K J Somaiya College of Engineering
A Constituent College of Somaiya Vidyavihar University
Course: Introduction to Project Based Learning

Template for carbon footprint Activity

Statement Given:

Calculate your carbon footprint, compare it with global average and list various measures that you will adopt to reduce your carbon footprint.

Evaluation Criteria:

1. Calculations of carbon emissions from electrical consumption and transportation
2. Adaptable ideas for reducing carbon footprint
3. Your reflections and learning outcomes

Performance-10 Marks

Submission-05 Marks

Team

Sr No	Roll No	Name	Sustainable Idea Contribution
1	16010423075	Ritesh Gorule	Research Work
2	16010423076	Ritesh Jha	Research Work
3	16010423077	Ritwik Mohanty	Tech and Calculation
4	16010423078	Riya Amin	Documentation
5	16010423079	Rohan Jobanputra	Tech and Calculation

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Carbon footprint Calculations:

Use provided calculator
https://www.tatasustainability.com/Environment/CarbonCalculator

Instructions:

1. Details are required for a year (Calculate for a day and multiply accordingly)
2. Calculations are for per person (Divide electricity consumption and LPG at home by number of family members)

CARBON FOOTPRINT CALCULATIONS					
Carbon Emission Activity ANNUAL	Team Members 1	2	3	4	5
Electricity Use per person(kWh)	1700	2100	1800	1900	2100
Travel					
Air Travel (Km)	0	1000	2000	3000	5000
Rail Travel (Km)	8600	10000	8000	1000	8000
Metro Travel (Km)	0	0	200	200	0
Bus Travel (Km)	270	0	200	100	200
Electric Bus Travel (Km)	150	0	100	200	0
Taxi /Cab/Auto Travel (Km)	0	200	1000	500	500
Private Vehicle					
Diesel (Litres)	300	300	0	100	0
Petrol (Litres)	0	100	400	500	100
CNG (Litres)	0	0	0	0	0

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Fuel at Home LPG (Kg)	42	100	100	200	200
Food (Meals) Put a Tick √ mark					
Vegetarian		✓			✓
Non -Vegetarian	✓		✓	✓	
Vegan					
Total Carbon Footprint (Tonnes)	4·35 Tonnes	3·89 Tonnes	5·69 Tonnes	5·50 Tonnes	3·63 Tonnes
Comparison with Indian Average	1·8 Tonnes	1·8 Tonnes	1·8 Tonnes	1·8 Tonnes	1·8 Tonnes
Comparison with Global Average	4·5 Tonnes	4·5 Tonnes	4·5 Tonnes	4·5 Tonnes	4·5 Tonnes

Observations & Interferences:

In summary, by calculating the family's carbon footprint and comparing it to the global averg we have identify areas for improvement. We plan to reduce our impact by using energy efficient appliances, transitioning to renewable energy, and making more sustainable transportation choices. This exercise has reinforced our commitment to a greener lifestyle and our role in addressing climate change.

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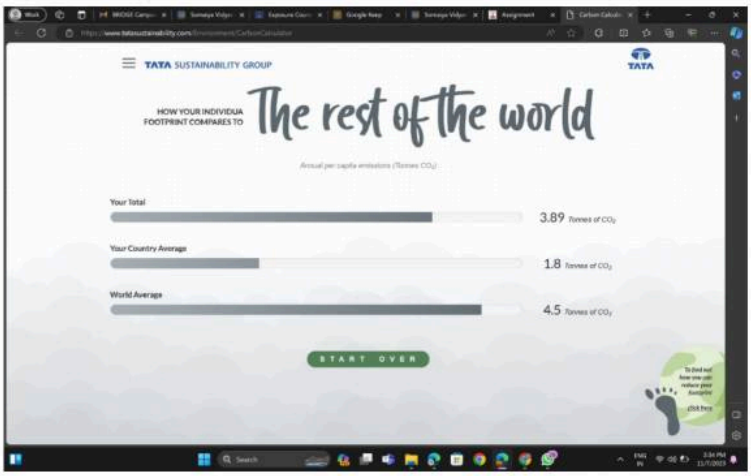
Measures to Reduce Carbon footprint:

	Measures you will implement to reduce your carbon footprint
1	Using energy efficient electrical appliances.
2	Conserving water and food.
3	Using Public transport for travel rather than personal vehicles
4	Walk instead of using vehicles for short distances.
5	Use eco friendly products
6	support sustainable solutions and companies.

Learning Outcomes and reflections on activity

Participating in that carbon footprint activity was quite an eye-opener. It showed us how our daily choices, like transformation, our belongings and our diet, significantly impact the environment. It got us thinking about what we can do to be more eco-friendly.

Photos of the Activity



(1) Identify the SDGs you can connect with?

→ No poverty, zero hunger, Good health and well being, Quality education, Affordable and clean energy, Decent work and economic growth, Industry innovation and infrastructure, Reduced inequalities, sustainable cities and communities and responsible consumption and production

(2) How as an Engineer you can contribute to SDGs?

→ Engineers significantly contribute to the sustainable Development Goals (SDGs) by leveraging their expertise in designing, innovating and implementing sustainable solutions. From creating renewable energy technologies and resilient infrastructure to designing clean water systems, medical devices, and innovative waste management solutions, engineers play a pivotal role across multiple SDGs.

Engineers apply their knowledge to tackle the important challenges in the Sustainable Development Goals (SDGs), aiming to create a better world that's fairer and more sustainable for everyone today and for the generation to come.