SHAHEED RAJGURU COLLEGE OF APPLIED SCIENCES FOR WOMEN, UNIVERSITY OF DELHI, DELHI-110096

ENVIRONMENT AUDIT REPORT

2020-2021

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1. Introduction:

Shaheed Rajguru College of Applied Sciences for Women (SRCASW) presents a comprehensive environmental audit report on its carbon footprint. This review report is in response to its effort to reduce Green House (GHGs) gas emissions (primarily CO_2). The college thus realizes its role in understanding the effects of global warming and climate change and participates in sustainable development. The institute takes initiative in conducting studies by collecting GHG inventories, which form the baseline for measuring the progress and provide a foundation for setting and meeting the CO_2 emission reduction targets. These inventories are summarized in the audit report which provides opportunities for building cost-effective GHG reduction strategies, for instance, decentralizing its power demand by installing solar panels; enhancing carbon sequestration by planting more trees. The present audit report is designed to give readers a comprehensive, easy-to-read and comparative review of the areas contributing to the carbon footprint and strategies to manage them. This review report covers areas such as energy, water, waste and fossil fuel consumption during transportation. The environment audit report is thus inclined to make SRCASW assess general practices in terms of the impact on the environment. The report also aims to spread awareness of how strongly the institute is involved in curtailing those practices.

2. Goals of Environment audit:

Following are the goals and ambitions of the reports:

1. To create a baseline survey for comparing and measuring the progress.
2. To examine the current practises and their contribution in terms of CO_2 equivalence.
3. To compare, innovate and install green and alternative sources of energy.
4. To reduce dependencies on energy obtained from fossil fuels.
5. To identify and mitigate the problems of waste disposal, and water management practices.
6. To enhance the growth of the green cover of the campus.
7. To enhance environmental consciousness for sustainable use of resources.
8. To identify and assess environmental risk, if any, in the college.

3. Methodology:

The data was collected using survey forms from 1) Students, 2) Teaching Staff and 3) Non-teaching staff from all the departments, administrative buildings canteen and hostels. The data has been collected from the final batch comprising approximately 300-400 students. The total per capita CO2 emission has been calculated the for total strength of the college which comprises 1765 students (1652, day scholars and 115, hostlers), ~130 teaching staff, and ~30 non-teaching staff members. The number of working days was taken for October and November. The remaining months were closed due to lockdown. The Audit report is carried

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out for i) CO_2 emission from transportation (Carbon auditing), ii) CO_2 emission from energy consumption (Energy auditing), iii) GHG emission from wastewater and solid waste (Water and Waste auditing), and iv) other potential CO_2 sinks in the college.

1. CO_2 emission from the Transportation

A carbon footprint is the total greenhouse gas emissions caused directly and indirectly by an individual, organization, event or product. It is calculated by summing the emissions resulting from every stage of a product or service's lifetime. The calculations, formulae and results discussions are supported with the help of tables and graphs. The data was collected from (i) the academic block, (ii) the administrative building, and (iii) the canteen and hostel area. In the academic block, the data were collected separately for each department.

1.1 Component of the Calculations:

The net kg CO2 equivalence has been calculated using the data and equivalence constants for various fuel types. The data was collected using google form surveys that were circulated among students, teaching and non-teaching staff in all the departments.

Activity (total fuel consumption in L) * Emission Factor (kg of CO_2 per litre of fuel) = CO_2 Equivalence (CO_2e) of emissions.

Fuel consumption per person = Distance (km) * Avg. fuel consumption (L per km)**

1. Average fuel consumption per km travel = 0.05 kg CNG
2. Average Diesel consumption per km travel = 0.07 kg Diesel
3. Average Petrol consumption per km travel (2 wheeler) = 0.03 kg Petrol
4. Average Petrol consumption per km travel (4 wheeler) = 0.1 kg Petrol
5. Travel by metro per km travel = 0.065 kg CO2 per commuter
6. Average travel by e-rickshaw per day = 4 km per person

Annual kgCO_2e Consumption of SRCASW through transportation= 1545.7 kg CO_2e, or ~129.0 kg CO_2e/month

Table 1.1. Total distance (km), total fuel consumption (L) and total kgCO2 equivalence emission of the college (academic and administrative blocks).

Parameters	Academic	Administrative	Total
Total Distance (km)	15812	1037	**16849**
Total Fuel (L)	795.33	49.39	**844.72**
Total kgCO2 equivalence emission	1429.03	116.7	**1545.73**

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

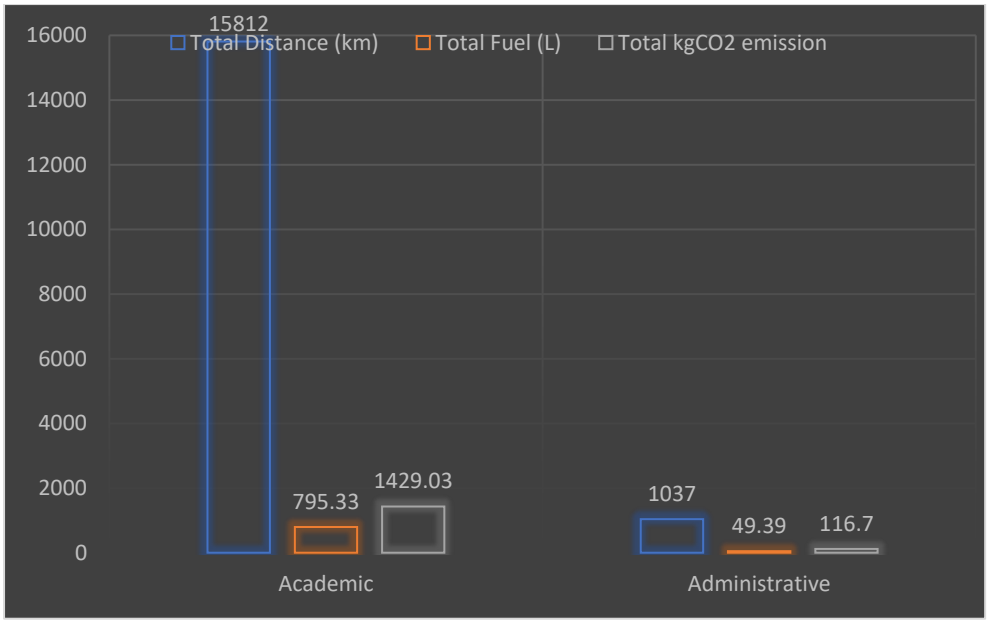


Figure 1.1. Bar representation showing total distance (km), total fuel consumption (L) and total kgCO2 equivalence emission of the college (academic and administrative blocks).

Table 1.2. The breakup of the (a) total distance travelled by 4-wheelers, 2-wheelers and public transportation, and the (b) total fuel (petrol, diesel, and CNG) consumed by the administrative and academic blocks of the college.

(a)

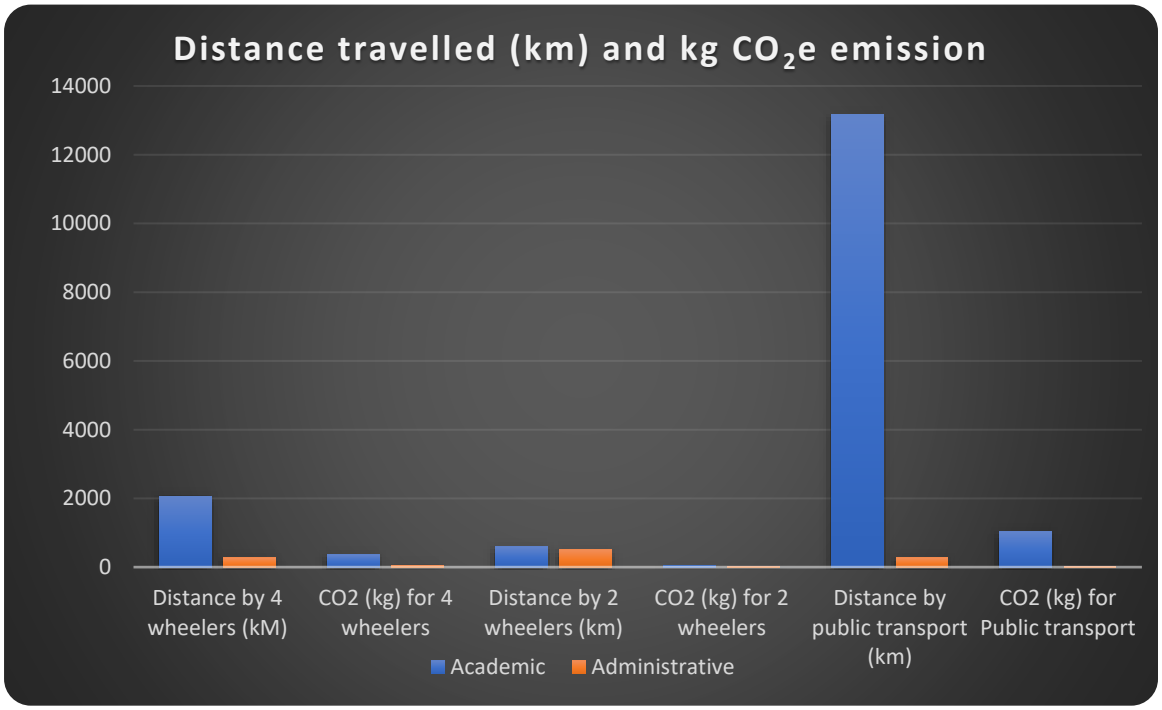
Department	Distance by 4-wheelers (km)	CO_2 (kg) for 4 wheelers	Distance by 2-wheelers (km)	CO_2 (kg) for 2 wheelers	Distance by public transport (km)	CO_2 (kg) for Public transport
Academic	2066	362.65	590	35.66	13156	1030.72
Administrative	268	55.8	499	29.9	270	31
Total	2334	418.45	1089	65.56	13426	1061.72

(b)

Department	Petrol (L)	Diesel (L)	CNG (kg)
Academic	238.16	64.9	492.27
Administrative	32.49	0	16.9
Total	270.65	64.9	509.17

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

(a)



(b)

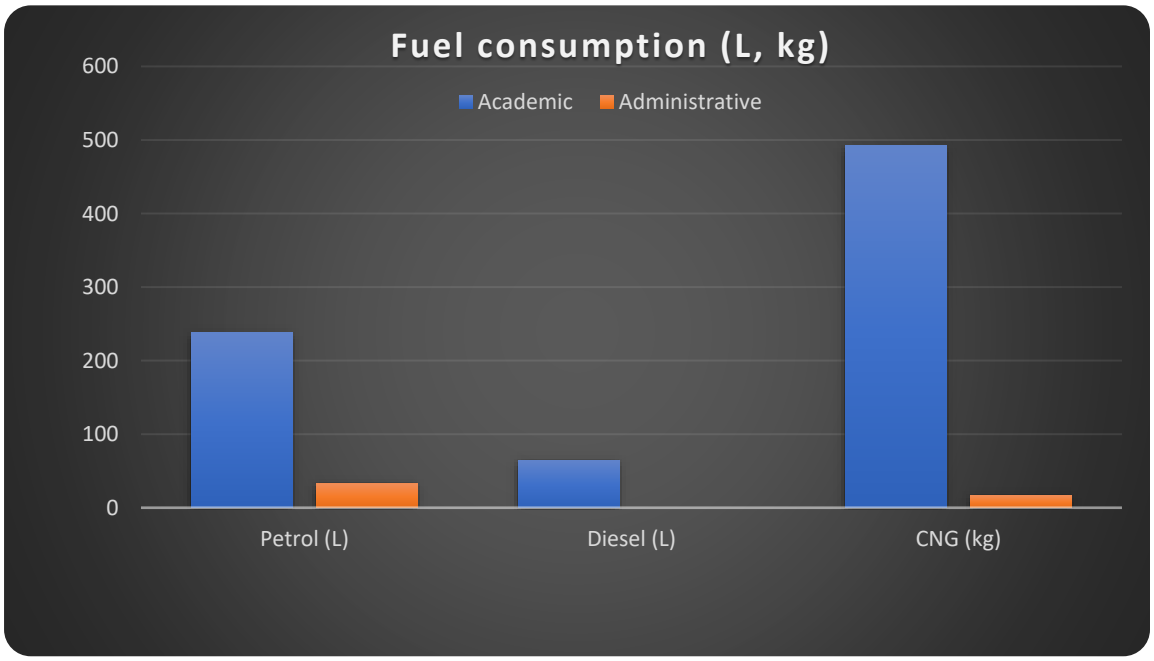


Figure 1.2. The breakup of the (a) total distance travelled by 4-wheelers, 2-wheelers and public transportation, and the (b) total fuel (petrol, diesel, and CNG) consumed by the administrative and academic blocks of the college.

1.2 Results and Discussion:

The total annual CO_2 emission from transportation for the college is 1545.73 kg of CO_2e or ~1.6 tonnes of CO_2e. The average CO_2 emission from transportation per month is 128.8

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kg/month. A difference of ~99 % CO_2 emission is observed when compared to last year's report (Ref. report 2019-2020). This is due to extended lockdown for almost all the months. The college opened for a very small period i.e. October and November 2021. The results retain the maximum CO_2 contribution from public transportation when compared to previous reports. Majority of students, non-teaching staff members, and a few teachers on average commute daily by public transportation. Thus, public transportation is the main cause of the college's carbon footprint, followed by 2-wheelers and 4-wheeler private vehicles.

2. CO_2 emission from the Electricity

The kg CO_2 emission from electricity is remotely generated and therefore indirect. The fossil fuels consumed to generate electricity are a major contributor to GHGs. The electricity in SRCASW is supplied by the state electricity board which comes from thermal power-based grid electricity units. The emission factor for coal has been taken to calculate the amount of CO2 emission by the electricity consumption. The data had been collected for i) academic, ii) the administrative building, and (iii) hostels. The electricity consumption was collected in three different categories which are as follows:

Category-I: AC (Variable refrigerant flow (VRF); non-VRF), Fans, and Tubelights.

Category-II: Desktop Computers

Category-III: Electrical and Electronic gadgets, Instruments (heavy and light machines), Charging devices (Laptops, mobile phones), photocopier machines, printers, bulbs, microwaves, and refrigerators.

2.1 Component of the Calculations:

Emission Factor for electricity produced by coal = 0.975 kgCO_2e/kWh

Activity (total electricity consumption in kWh) * Emission Factor (kg of CO_2 per kWh) = CO_2 Equivalence (CO_2e) of emissions.

kWh/month = (Rating in Watts/ 1000 * usage in no. of hours per day * number of working days in a year)/12 months

Table II.1. Department-wise consumption of the electricity by categories I, II, and III.

Departments	Sub-divisions	Category-I (kWh/month)	Category-II (kWh/month)	Category-III (kWh/month)
Academic	Biochemistry	23010.4	10	41.6
	Biomedical		40	91.4
	Chemistry		10	51.8
	Computer Science		880.8	120.1
	Electronics		275	66.4
	Food Technology		3.3	404.5
	Instrumentation		133.3	164.4
	Mathematics		495.8	4.5

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

	Microbiology		13.3	3.9
	Management		5.8	0.34
	Physics		86.6	15.8
	Psychology		4.2	5.2
	Statistics		146.7	0.7
Administrative building	Principal's room, account section, the library, and non-teaching staff offices.	4308.9	293.3	78.9
Hostel	Quarters (a warden and a caretaker). Student's rooms.	449.1	NIL	971.3
TOTAL		27768.4	2398.1	2020.8

2.2. Calculations:

Total Electricity consumption per day = Category I + Category II + Category III

Total Electricity consumption of SRCASW per month 32,187.4 kWh

Total CO_2e emission of SRCASW per month = 31382.7 kgCO2e

Total annual CO_2e emission of SRCASW per month ~31.4 tonnes CO_2e

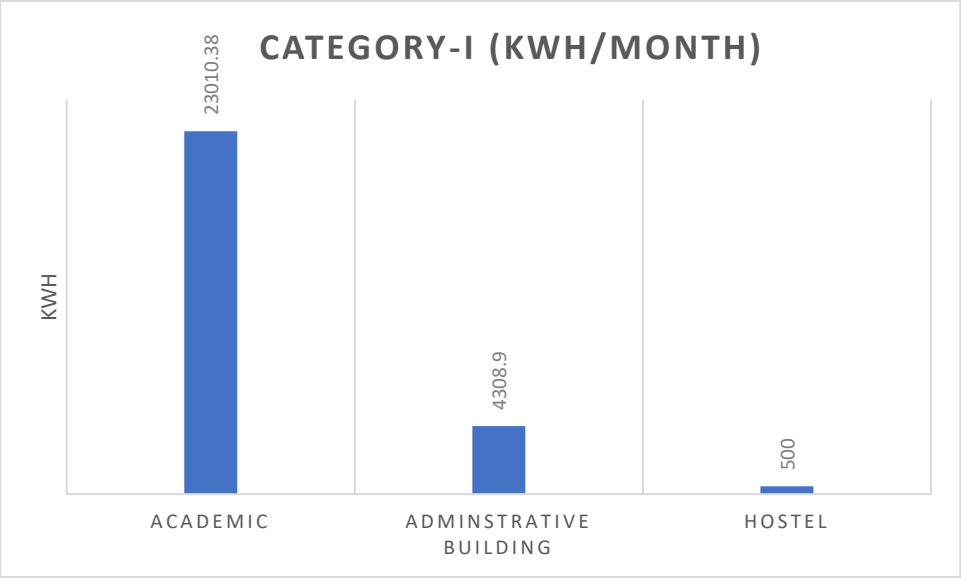

Figure 2.1. Distribution of electricity consumption for CATEGORY-I (kWh per month) in different departments.

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

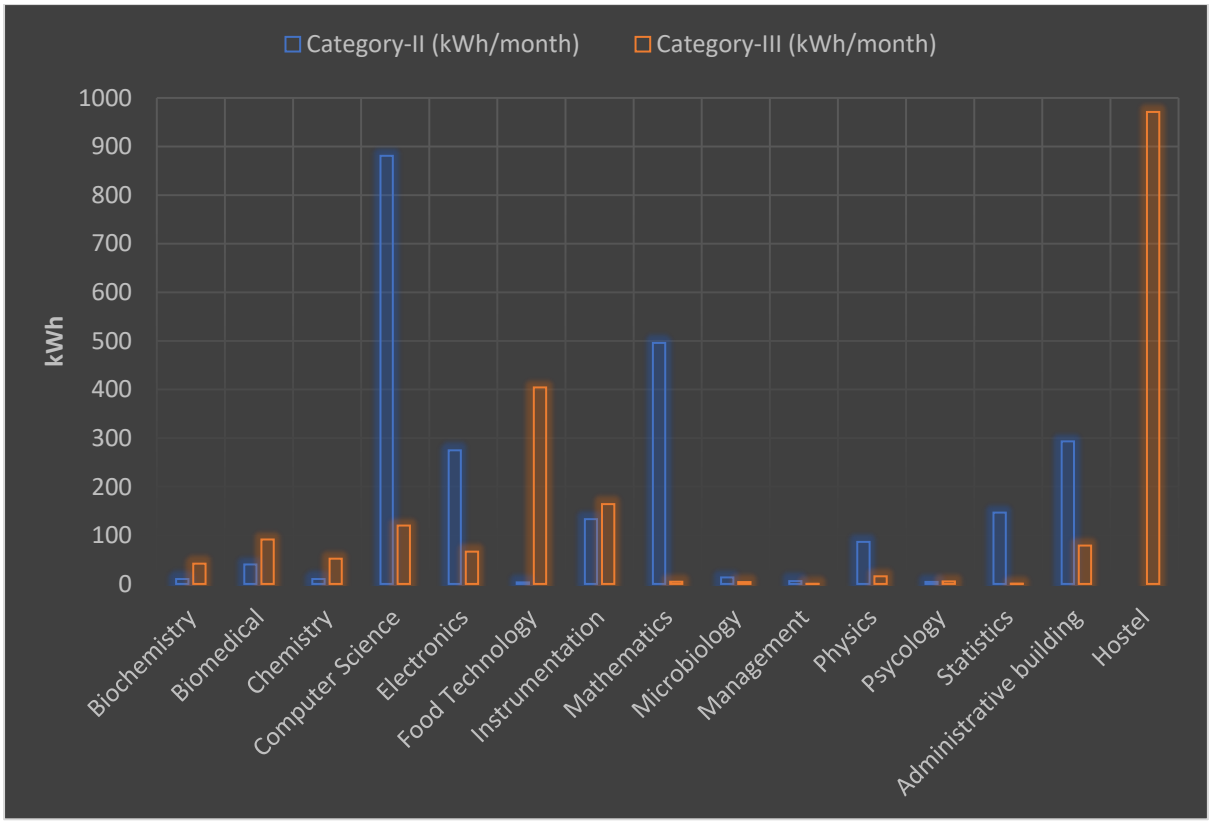

Figure 2.2. Distribution of electricity consumption for CATEGORY-I (kWh per month) in different departments.

2.3. Results and Discussions:

The total kg CO_2 emitted due to electricity consumption has been reported in kWh per month. This amounts to 31.4 tonnes of CO_2 per month, or 376.8 tonnes of CO_2e annually. This is approximately the same as last year (ref. report 2019-2020). The computer science department, followed by the mathematics departments shows the highest consumption of electricity in Category-II; the hostels, and food technology departments show the highest electricity consumption in Category-III.

3. GHG emissions from Waste Water and Solid Waste

This section covers 3.1. Water Auditing, and 3.2. Waste Auditing. The water auditing covers the total water consumption of the college and the N_2O and CH_4 emissions from the wastewater treatment unit. The N_2O and CH_4 are released from the nitrification and breaking of the organic compounds, respectively during the disposal of the wastewater. The N_2O and CH_4 emissions have been calculated by taking into account per person-day contribution in generating wastewater. The contribution of the day scholars, teaching and non-teaching staff who stay only during working hours in the college, has been considered 50 % of the hostlers who are living on the campus.

The GHG emission for the waste has been estimated by calculating the CH_4 emission per kgs of solid waste. The CH_4 is released from the disposal of solid waste at the dumping site.* In the current waste audit report, the solid waste (kgs) included plastic wastes, sanitary, glass-

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metal scraps, other dry waste and miscellaneous. The paper waste and e-waste are recycled 100 % by the college and are collected by licensed and authorized manufacturers. Also, wet waste is managed through composting in the college. Hence, they were not included while calculating the solid waste.

3.1. Water Audit:

The water audit has been done for the whole college by collecting data from the different sections. The sections include all the departments in the academic block, the administration building, and the hostels. The average number of days has been taken as 60 days (two months) for the students, 120 days (4 months) for the administration, and 360 days (12 months) for the wardens and caretakers staying in the hostel premise. The variation in the number of days is because of the irregular lockdown during 2021.

For calculating the kgN_2O and $kgCH_4$ equivalence emission, sanitation, laboratory, and miscellaneous water have been taken into account.

3.1.1. Component of the Calculations:

Emission Factor for N_2O per person-day for generating wastewater = 0.09 kgN_2O/person-month

Emission Factor for CH_4 per person-day for generating wastewater = 9.0 $kgCH_4$/person-month

The total number of persons in college * Emission Factor * the number of days = Total kgN_2O and $kgCH_4$ per year.

Table 3.1. Water consumption (L/month) of different departments and blocks of SRCASW.

Name of the department	Sanitation Water Consumption (L/month)	Laboratory water consumption (L/month)	Drinking water consumption (L/month)	Miscellaneous (L/month)	Total Consumption of water (in L/month)
Biochemistry	250	750	100	0	1100
Biomedical Science	375	500	125	0	1000
Chemistry	500	950	500	0	1950
Computer Science	400	0	100	0	500
Electronics	750	25	500	0	1275
Food technology	500	500	250	0	1250
Instrumentation	400	100	150	0	650

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

Mathematics	50	0	125	0	175
Microbiology	500	750	250	0	1500
Management Studies	60	0	125	0	185
BFIA	60	0	125	0	185
Physics	330	0	165	0	495
Psychology	400	0	200	0	600
Statistics	350	0	200	0	550
Administrative	2250	0	450	225	2925
Hostel	1250	0	250	4500	6000
TOTAL	8425	3575	3615	4725	20340

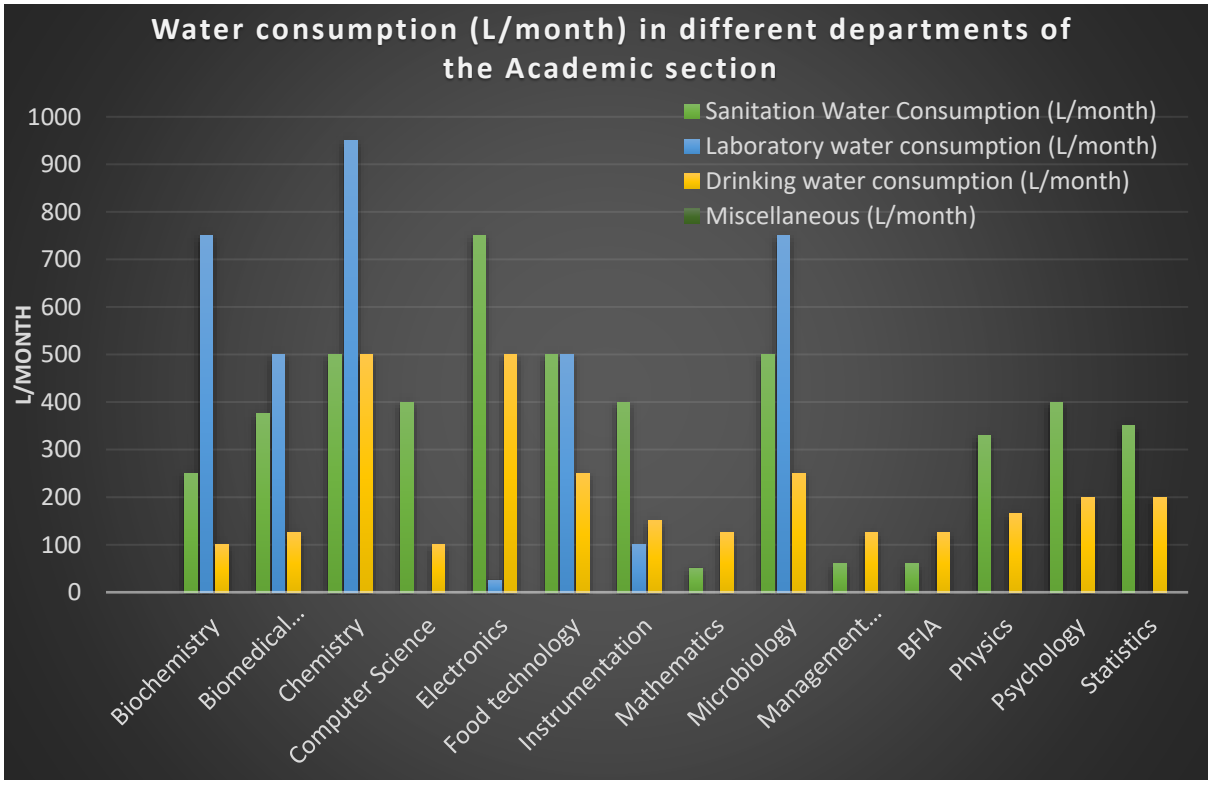

Fig. 3.1. Water consumption break-up (L/month) for the different departments of the academic block.

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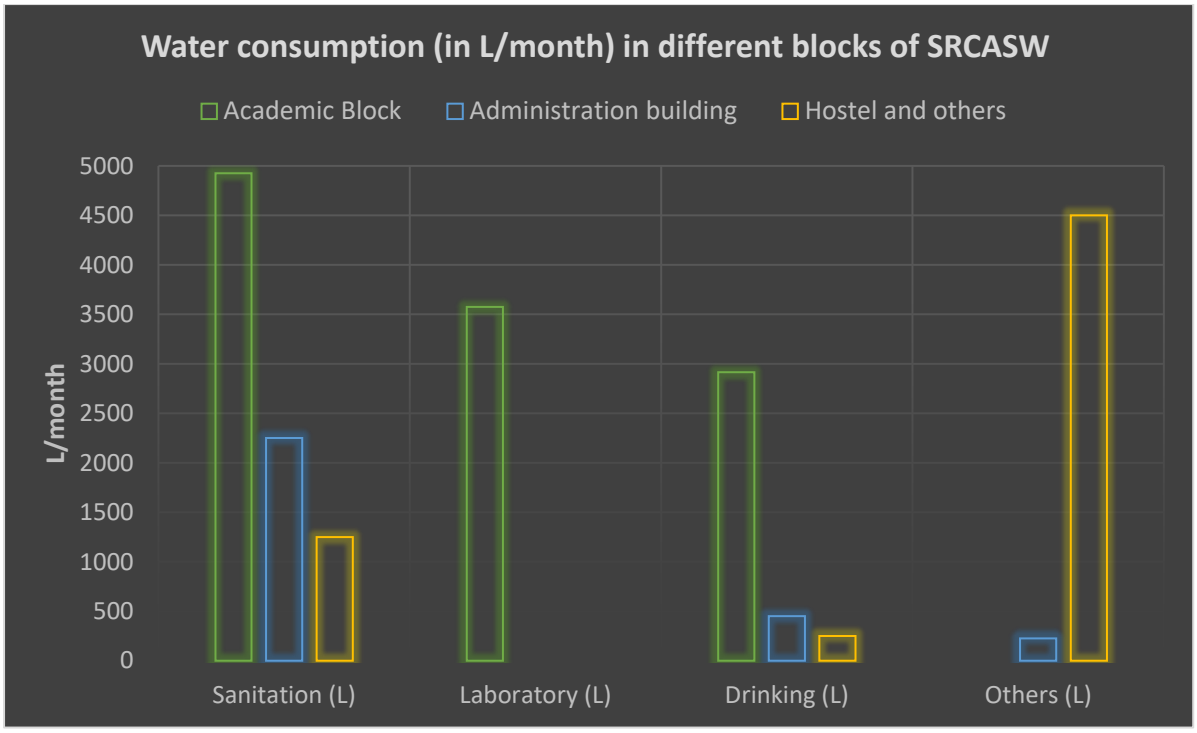

Fig.3.2. Water consumption distribution (L/month; sanitation, laboratories, drinking, others) in the different blocks of SRCASW.

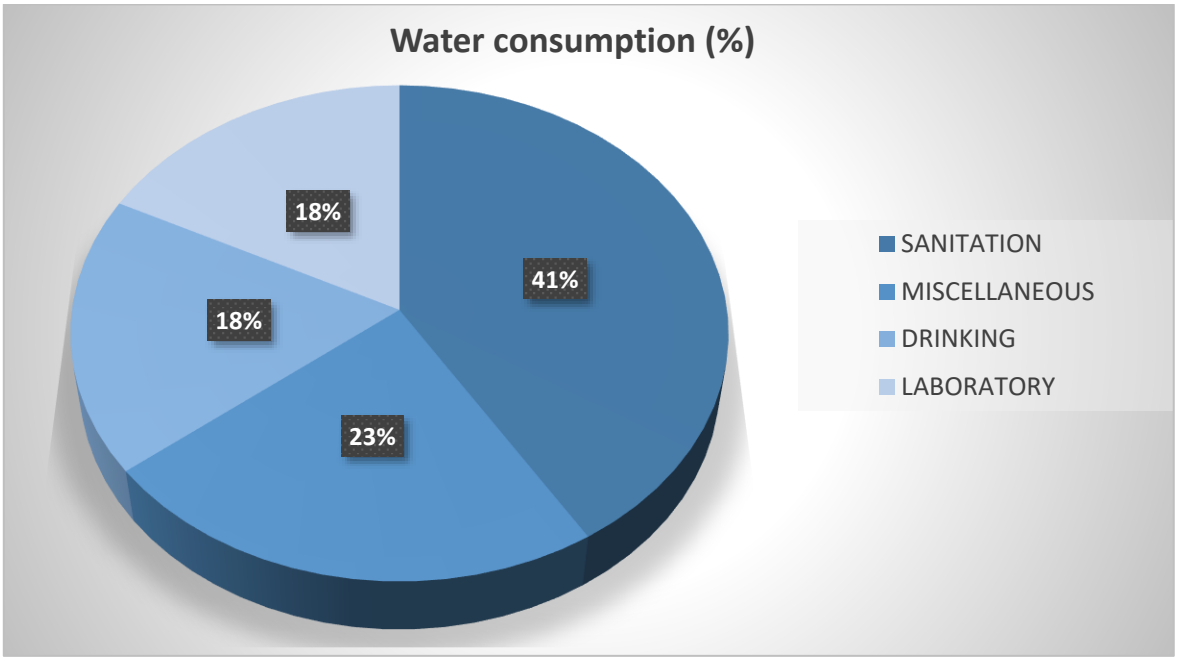

Fig.3.3. Pie-chart representation of Total water consumption (%) of SRCASW for different purposes (sanitation, laboratories, drinking, others).

3.1.2. Results and Discussion:

The N_2O and CH_4 generated by the college per month for the year 2020-2021 are ~1505.3 kg N_2O/person-month and 150,525 kgCH_4/person-month, respectively. The total water consumption of SRCASW is 20,340 L per month. This is ~93 % less than 2019-2020. The fall in

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consumption is probably because of the extended and irregular lockdowns**.** The results show maximum consumption of water happening in sanitation (41%), followed by miscellaneous (23%), laboratory (18%), and drinking (17.5%). The maximum consumption of water for sanitation, laboratory and drinking is reported from the academic block; the highest consumption of water in the academic section comes from the Chemistry, followed by the microbiology department. It is due to more number of students and water consumption for laboratory purposes.

3.2. Waste Audit:

The waste audit has been done for the whole college by collecting data from the different sections. The sections include all the departments in the academic block, the administration building, and the hostels. The average number of days has been taken as 60 days (two months) for the students, 120 days (4 months) for the administration, and 360 days (12 months) for the wardens and caretakers staying in the hostel premise. The variation in the number of days is because of the irregular lockdown during 2021. The $kgCH_4$ emission is calculated from the wet waste generated by the college, which forms the part of sewage treatment plants (STPs). The food waste is used in the composting units of the college.

3.2.1. Component of the Calculations:

Emission Factor for CH_4 for solid waste disposal (SWD) = 0.9 $kgCH_4$

Activity (kgs of solid waste per year) * Emission Factor = Total $kgCH_4$ per year.

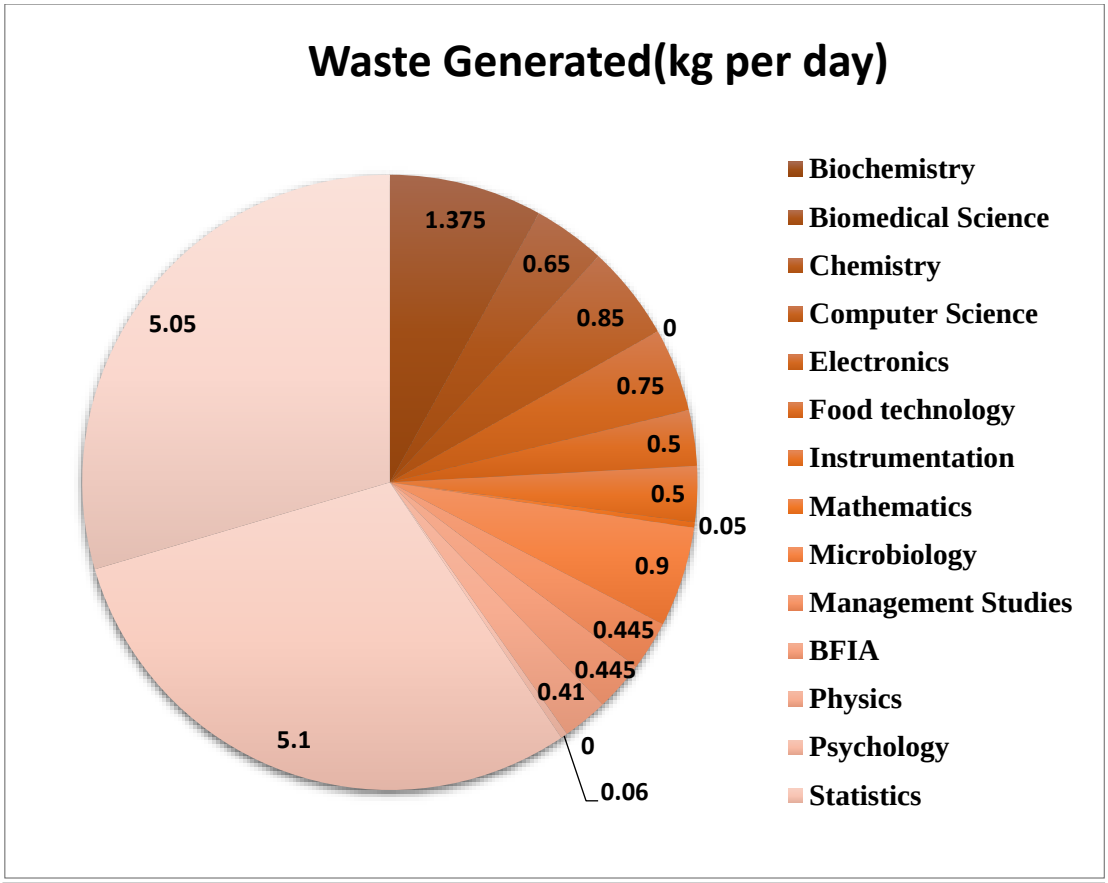
Table 3.1. Distribution of the waste generated through different processes by the departments of SRCASW.

Departments	Waste Generated (Kg/day) Total	Paper waste (gm)	Sanitary waste (gm)	Plastic waste (gm)	Lab waste						
					Glass (gm)	E-waste (gm)	Dry/solid (gm)	Wet(mL)	Needle	Biological Waste/ Food Waste Waste	Others
Biochemistry	1.375	500	100	50	50	nil	100	500 ml	50	25ml	0
Biomedical Science	0.65	100	100	100	nil	nil	200	100	0	50 gm	0

*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.

Chemistry	0.85	500	0	0	100	0	150	100	0	0	0
Computer Science	0	0	0	0	0	0	0	0	0	0	0
Electronics	0.75	250	0	0	0	500	0	0	0	0	0
Food technology	0.5	0	0	0	50	0	100	100	0	250 gm	0
Instrumentation	0.5	100	0	100	50	250	0	1000	0	0	0
Mathematics	0.05	50	0	0	0	0	0	0	0	0	0
Microbiology	0.9	20	80	0	100	200	100	100	0	300 gm	0
Management	0.445	110	100	110	0	0	0	0	0	125 gm	0
BFIA	0.445	110	100	110	0	0	0	0	0	125 gm	0
Physics	0.41	250	100	10	0	50	0	0	0	0	0
Psychology	0	0	0	0	0	0	0	0	0	0	0
Statistics	0.06	60	0	0	0	0	0	0	0	0	0
Administrative building	5100	5000	-	-	Nil	-	-	-	-	100 gm	-
Hostels	5050	2000	500	50	-	-	-	-	-	250	-
Total	10156.94	9050	1080	530	350	1000	650	1400	50	250	0

*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.



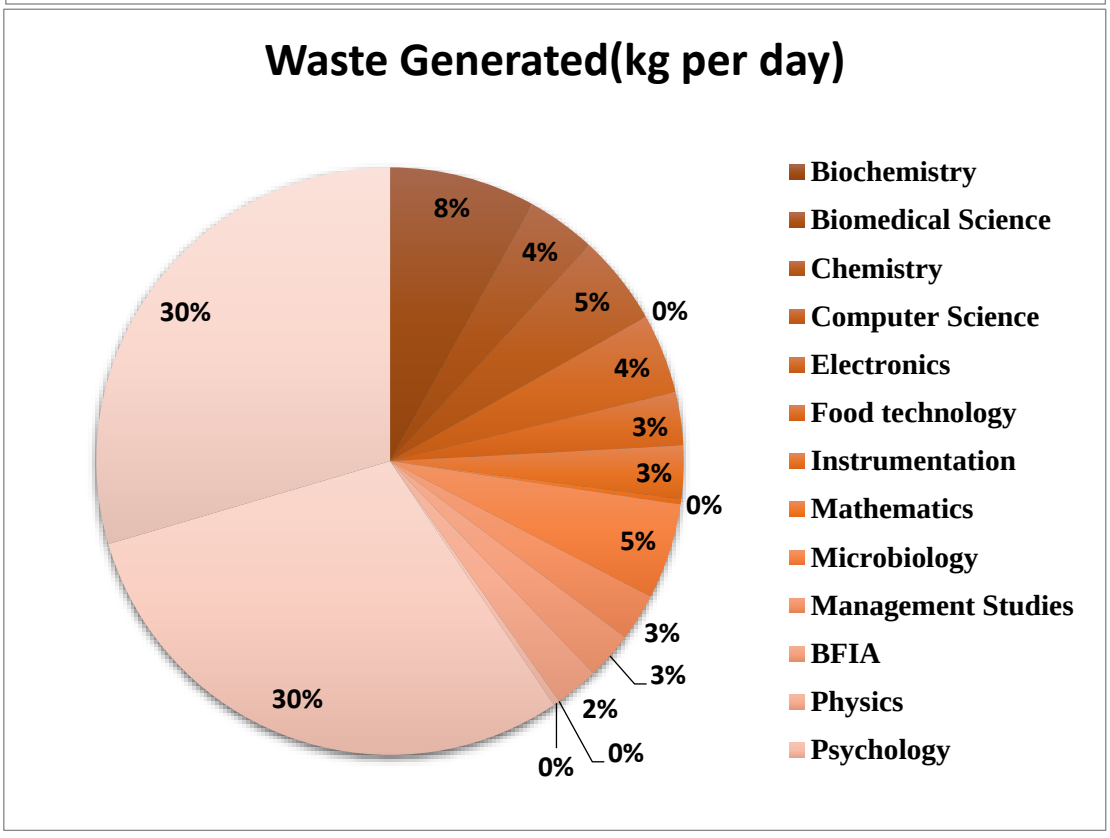
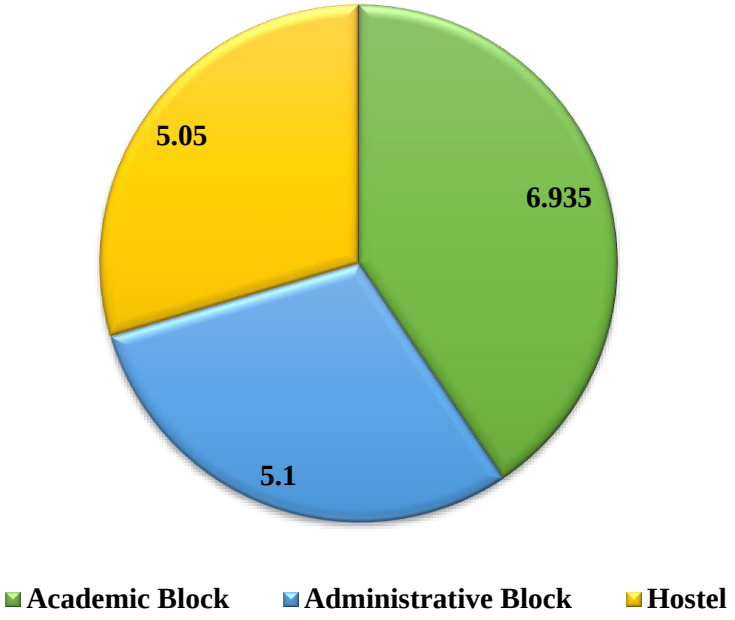


Fig. 3.1. Pie-chart distribution of the waste generated by different departments of the academic block.

*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.

Waste generated in SRACSW per day(in Kg)



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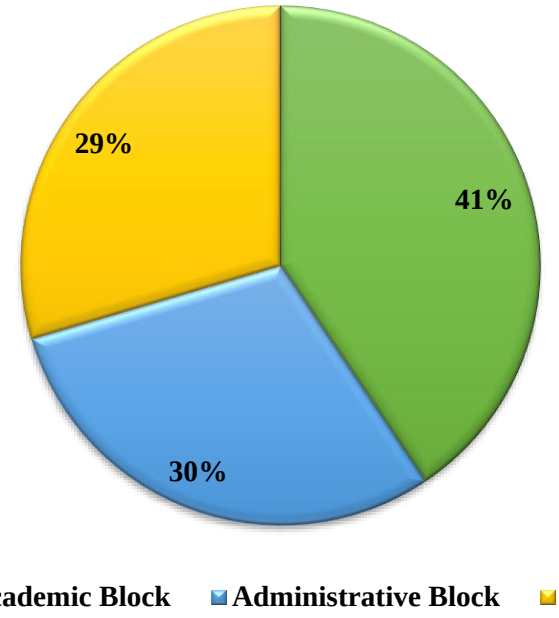

*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.

Fig. 3.2. Pie-chart distribution of the total waste generated SRCASW. This includes the Academic block, Administration building and Hostels.

3.2.2. Results and Discussion:

The total $kgCH_4$ generated from sewage waste (wet-waste) is 1.26 kgs per day or 75.6 kg CH_4/month. The total waste generated by the college is ~10,157 $kgCH_4$/day or 50,785 $kgCH_4$/month. The waste is condoned to the municipal body which is dumped at the landfill site as solid waste. Out of the total waste, e-waste generated by the college is 1.0 kg (5.0 kg/month) and is condoned to an NGO, Suvikaas. More than 99 % of the paper waste is sent to a recycling unit. Moreover, >99 % of wet waste generated in the college is recycled through composting. ~1.0 kg/day (5 kgs/month) of paper waste is condoned to an NGO; 9.9 kgs (~50 kgs/month) of wet and food waste generated by the hostel mess and different blocks are used in the composting units of the college. 1.4 kgs of wet waste form the part of sewage waste. Out of the total waste of the college, 8,950 kgs/day waste is given away to the MCD vans.

4. Calculating Potential GHG sinks

4.1. Tree Cover

The approximate number of trees in the college is 400. On average one tree sequesters about 14 kgs of CO_2 per year. This number is approximately the same as last year due to lockdown.

Total CO_2 sequestered by tree cover = **-5,600 kg CO_2/year**

4.2. Composting

The total wet waste generated by the college for 2020-2021 was ~10 kgs/day (600 kgs/year). The CO_2 sequestration factor (SF) for wet waste utilized in preparing compost is -0.103 $kgCO_2$/kg wet waste

Total CO_2 consumption in the composting per year = **-0.62 kg CO_2/year**

4.3. An alternative source of Energy- Solar Panels

Each solar panel which is a residential unit produces 9 kWh. In a year it produces 10,000 kWh. The CO_2 sequestration factor (SF) for 1 kWh electricity production is -0.383 $kgCO_2e$.

Hence, total CO_2 sequestration by solar panels = **-3,830 $kgCO_2$/year**

Total GHG sink of SRCASW = -9,507.3 $kgCO_2$/year

5. Net GHG emission of SRCASW

The net annual GHG emission of the college is reported as follows:

5.1. Net $kgCO_2$ emission for the period 2020-2021 is calculated as:

$KgCO_2$ eq = ($kgCO_2$ eq from transportation + $kgCO_2$ eq from electricity)-GHG sink

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

~32930.4 kg CO_2-9507.3 kg CO_2 = **23423.1 kgCO_2/year**

5.2. Net kgCH_4 emission for the period 2020-2021 is **~150,525 kgs annually.**

5.3. Net kgN_2O emission for the period 2020-2021 is **~1505 kgs annually.**

6. Future strategies and suggestions for making SRCASW carbon-neutral

SRCASW is committed to becoming carbon neutral by gradually reducing the CO_2 footprint of the college. It is aimed at reducing its dependencies on fossil fuels and replacing them with alternative sources of green energy. The action is taken in the following ways: 1) by educating and building awareness through students on sustainable environment, 2) by promoting and motivating travelling by public transport, 3) by planting more trees by conducting plantation drives and tree adaptation drives, 6) promoting the use of non-plastic bags, utensils etc. and 7) maintaining an eco-club that conducts activities on the environment through different platforms and in different ways.

In addition, SRCASW has been cultivating sustainable practices and maintaining green infrastructures by installing solar panels, enhancing green cover, maintaining water harvesting units, composting pits, organic manure, and mushroom cultivation. It is further working towards increasing the number of solar panels in the college, which will replace grid electricity. The college has a massive green cover that contains around 400 trees and several herbs of different species and varieties. This includes ornamental trees, fruit trees, timber trees and several local varieties. The herbal varieties include several medicinal plants and herbs. The list is given below, table 6.1. The college has been acknowledged and awarded with several awards, that speak about its practices to build a sustainable environment. The college received the *Green Award* in 2017. On January 31 2022, a visit conducted by the officials from the Mahatma Gandhi National Council of Rural Education (MGNCRE), Ministry of Education, Government of India assessed the institute on five parameters under the Swachhta Action Plan project. These were: 1) Sanitation and hygiene, 2) Water management, 3) Energy management, 4) Solid waste management, and 5) green cover. The college was recognized for carrying out the *'largest plantation drive*' in higher educational institutes across the northern zone. In addition, the college was recognized for its holistic approach toward spreading awareness, influencing and sensitizing various stakeholders on cleanliness, resource management, energy-efficient practices, and promoting environmentally sustainable practices. It was awarded the *Green District Champion* in the east district of Delhi and *Best Sustainable Campus* awards in Delhi.

Table 6.1. List of categories of different species of plants on the campus.

S.No	Scientific name (genus_species)	Common name
	FRUIT TREES	
1	Amla (आंवला)	*Phyllanthus emblica*
2	Bael (बेल)	*Aegle marmelos*
3	Banana (के ला)	*Musa acuminate*

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

4	Ber (बेर)	*Ziziphus mauritiana*
5	Black Plum (जामुन)	*Syzygium cumini*
6	Carambola (कमरख)	*Averrhoa carambola*
7	Fig (अंजीर)	*Ficus carica*
8	Guava (अमरूद)	*Psidium guajava*
9	Mango (आम)	*Mangifera indica*
10	Orange (संतरा)	*Citrus aurantium*
11	Papaya (पपीता)	*Carica papaya*
12	Pomegranate (अनार)	*Punica granatum*
13	Pomelo (चकोतरा)	*Citrus maxima*
14	Sapota (चीकू)	*Manilkara zapota*
15	Shahtoot (शहतूत)	*Morus alba*
16	Sweet Lemon (मौसंबी)	*Citrus limetta*
17	ORNAMENTAL TREES/PLANTS	
18	Amaltas (अमलतास)	*Cassia fistula*
19	Araucaria (क्रिसमस ट्री)	*Araucaria columnaris*
20	Ashoka (अशोक)	*Polyalthia longibolia*
21	Banyan (वटवक्षृ)	*Ficus Benghalensis*
22	Bamboo (बांस)	*Bambusa Vulgaris*
23	Bauhinia (आर्कि ड)	*Bauhinia tomentosa*
24	Bottle Brush (बोतल ब्रश)	*Callistemon*
25	Bottle Palm (बोतल पाम)	*Hyophorbe lagenicaulis*
26	Butter Fly Palm (एररका पाम)	*Dypsis lutescens*
27	Champa (चम्पा)	*Magnoliaceae champaca*
28	Chapman (ओक)	*Quercus chapmanii*
29	Drumstick (सहजन)	*Moringa oleifera*
30	European Fan Palm (खजरू)	*Chamaerops humilis*
31	Gulmohar (गुलमोहर)	*Delonix regia*
32	Kadam (कदम्ब)	*Neolamarckia cadamba*
33	Neem (नीम)	*Azadirachta indica*
34	Peepal (पीपल)	*Ficus religiosa*
35	Philippine Fig (अंजीर)	*Ficus pseudopalma*
36	Sago Palm (साइकस पाम)	*Cycas revoluta*
37	Shisham (शीशम)	*Dalbergia sissoo*
	HERBS AND SHRUBS	
38	Alstonia (सप्तपर्ि)	*Alstonia scholaris*
39	Bougainvillea (बोगनवेसलया)	*Bougainvillea glabra*

*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.

40	Chandani (चांदनी)	*Tabernaemontana divaricata*
41	Croton (ि◌ोटन)	*Codiaeum variegatum*
42	Curry Patta (कडिपत्ता)	*Murraya koenigii*
43	Cycas Palm (साइकस पाम)	*Cycas revoluta*
44	Dracena (ड्रससना)	*Dracaena reflexa*
45	Fish Tail (फ़ैशटेल ताड़)	*Caryota urens*
46	Furcraea (फुकेररया)	*Furcraea foetida*
47	Fycas Star Light (फाइकस स्टार लाइट)	*Ficus benjamina*
48	Golden Bottle Brush (गोल्डन बॉटल ब्रश)	*Melaleuca bracteata*
49	Hamelia (हमेसलया)	*Hamelia patens*
50	Harsingar हरससंगार (पाररजात)	*Nyctanthes arbortristis*
51	Hibiscus (गुड़हल)	*Hibiscus rosa-sinensis*
52	Jamican Sago (जमीकन सैगो)	*Zamia furfuracea*
53	Jasmine (चमेली)	*Jasminum aureum*
54	Kachnar (कचनार)	*Bauhinia variegate*
55	Kochia (कोचिया)	*Kochia scoparia*
56	Lemon Grass (लेमनग्रास or गंधत्रिण)	*Cymbopogon citratus*
57	Money Plant (मनी पलांट)	*Epipremnum aureum*
58	Phycus Panda (फाइकस पां◌ा)	*Ficus retusa*
59	Sago Palm (सैगो पाम)	*Gleditsia triacanthos*
60	Syngonium (ससंगोननयम)	*Syngonium podophyllum*
61	Tecoma (ट्रम्पेट बुश)	*Tecoma stans*

SRCASW strongly adheres to its goal to become a *carbon-neutral* campus. Figure 6.1. shows different potential areas where SRCASW is working to reduce and minimize its carbon footprint, and ultimately become a carbon-neutral campus.

The strategy is by implementing the step-wise-step process of commitment, counting and analysis, action, reduction, offset, evaluation, and repeating the whole process.

Commitment, towards becoming carbon-neutral, and achieving carbon-neutral goals.

Counting and Analysis, of the total resource consumption by compiling an inventory using a GHGs calculator, and emission factors.

Action, in starting to work towards GHG neutrality.

Reduction, by focusing on limiting energy usage in the form of, transportation, and electricity, and minimizing waste generation.

Offsetting, by neutralizing the volume of GHGs through funding projects supporting solar panel installation, biogas plants, and rainwater harvesting.

*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.

Evaluation and repeating, of the results, and targets, and compiling the list of suggestions, and improvements.

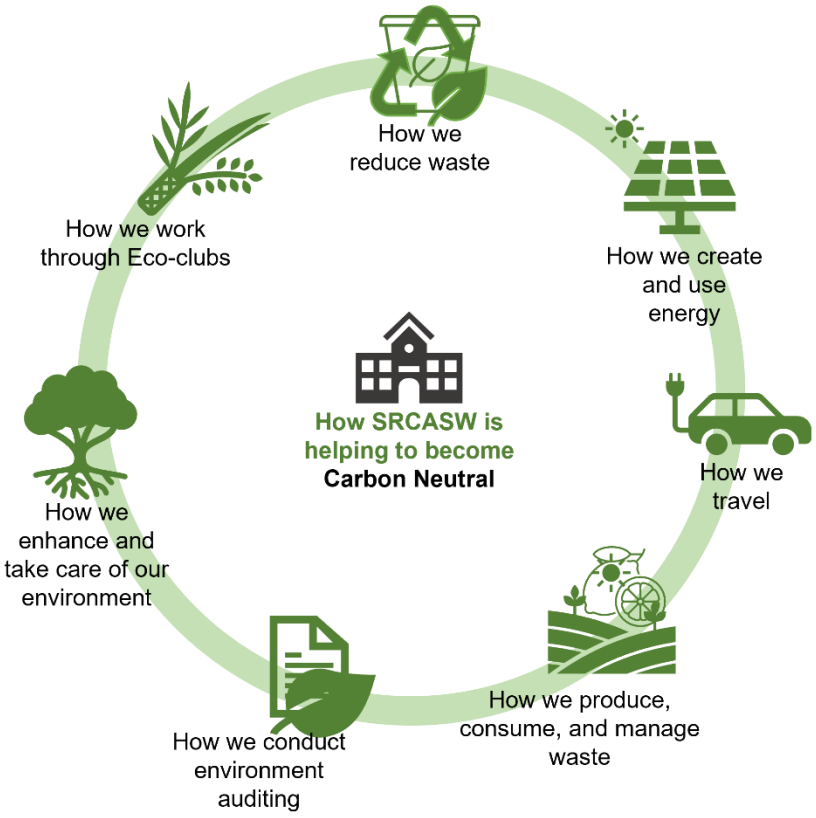

Fig. 6.1. Different areas where SRCASW is working to become carbon-neutral.

Thus, it can be concluded that all the indicators of the environmental audit report were properly studied and information about the indicators was collected, analyzed and followed with the conclusions, recommendations and solutions.

6. Resources

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*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.