

# **Carbon Footprint Report**

The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization or community is called as carbon footprint. To measure this, there are various methods in which the following procedure has been followed in this study.

## Methodology and Results

- A questionnaire comprising multiple choice questions in connection with their water usage, mode of transportation, awareness on institutional initiatives with respect to Green Campus has been prepared through Google Forms
- 2. The link was shared among the stakeholders consisting day scholars, hostellers, faculty residing in SDM staff quarters and faculty residing outside and requested to fill the forms with suitable options during the study period
- The responses were analyzed after scrutiny of the data. The data which was not matching logically like hostellers giving mode of transformation as bus or fourwheelers has not considered in final analysis,
- 4. The carbon dioxide emission standards for different type of vehicles has been taken from different research publications. Descriptive data has been scaled and appropriated for the ease of statistical analysis
- 5. Summary chart of the respondents is as follows

Particulars	Numbers
Number of Students responded from Hostels	325
Day Scholars	639
Staff not residing in SDM Quarters	101
Staff residing in SDM Quarters	69
Total	1134

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- Our carbon emission data mainly falls under Scope 3 type which includes indirect emissions – not owned. We took the average carbon emission values from bus (0.022 Kg/L) two-wheelers (0.021 Kg/L) and four wheelers (0.109 Kg/L). Based on responses we categorized travelling distances into two categories namely 5 kms and 30 kms.
- 7. Above data is summarized below

	Со	unt	Distanc e	walk	bicycl e	bus	2 wheeler	4 wheele r
Number of Students	325	325	5	325	0	0	0	0
responded from Hostels								
Day Scholars 639	240	5	186	6	45	3	0	
	009	399	30	0	0	339	60	0
Staff not residing in	101	47	5	14	1	5	12	15
SDM Quarters	101	54	30	0	0	39	5	10
Staff residing in SDM	69	69	5	47	0	0	11	11
Quarters	0)	0)	5	17	Ū	Ū	11	11
Total	113					428	91	36
	4					720	71	50

8. Based on table, calculation for carbon dioxide generation is done in the below table;

CO <sub>2</sub> Generation (in Kg)	
Bus	254.98
Two wheelers	41.265
	42.814
Four wheelers	5
Total C0 <sub>2</sub> Generation per day	339.1
Total C0 <sub>2</sub> Generation per year	67812



9. Following table gives data on carbon dioxide reduction

CO <sub>2</sub> Reduction (in Kg)					
Walk	110.11				
Bicycle	1.3475				
Total Co2 reduction per					
day	111.46				
Total Co2 reduction per					
year	22292				

- 10. From the table 8 and 9 it is found that there is carbon dioxide generation 67,812 Kg and 22,292 Kg of carbon dioxide reduction. This shows every stakeholders of the institution generates nearly 40 Kg of carbon dioxide in a year
- 11. Institutional efforts to reduce the contribution to greenhouse effects were compared among the above obtained carbon footprint data and simultaneously conducted carbon sequestration data. According to this comparison, our campus sequester 13,553 Kg of carbon per year and 45,520 Kg of carbon gets generated through Scope-3 type of emissions.

### Recommendations

- 1. The major contributors to the emission are the stakeholders commuting from far-away places by bus (255 Kg per day). Since public transportation is the most efficient and cheap mode to reduce carbon dioxide emission, it is difficult to recommend alternative transport facilities. However, the institution can make aware about the carbon generated and design programs and activities like tree plantation, awareness on battery operated vehicles etc. to promote the awareness to mitigate the problem.
- 2. Faculty members can be advised to use battery-operated vehicles along with carpooling whenever feasible
- 3. Day scholars residing within 5 km can avoid public transport and shift to use bicycle.



#### Sri Dharmasthala Manjunatheshwara College

(Autonomous), Ujire-574 240, Dakshina Kannada, Karnataka State (Re-accredited by NAAC at "A" grade with CGPA 3.61 out of 4)

#### Conclusion

Carbon footprint data of this institution clearly suggests its determination in becoming carbon neutral campus. More structured mechanisms to procuring and analyzing the data may give more visible contribution towards sustainability. The evident participatory role of the stakeholders is remarkable in this connection.



PRIN CIPAL

S.D.M COLLEGE UJIRE - 574240, D.K.