GREEN AUDIT

The ICC (International Chambers of Commerce) defines Environmental Auditing as: A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects.

Green Audit is the process of assessing the environmental impact of an organization through which one gets a direction how to maintain the condition of environment inside the organization.

K S School of Engineering and management was established in the year 2010. This self-financed private institution is a unit of the distinguished Kammavari Sangham. The institute is located in Mallasandra in Bangalore, Karnataka. The campus, nestled in a quiet location off the Kanakapura Main Road, close to the KSIT campus, provides quality facilities like well-equipped laboratories, sports facilities, library,a state-of-the-art conference hall for seminars, an airy auditorium for gatherings, etc. The campus has huge open spaces and is covered by many green trees that enhance its beauty.

The institute is affiliated to the Visweswaraya Technological University (VTU), Belgaum. It is approved by the Government of Karnataka and the All India Council for Technical Education (AICTE), New Delhi.

The main observations indicating whether the campus is carbon-dioxide positive, negative or neutral:

It is observed that, the carbon-dioxide released due to LPG, diesel generators and automobiles is very well neutralized by the solar panels and trees in the organization.

➢ The details of released carbon-dioxide levels from generator and LPG is listed below:

	CO2 Emission by Diesel generators	CO_2 Emission from LPG consumption
Quantity with specification	2 diesel generations	80 cylinders
CO2 generation per cylinder/kg	670	2.39
Total CO2 generated per year in tons	8.04	2.292

➢ The details of neutralized carbon-dioxide from trees and solar panels is listed below:

	CO2 Neutralized by Trees	CO2 Neutralized by solar panels
quantity	70	2
CO2 Neutralized per year in tons	72.574	2.246
Total CO2 Neutralized per year in tons	74.82	
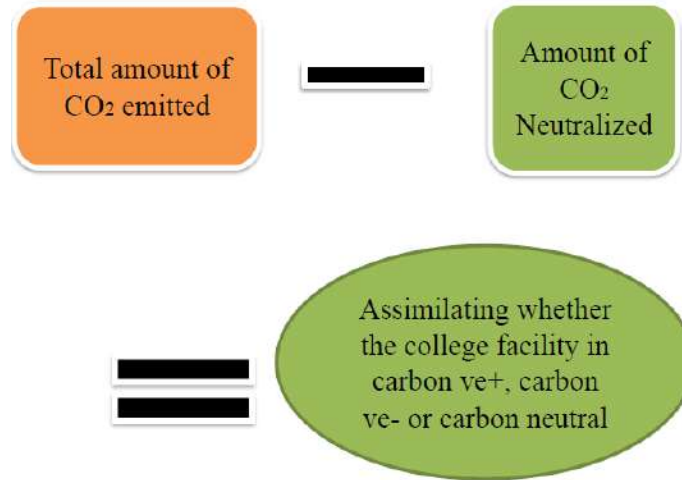
Total amount of CO2 generated from various sources = **12.578**

Total amount of CO2 neutralized = **72.574**

Surplus Difference = **59.996**

Also, from the computation, we found that the CO2 neutralized by the various sources in our college exceeds the CO2 generated through various operations and maintenance works. And we can finally conclude that KSSEM has Carbon negative environment where 59.996 tons of CO2 can be used for extra CFP(carbon foot print) in future.

Team,
Basic Science Department

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Electricity generated by solar panels

Data:

No.of panels	2	
capacity of each panel	500	W

Calculation:

Assume Hours of full sun a day	4	hrs
energy generated per day per panel	2000	WH
	2	KWH
Total energy generated by 2 panels a day	4	KWH
Total energy generated by 2 panels a month	120	KWH
Toatal electricity generated per year =	1460	KWH

To produce 1kwh energy it requires 0.538kg of coal

total amount of coal to produce 1460kwh energy =   785.48   kg

1 kg of coal produce 2.86kg of co2

Therefore total amount of co2 produced by 785.48kg of coal =   2246.473   kg of co2

2.246   tons of CO2

CO$_2$ generated by LPG consumption

Data:

No. of cylinders in hostel(Monthly)	**50**
No. of cylinders in Canteen(Monthly)	**30**
Total	80

Calculation:

Capacity of each cylinder	19.8	kg
CO$_2$ generated per cylinder	2.39	kg of CO$_2$
CO$_2$ generated by 80 cylinder a month	191.2	kg of CO$_2$
	0.191	tons of CO$_2$
Total CO$_2$ generated per year in tons	**2.292**	**tons of CO$_2$**

	Sl No.	Types of tree	No. of Trees	Kg of CO2 neutralized/year	Total Kg of CO2 neutralized per year	
	1	Indian Beech Tree	40	1752	70080	
	2	Ashoka	12	22	264	
	3	Neem	1	1752	1752	
	4	X-mas	4	15	60	
	5	Peepal Tree	1	22	22	
	6	Jackfruit	12	33	396	
		TOTAL	**70**		72574	
					72.574	
					tons of CO2 neutralised per year	
	Total amount of CO2 generated from various sources =					**12.578**
	Total amount of CO2 neutralised =					**72.574**

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5	Peepal Tree	1	22	22
6	Jackfruit	12	33	396
	TOTAL	**70**		72574
				72.574 **tons of CO2 per year**

CO₂ generated by diesel generators

Data:

Rated Capacity	No. of generators
250KV	1
125KV	1

Diesel consumed per month	250

CO₂ produced per litre of diesel	2.68

Total CO₂ generated per month	670

Total CO₂ generated per year	8040

8.04   tons of CO₂

CO₂ generated by LPG consumption

Data:

No. of cylinders in hostel(Monthly)				**50**
No. of cylinders in Canteen(Monthly)				**30**

Total   80

Calculation:

Capacity of each cylinder	19.8	kg
CO₂ generated per cylinder	2.39	kg of CO₂
CO₂ generated by 80 cylinder a month	191.2	kg of CO₂
	0.191	tons of CO₂
Total CO₂ generated per year in tons	**2.292**	**tons of CO₂**

Electricity generated by solar panels

Data:

No.of panels	2
capacity of each panel	500W

Calculation:

Assume Hours of full sun a day	4	hrs
energy generated per day per panel	2000	WH
	2	KWH
Total energy generated by 2 panels a day	4	KWH
Total energy generated by 2 panels a month	120	KWH

Toatal electricity generated per year = 1460 KWH

To produce 1kwh energy it requires 0.538kg of coal

total amount of coal to produce 1460kwh energy = 785.48 kg

1 kg of coal produce 2.86kg of co2

Therefore total amount of co2 produced by 785.48kg of coal =
2246.4728 kg of co2
2.246 tons of CO2

Diesel generators	8.04
LPG consumption	2.292
solar panels	2.246
Total consumption	12.578

Sl No.	Types of tree	No. of Trees	Kg of CO2 neutralized/year	Total Kg of CO2 neutralized per year
1	Indian Beech Tree	40	1752	70080
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	TOTAL	**70**		72574
				72.574

tons of CO2 neutralised per year

Total amount of CO2 generated from various sources = **12.578**

Total amount of CO2 neutralised = **72.574**