**Carbon footprint analysis**

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🌍 Carbon Footprint Analysis – Summary

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📥 1. Dataset Overview

File Used: carbon\_footprint\_data.csv

Columns:

Activity: Different sources of carbon emissions

CO2\_Emissions\_kg: Emissions in kilograms for each activity

📊 Sample Data:

Activity CO2\_Emissions\_kg

Electricity\_Usage 50

Transportation\_Car 30

Transportation\_Plane 100

Food\_Meat 40

Food\_Vegetables 10

Waste\_Plastic 15

Waste\_Organic 5

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📊 2. Basic Analysis

Total Carbon Footprint:

Total = 250 kg CO2

Emissions by Activity:

Activity Total Emissions (kg CO2)

Transportation\_Plane 100

Electricity\_Usage 50

Food\_Meat 40

Transportation\_Car 30

Waste\_Plastic 15

Food\_Vegetables 10

Waste\_Organic 5

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📈 3. Visualizations

📌 Bar Chart

Visual comparison of CO₂ emissions for each activity

Clearly shows Transportation by Plane as the highest contributor

🥧 Pie Chart

Displays percentage contribution of each activity

Helps visualize proportion of each source in overall footprint

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✅ Key Insights

Top emitter: Transportation by Plane (100 kg CO₂)

Least contributor: Waste\_Organic (5 kg CO₂)

Major categories: Travel (52%), Food (20%), Waste (8%), Electricity (20%)

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💡 Conclusion

This analysis helps identify which daily activities contribute most to your carbon footprint.

By reducing air travel and meat consumption, significant emission cuts can be achieved.

Visuals offer clear, intuitive understanding of carbon sources for better environmental choices.

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import pandas as pd

import matplotlib.pyplot as plt

# Load the dataset

data = pd.read\_csv('carbon\_footprint\_data.csv')

# Display the first few rows of the dataset

print(data.head())

# Basic Analysis

total\_emissions = data['CO2\_Emissions\_kg'].sum()

print(f"Total Carbon Footprint: {total\_emissions} kg CO2")

# Breakdown by activity

activity\_emissions = data.groupby('Activity')['CO2\_Emissions\_kg'].sum()

print(activity\_emissions)

# Visualization

plt.figure(figsize=(10, 6))

plt.bar(data['Activity'], data['CO2\_Emissions\_kg'], color='skyblue')

plt.xlabel('Activity')

plt.ylabel('CO2 Emissions (kg)')

plt.title('Carbon Footprint by Activity')

plt.xticks(rotation=45)

plt.show()

# Pie chart to show the proportion of each activity

plt.figure(figsize=(8, 8))

plt.pie(data['CO2\_Emissions\_kg'], labels=data['Activity'], autopct='%1.1f%%', startangle=140)

plt.title('Proportion of Carbon Footprint by Activity')

plt.show()

Data set

Activity,CO2\_Emissions\_kg

Electricity\_Usage,50

Transportation\_Car,30

Transportation\_Plane,100

Food\_Meat,40

Food\_Vegetables,10

Waste\_Plastic,15

Waste\_Organic,5