Carbon Footprint Calculator

This project is created as a part of the assignment from Computer Programming module in GISMA University of Applied Sciences. The primary functionality of this tool revolves around enabling users to input data concerning their energy consumption, waste generation, and travel habits. Upon processing this data, the tool calculates the overall carbon footprint and generates detailed reports. These reports highlight areas where emissions exceed recommended limits and offer suggestions for reducing their carbon footprint. From a technical standpoint, the project utilizes a combination of Python for backend calculations and Streamlit for creating an interactive web interface.

Github Link: https://github.com/WIUT-00006401/Carbon_Foorprint

Student ID: GH1028483

⚡ Energy consumption (monthly bill in euros)

Electricity consumption

500

Natural Gas

250

Fuel

100

Monthly Waste generated (kg) and recycled (%)

Organic

300

Recycled

50

0 100

Paper

350

Recycled

40

0 100

Plastic

200

Recycled

30

0 100

🗺 Business travel per year (in km)

🛫 By Plane

4000 − +

🚄 By Train

5000 − +

🚗 By Car

10000 − +

Calculate CO2 Emissions

Results

By Categories

⚡ Energy: 2829.9 kg

🗑 Waste: 5436.0 kg

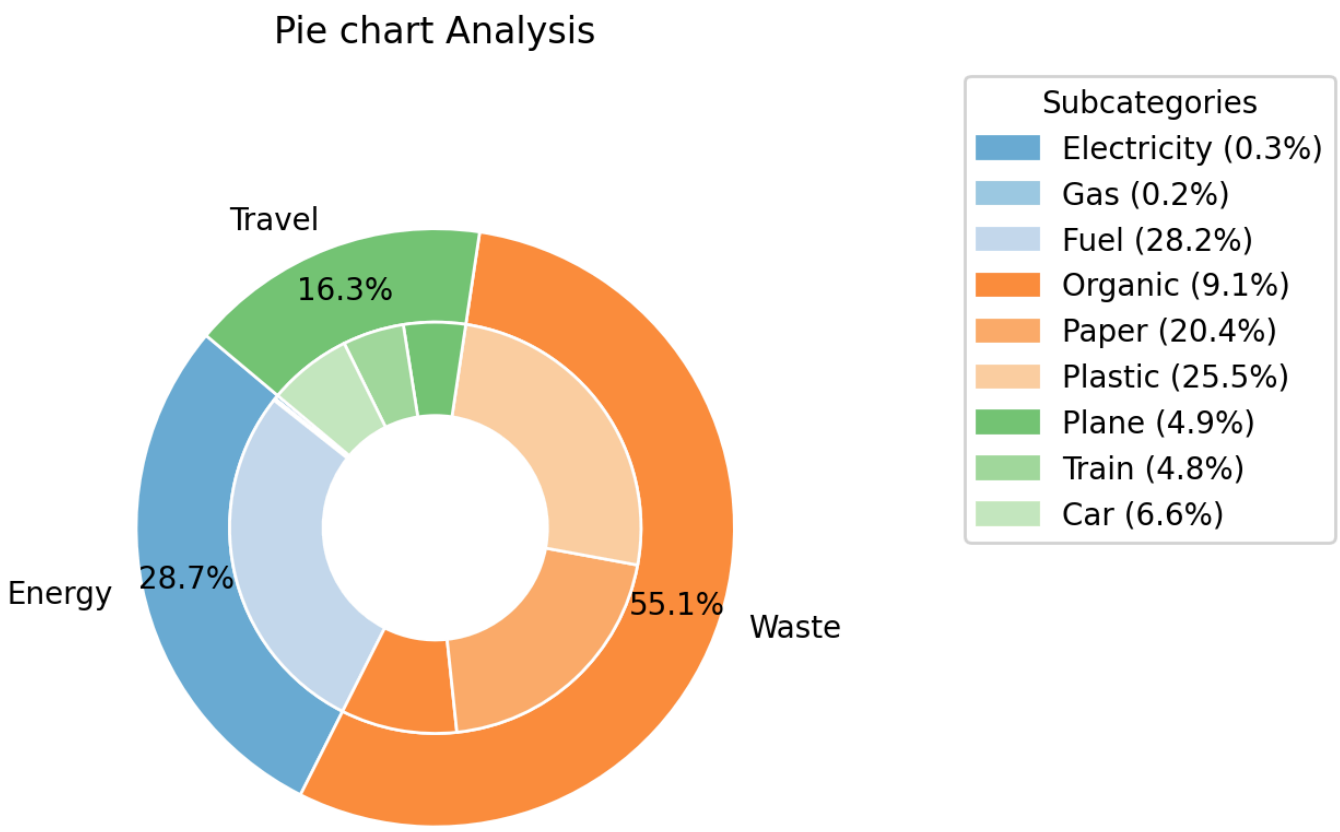
🗺 Business Travel: 1605.0 kg

Total Carbon Footprint

🌎 Total Carbon footprint is: 9870.9 kg CO2 per year

🔴 Average limit is exceeded

Exceeding amount is: 440.54 kg



	Emission Factors	CO2 in kg	Average limit in kg	Difference in kg
	Electricity	30.0	30.0	0.0
	Gas	15.9	6.36	9.54
	Fuel	2784.0	2784.0	0.0
	Organic	900.0	900.0	0.0
	Paper	2016.0	1440.0	576.0
	Plastic	2520.0	2700.0	-180.0
	Plane	480.0	480.0	0.0
	Train	475.0	570.0	-95.0
	Car	650.0	520.0	130.0

Suggestions to reduce energy emissions

- Consider switching to renewable energy sources if possible.
- Improve home insulation to reduce heating and cooling needs.
- Invest in energy-efficient appliances.

Suggestions to reduce waste emissions

- Increase recycling efforts for organic, paper, and plastic waste.
- Compost organic waste.
- Reduce usage of single-use plastics.

Suggestions to reduce travel emissions

- Opt for public transportation or carpooling whenever possible.
- Consider the necessity of each flight and explore alternatives.
- Maintain your vehicle regularly to ensure fuel efficiency.