Carbon Offset Estimator Widget

# Project Overview

A prototype tool that allows customers opt-in to offset the carbon footprint of their orders. It provides a FastAPI backend for carbon estimation and opt-in storage, a frontend widget embedded on cart page, and a SQLite database to record customer opt-ins.

# Features

- Embedded carbon offset widget on cart page.  
- Estimates offsets dynamically (price × 0.02 × quantity).  
- Tracks customer opt-ins with merchant ID, email, name, cart details.  
- Stores data in SQLite (offsets.db).  
- Demo cart API (/cart-details) for local testing.

# Setup Instructions

1. Clone the repository:  
 git clone https://github.com/bansibabariya/carbon-offset-estimator-widget.git

cd carbon-offset-estimator-widget  
  
2. Install dependencies:  
 pip install -r requirements.txt  
  
3. Run the FastAPI app:  
 uvicorn app.main:app --reload

# API Endpoints

- GET **/** Welcome page

- GET **/widget-config** Widget config (placement + verbiage)

- POST **/estimate** Calculate offset from cart

- POST **/optin** Save opt-in record

- GET **/cart-details** Demo cart JSON

# API ENDPOINT - Json Format

**For /estimate dummy json format**  
{

"cart": [

{ "id": 1, "title": "T-shirt", "price": 84.99, "quantity": 3, "weight": 0.5 },

{ "id": 2, "title": "Shoe", "price": 12, "quantity": 1, "weight": 0.5 }

]

}

**For /optin dummy json format**

{

"merchant\_id": "shopify\_store\_abc",

"customer\_email": "bansi@example.com",

"customer\_name": "Bansi Kanani",

"cart": [

{ "id": 1, "title": "T-shirt", "price": 303.40, "quantity": 3, "weight": 0.5 }

],

"estimated\_offset": 18.20

}

# Widget Usage

1. Copy the embed\_snippet.txt contents into your cart page (Shopify or other).  
2. Widget will:  
 - Inject itself inside the configured container (default: #cart\_container)  
 - Estimate offset in real time  
 - Allow customers to check the box to opt in  
 - Store opt-ins in the local database

# Database

SQLite database file: offsets.db  
  
Inspect data:  
 sqlite3 offsets.db  
 .tables  
 SELECT \* FROM optins;

# Demo

Open **http://127.0.0.1:8000/static/cart.html** in your browser.  
Check the opt-in box → data is recorded in offsets.db.

