Sustainability Report Builder Guide

For the Replit Development Agent

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Author: Replit Coach Too
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1. Objective

This document provides a detailed technical guide for the Replit Agent to build the **'Sustainability Report Builder'**. This is a major new feature that allows users to generate credible, engaging, and data-driven sustainability reports. The implementation is broken down into two main parts: first, enhancing the platform to collect the necessary Social (S) and Governance (G) data, and second, building the report creation wizard itself.

2. Part 1: Filling the Data Gaps (Collecting S & G Data)

To create a comprehensive report, we must first expand our data collection capabilities.

2.1. Database Enhancements

Create a new table to store the company's ESG data that is not related to environmental metrics.

- New Table: esg_data

Column Name	Data Type	Constraints	Description
id	UUID	PRIMARY KEY	Unique identifier for the data entry.
company_id	UUID	FOREIGN KEY (companies.id)	Links to the company this data belongs to.
data_category	VARCHAR(100)	NOT NULL	e.g., 'people', 'community', 'governance'.
data_point	VARCHAR(100)	NOT NULL	e.g., 'employee_turnover_rate', 'gender_diversity_leadership'.
value	JSONB	NOT NULL	Stores the value, which could be a number, text, or boolean.
reporting_period	DATERANGE	NOT NULL	The period this data applies to.

2.2. Frontend Implementation (New Forms in 'Company' Tab)

The following new sections and forms must be added to the 'Company' tab of the application to collect the required S & G data.

- **New Section: "Our People"**
  - **Employee Engagement:**
    - Employee Turnover Rate (%): (Numeric Input)
  - **Diversity, Equity & Inclusion (DEI):**
    - % of employees by gender: (Input fields for each gender category)
    - % of leadership roles by gender: (Input fields for each gender category)
  - **Health & Safety:**
    - Number of workplace accidents/incidents: (Numeric Input)
  - **Training & Development:**
    - Average hours of training per employee per year: (Numeric Input)
- **New Section: "Our Community"**
  - **Community Investment:**
    - Total value of charitable donations (£): (Numeric Input)
  - **Volunteering:**
    - Total hours of employee volunteering: (Numeric Input)
- **New Section: "Governance & Ethics"**
  - **Policies:**
    - Supplier Code of Conduct: (Checkbox: "Policy in place")
    - Environmental Policy: (Checkbox: "Policy in place")
    - Whistleblower Policy: (Checkbox: "Policy in place")
  - **Risk Management:**
    - Formal assessment of climate-related risks: (Yes/No Radio Buttons)
  - **Board Oversight:**
    - Formal board/leadership oversight of sustainability: (Yes/No Radio Buttons)

3. Part 2: The 'Report Builder' Wizard

This is the main user-facing feature for creating reports.

3.1. Backend & Database for Report Builder

- New Table: custom_reports

Column Name	Data Type	Constraints	Description
id	UUID	PRIMARY KEY	Unique identifier for the custom report.
company_id	UUID	FOREIGN KEY (companies.id)	Links to the company that owns the report.
report_title	VARCHAR(255)	NOT NULL	The user-given title for the report.
target_audience	VARCHAR(100)	NOT NULL	e.g., 'Investor', 'Customer'.

| report_layout | JSONB | NOT NULL | Stores an ordered list of 'content block' IDs and their custom text. |

- **New AI Integration:**
  - The backend must integrate with a Large Language Model (LLM) API (e.g., Gemini). The API key must be stored in Replit Secrets.
  - Create a new endpoint: POST /api/reports/refine-text.
    - **Request Body:** { "text": "we used less water", "audience": "Investor" }
    - **Logic:** This endpoint will construct a prompt for the LLM and return the refined text.

3.2. Frontend Implementation

- **Flow 1: Strategy & Audience**
  - **UI:** A new wizard initiated from a "Create New Report" button.
  - **Step 1.1 (Objective):** A page asking "What is the main goal of this report?" with the specified multiple-choice options.
  - **Step 1.2 (Audience):** A page asking "Who are you speaking to?" with options for 'Investors', 'Customers', 'Employees', etc.
  - **Logic:** The user's choice of audience will determine which report template is loaded in the next step.
- **Flow 2: Content & Structure (The Modular Report)**
  - **UI:** A drag-and-drop report builder interface.
  - **Content Block Library:** A sidebar will contain a library of available 'content blocks' (e.g., "Carbon Footprint Chart," "Founder's Letter," "Our People Data").
  - **Auto-population:** When the builder loads, it will be pre-populated with a template of blocks based on the chosen audience. Core data blocks (like charts and KPI tables) will be automatically filled with the user's existing data from the platform.
  - **Guided Narrative Sections:** For text-based blocks like "Letter from the Founder," the text editor will be pre-filled with an AI-generated prompt (e.g., "Start by stating your company's mission...").
- **Flow 3: Review & Publish**
  - **AI-Assisted Editing:** Within each text block, an "Refine with AI" button will be available. Clicking this will call the /api/reports/refine-text endpoint to rephrase the text for the selected audience.
  - **Preview:** A "Preview" button will show a live, scrollable preview of the final report.
  - **Export:** A final "Export" button will give the user two options:
    1. **"Download as PDF":** The backend will render the final report layout into a professionally formatted PDF.

2. **"Generate Web Page":** The backend will generate a simple, public, shareable webpage of the report.