Months = 11,706 Liters Per Year.	

Distance Travelled by staff To & Fro the Institute by 4 Wheeler per month based on a 25 days working Month	Petrol Consumption per day by 4 Wheeler in a month by taking an average Fuel efficiency of 12 KMPL
740 Km per day so 740 X 25 = 18,500 Km per Month	1542 Liters Per Month
So 1542 Liters per Month X 12 Months = 18,504 Liters Per Year.	

Distance Travelled by staff To & Fro the Institute by 4 Wheeler per month based on a 25 days working Month	Diesel Consumption per day by 4 Wheeler in a month by taking an average Fuel efficiency of 15 KMPL
538 Km per day so 538 X 25 = 13,450 Km per Month	897 Liters Per Month
So 897 Liters per Month X 12 Months = 10,764 Liters Per Year.	

**So total Petrol Consumption from June 2021 to May 2022 is
11,706 + 18,504 = 30,210 Liters per Year.
(2,518 Liters per Month).**

**So total Diesel Consumption from June 2021 to May 2022 is
10,764 Liters per Year.
(897 Liters per Month).**

+

Diesel Consumption by the Diesel Generator.

So Monthly Average Consumption of Diesel is
324 Liters Per Year / 12 = 27 Liters per Month.

**TOTAL Diesel Consumption is
(897 + 27 = 924 Liters per Month).**

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So Following is the Calculation of the Carbon Foot Print.

Calculation of Kg of CO2 emissions

1	2 <i>As per GRI Standards</i>	3	4	5
Category	Kg of CO2 per unit of consumption	Average Monthly Consumption	Calculation 2*3	Total Kg of CO2 2*3=5
Electricity	0.371 Kg per KWH	4,298 KWH	4,298 X 0.371 =	1,594.56
Diesel	2.68 Kg per liter	924 Liters	924 X 2.68 =	2,476.32
Petrol	2.3 Kg per liter	2,518 Liters	2,518 X 2.3 =	5,791.40
LPG	3 Kg per Kg	80.47 Kg	80.47 X 3 =	241.41
TOTAL				10,103.69

GRI (Global Reporting Initiative) Standards.

So the Average Monthly CO2 Emissions rounded off are 10,104 Kg of CO2.

So the Average Monthly CO2 Emissions are 10,104 Kg of CO2.

A separate Carbon Foot Print Certificate is given to the Institute.

Energy Audit Report.

As per Electrical Meter reading Consumption from June 2021 to May 2022 is **51,572 KWH.**

Consumption in KWH from the Solar Power Generated **3,600 KWH** consumption of KWH generated by Solar power.

So total Consumption will be 51,572 + 3,600 = 55,172 KWH

Power generation by Diesel Generator is negligible so not considered.

So the Energy Consumption for the period June 2021 to May 2022 is 55,172 KWH that is 55,172 / 12 = 4,598 KWH per Month.

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Green Cover Details.

Green cover area in the campus as a percentage of the total area is not calculated.

Only Data given is the Campus comprising of Many Colleges & Schools is of area 25 Acres & is covered with green cover with many trees

Details of Trees & those planted in 2021 – 22 not available.

Mortality Rate of the Trees planted to be monitored.

Hazardous Waste Disposal

E waste is collected & disposed off to an Authorized E waste Disposer Party.

Used Batteries are given in Buy Back to the Supplier of New Batteries.

Laboratory Waste & Used Chemicals & Reagents are diluted & let out in a pit specifically prepared for Chemical waste.


No Details of Hazardous & Non Hazardous Waste Generated & its Disposal is Given by the Institute

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**Suggestions for Green Audit / Energy / Water Audit
related activities to be carried out by the Institute.**

- 1) STP (Sewage Treatment Plant) can be installed for processing & reusing the Sewage waste water.
- 2) The Flushing Tanks of WC (Toilets) to be modified such that only half gets filled & thus while flushing only half of the water is used.
- 3) Drip irrigation can be implemented for the Trees.
- 4) To fit the atomizer device to taps to save water.
- 5) Testing of the water in the drain as it is directly going into the Municipality Drains.
- 6) Motion sensors can be fitted for the Light fittings in Washrooms, Lift and Lobby where continuous usage is not there.
- 7) Survival rate of planted trees to be monitored.
- 8) Grafting of new plants in the trunk of dead trees can be done.
- 9) In the next Green Audit to test the Ambient Air Quality at least at 12 Locations.
- 10) To test the Diesel Generator Stack Emissions.
- 11) To verify the radiation from Wifi & Mobile phones.
- 12) To conduct Poster & other Innovative Environment Idea Competition among students.
- 13) Use of E bikes & E Vehicles can be thought by the Staff Members.

**The Above Report is prepared based on the Records & Facts given by the
Office bearers of Institute.**



CA. Dr. Ashis .Arun. Palkhiwale. (14th June 2022)

(Green Auditor & LA ISO 14001)(Blue Flag Certification Auditor)

**CA, GDCA, MBA (Finance), MBA (IS), MBA (HR), DIP (Automobile Engg), Mcom, MA (Eco),
Msc. (Environmental Science),
(DISA, DFM, DPT, DCL, DFEA, DAD, DVCCR, DET, DPTHR, DTDC & DJL)
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Lead Auditor & Trainer for

**ISO 9001, 14001, 45001, 20000, 22301, 22000, 27001, 50001, 14064, 14046, 14021 & SA 8000 & CG,
CSR, SOX, GDM, NABH, NABL, NBA, NAAC.**