

GREEN CUM ENERGY AUDIT REPORT (2020 – 2021)



**Women's College, Tinsukia
Durgabari, P.O. Tinsukia**

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1. INTRODUCTION:

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims at analyzing environmental practices within the institution place, which have an impact on the environment, positively or adversely. Women's College, Tinsukia, though is an academic institution offering higher education basically in Arts and Commerce streams; we believe that daily functioning of an institution with more than 1000 members would definitely have adverse impact on the environment.

The sole objective of the Audit has been to identify sectors in which we have been exerting pressure on the environment and to sort out a way to minimize it in days to come.

Principal
Women's College, Tinsukia

COLLEGE PROFILE

- i. NAME OF THE COLLEGE (With full Address): Women's College, Tinsukia
Durgabari, P.O. Tinsukia - 786125, Assam
- ii. AFFILIATING UNIVERSITY: Dibrugarh University
- iii. YEAR OF GREEN AUDIT: **2020 - 2021**
- iv. COLLEGE INFORMATION
 - a) Date of establishment of the College : 09/07/1966
 - b) College belongs to Rural/ Urban Area : Urban Area
 - c) Whether recognized by UGC under 2f & 12B?
(If yes give details) : Yes/No
Letter No.:F.No.8-406/2015 (CPP-I/C), Date: Sept. 2015
 - d) Number of Students Admitted : 1317
 - e) Total individuals in the college including Teaching & Non-teaching staff : 1384
 - f) Streams/ Faculties : Arts and Commerce
 - g) E-Mail ID & Phone Number: : wcttsk@gmail.com
0374 -2338826, +91 8721877856
 - h) College Web site : www.wcttsk.ac.in

2. PROCEDURE:

Various categories or spheres that have been earmarked for the audit are:

- ❖ CATEGORY – A: Electricity Consumption
- ❖ CATEGORY – B: Paper Consumption
- ❖ CATEGORY – C: Water Consumption
- ❖ CATEGORY – D: Fossil Fuel Consumption
- ❖ CATEGORY – E: Consumption of Chemicals.

In this audit data have been compiled and analyzed for the period July-2020 to June-2021 as the academic Session (and hence activities in the college are at its peak) of the college falls in this period.

- Data on electricity consumption have been collected from records kept in the form of electricity bills for each month.
- Paper consumption by the College for official and academic purposes have been evaluated from office records and are authentic to our satisfaction.
- Amount of paper consumed by students have been evaluated from a random sample survey and is believed to be reasonably acceptable.
- Amount of water consumption has been calculated by taking into account the total capacity of all overhead water tanks and duration for which the water pumps have to operate per day to fill the tanks.
- Data of Fuel and Chemical consumptions are obtained from official records and are found to be satisfactorily accurate.

• 3. DATA COMPILATION & ANALYSIS:

3.1 CATEGORY – A: Electricity Consumption by the College

TABLE – 1

Sector	Months	Units/Month	Unit Consumption per year	Av. Unit Consumption per Month
<ul style="list-style-type: none"> • Administrative Block • Academic Blocks • Auditorium • Hostel & Staff Quarter 	July- 2020	2329 Unit	29580 Units	2465 Units
	Aug- 2020	2475 Unit		
	Sep- 2020	1842 Unit		
	Oct- 2020	1843 Unit		
	Nov- 2020	2655 Unit		
	Dec- 2020	2763 Unit		
	Jan- 2021	2924 Unit		
	Feb- 2021	3451 Unit		
	March- 2021	3655 Unit		
	April-2021	1386 Unit		
	May-2021	2119 Unit		
	June-2021	2148 Unit		

Per Capita Consumption of Electricity in the College (2020-21): **21.14 Units** (kWh).

3.2 CATEGORY - B: PAPER CONSUMPTION BY THE SYSTEM**TABLE - 2**

(Pressure exerted to the Environment in the form of Paper Consumed: 2020-21)

Sl. No.	Type of Paper	Amount used	Total Weight
1	Copier Paper	A 4: 16 Pkt	57.92 Kg
		Legal: 34 Pkt	106.08 Kg
2	Duplicating Paper		Due to COVID-19 induced lockdown complete data was not available for the period.
3	Foolscap Paper		
4	Answer Script	Internal Exam.	
		External Exam.	
5	Additional Sheets		
6	Assignment Copy	10000 Copies	20 Kg
7	Consumption by students		
TOTAL			
NOTE: Due to COVID-19 induced lockdown (22-03-2020 to 20-09-2020 & 01-05-2021 to 05-09-2021) complete data was not available for the period.			

3.3 CATEGORY - C: WATER CONSUMED BY THE SYSTEM**TABLE - 3**

(Pressure exerted to the Environment in the form of Water Consumed: 2020-21)

Sl. No.	Sector	Water Pump Specification	Water Reservoir capacity (in lt.)	Pump used per day	Average water used per day
1	Academic	1 hp	4000 lt.	1 time	4000.00 lt.
		0.5 hp	1000 lt.	1 time	1000.00 lt.
2	Administrative	1 hp	1000lt.	1 time	1000.00 lt.
3	Auditorium	1 hp	500 lt.	0.3time	142.86 lt.
TOTAL					6142.86lt.
Average water consumed in the College per person per day:					4.4lt.
4	Hostel	3 hp	6000 lt.	3 times	*17000.00 lt.
Average water consumed in the Hostel per person per day:					113.3 lt.

* It is assumed that as per normal practice there remains about 10% water in each reservoir at the time of refilling.

* Total person in the College approximately= **1384**

*Total boarder in the Hostel = 150

3.4 CATEGORY - D: FUELS CONSUMED BY THE SYSTEM

TABLE - 4

(Pressure exerted to the Environment in the form of Fuels Consumed: 2020-21)

Sl. No	Category	Month	Amount used per month (Lt.)	Av. Use per month	Environment cost
1	Diesel for Generators	July-20	NIL	18.905 lt.	○ Estimated financial burden on the institution = Rs. 18,000.00
		Aug-20	NIL		
		Sept.-20	76.59 lt.		
		Oct.-20	NIL		
		Nov-20	77.27 lt.		
		Dec-20	NIL		
		Jan-21	NIL		
		Feb-21	NIL		
		March-21	73 lt.		
		April-21	NIL		
		May-21	NIL		
		June-21	NIL		
		Total	226.86 lt.		
2	LPG for College Canteen	July-20	Due to COVID-19 induced Lockdown and related SOPs the Canteen was closed for this period.	NIL	NIL
		Aug-20			
		Sept.-20			
		Oct.-20			
		Nov-20			
		Dec-20			
		Jan-21			
		Feb-21			
		March-21			
		April-21			
		May-21			
		June-21			
Total	NIL				
3	Hostel (Pipeline gas)	July-20	290 SCUM	245 SUCM	Estimated financial burden on the institution = Rs. 76,928.00. ● SCUM - Standard Cubic Metre
		Aug-20	290 SCUM		
		Sept.-20	290 SCUM		
		Oct.-20	290 SCUM		
		Nov-20	290 SCUM		
		Dec-20	290 SCUM		
		Jan-21	290 SCUM		

	Feb-21	290 SCUM	
	March-21	290 SCUM	
	April-21	110 SUCM	
	May-21	110 SUCM	
	June-21	110 SUCM	
	Total	2940 SUCM	

3.5 CATEGORY – E: CHEMICALS CONSUMED BY THE SYSTEM

TABLE - 5

(Pressure exerted to the Environment in the form of Chemicals Consumed: 2020-21)

Sl. No.	Category	Sector	Amount used per month	Market Cost	Environmental Cost
1	Bleaching Powder	College	4Kg	Rs.580.00	These chemicals mostly pollute water and affects aquatic lives.
		Hostel	3Kg		
2	Phenyl	College	7lt	Rs.2172.00	
		Hostel	5lt		
3	Herpic	College	20lt	Rs.5230.00	
		Hostel	16lt		
4	Hand Sanitizer	College	12 lt	Rs. 1118.40	
		Hostel	8 lt	Rs. 745. 00	

4. OBSERVATIONS & CONCLUDING REMARKS:

4.1 CATEGORY – A: Electricity Consumption in the college is found to be well below the national average. However there is scope for improvement in this regard. Per capita consumption of electricity in the college over the year under consideration is found to be 21.12 Units. It is to be noted that in a year per capita consumption of Electricity in India is 807.78 kWh. **The dip in electricity consumption can be attributed to the COVID-19 induced lockdown during the period.**

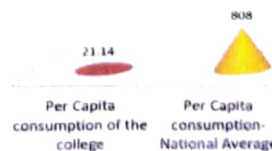
Per Capita Electricity Consumption in kWh
(2020-21)

■ Per Capita consumption of the college
■ Per Capita consumption- National Average



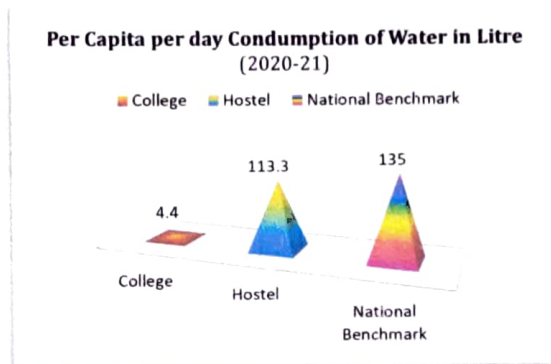
Per Capita electricity consumption in kWh
2020-21

■ Per Capita consumption of the college
■ Per Capita consumption- National Average



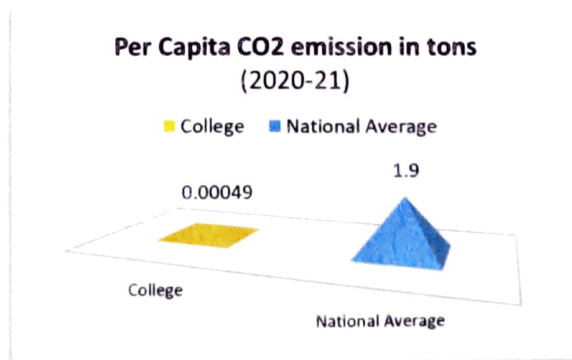
4.2 CATEGORY – B: **Due to COVID-19 induced lockdown (22-03-2020 to 20-09-2020 & 01-05-2021 to 05-09-2021) complete data was not available for the period. As a result audit on this category could not be performed.**

4.3 CATEGORY – C: It is to be noted that as per Ministry of Housing and Urban Affairs, **135 litre per capita per day (lpcd)** has been suggested as the benchmark for urban water supply. On that scale the per capita per day use of water in the Hostel (as well as in the college) is below the national bench mark, which is an encouraging sign.

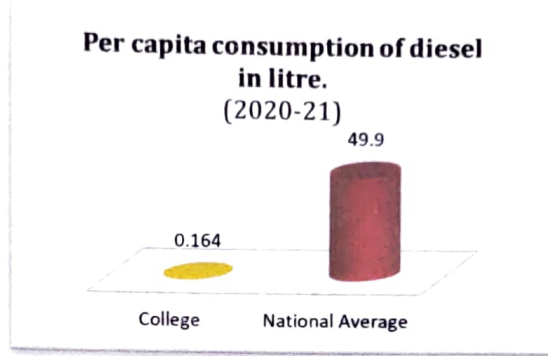


4.4 CATEGORY-D:

Emission of Greenhouse gas by the system: On the average a diesel generator emits 2.7 kg of CO₂ per liter consumption of diesel. So the institution, by the virtue of its electricity backup system (diesel generators), emitted 612.5 kg of CO₂ gas to the atmosphere during the period under consideration. Therefore, per capita emission of Greenhouse gas by the college is equal to 0.443 kg. (0.00049 tons). Clearly this is far below the national average (i.e. 1.90 tons.)



In the college, it is found that it uses 0.164 litres of diesel per capita per year. This is clearly below the national average, which is 49.9 litres per capita.



4.5 CATEGORY-E: As the College is an Arts faculty institution, there is minimum use of chemical, which is necessary for cleaning purposes to maintain hygiene standard. The pandemic of COVID-19 has compelled the institution to maintain optimum use of Sanitizers, which is a chemical having adverse effect on environment.

1. Date: 16/09/2021

2. Place: Jimsukia

Signature:

Bijoy Bordoloi

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Umrongso Division, Umrongso

Seal:

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