A Sustainable Life Advisor

Helping users understand and reduce their carbon footprint

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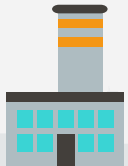

01

Motivation

Why we built this tool – the environmental problem we target

Why we made this project

1. **Turning TUM's green Vision into Action**
   We built this tool because of TUM's values towards the environment and innovation. Correlating our project to sustainable goals seemed interesting.

2. **Daily awareness**
   Being aware of daily emissions and encouraging eco friendly behaviour.

3. **For eco-curious who want insights**
   Targeting young adults, students or eco-conscious beginners.

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Overview

Main features for users: what they can do and see

What Our Tool Offers: Feature Overview

1. **Interactive Homepage**
   Welcomes users with eco-themed visuals and fun facts that appear on hover and introduces the goal of the tool and leads users to begin their personal carbon footprint assessment.

2. **Carbon Footprint Quiz**
   Users enter lifestyle data: transportation type, daily distance, electricity use (kWh), gas (m^3), and fuel usage.

3. **Results Page**
   Displays calculated carbon footprint in kilograms and includes AI-generated personalized suggestions based on the user's habits. There’s also the option to dive deeper via the interpretation page.

Deeper Features for Personal Reflection

4. Interpretation Page

Helps users understand their result on a scale from “sustainable” to “needs improvement.”

5. History & Tracking

Results are saved locally in the browser and users can track progress over time via graphs and filters (by date or carbon amount).

6. Educational Pages

The About Us page offers highlights of the mission and introduces the development team. The Impact Page offers global insights into carbon footprints and initiatives in different cities.

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Key Technologies Used

What Powers Our System

What Powers Our System

1. **Django Framework**

   Handles routing, form submission, data processing, and template rendering.

2. **Session → Database Migration**

   Started with session-based temporary storage; later integrated Django ORM for persistent user history (simulating PostgreSQL structure).

3. **Tailwind CSS**

   Ensures a responsive and clean frontend UI with minimal styling effort.

What Powers Our System

1. **AI Suggestion Module**

   User data is transformed into a dynamic prompt and sent to Mistral. The Markdown response is rendered as HTML suggestions.

2. **Custom Filtering**

   Records are filtered by date or CO_2 amount via query parameters.

→ All tools serve one goal: let users track and reflect on their carbon impact, with intelligent and actionable suggestions.

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System Architecture Overview

How Our System Works Behind the Scenes

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Our tool is built with Django, a Python-based web framework.

It handles the entire workflow:

1. Users input transport, energy, gas, and fuel data via a form.
2. The backend calculates the carbon footprint based on our logic.
3. Data is saved to a relational database through Django's ORM.
4. The AI module receives the inputs, generates personalized suggestions.
5. Both the result and AI feedback are displayed via HTML templates.

→ **This architecture ensures the tool is interactive, persistent, and personalized.**

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Live Demo

Walkthrough of key functions and how users interact

Thanks!