

KPI & Goal-Setting Dashboard Guide

For the Replit Development Agent

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1. Objective

This document provides a detailed technical guide for the Replit Agent to build the enhanced **KPI & Goal-Setting Dashboard**. This will be a new, dedicated page, likely at `/app/kpis`, that serves as the user's strategic command center. It will feature a library of preset KPIs, allow users to select and set goals against them, and visually track their progress over time.

2. Part 1: Backend & Database Enhancements

2.1. New Table: `kpi_definitions`

This table will store the master list of all available preset KPIs.

Column Name	Data Type	Constraints	Description
<code>id</code>	<code>UUID</code>	<code>PRIMARY KEY</code>	Unique identifier for the KPI definition.
<code>kpi_name</code>	<code>VARCHAR(255)</code>	<code>NOT NULL, UNIQUE</code>	The display name of the KPI (e.g., "Carbon Intensity").
<code>kpi_category</code>	<code>VARCHAR(50)</code>	<code>NOT NULL</code>	e.g., 'Carbon & Energy', 'Water', 'Waste & Circularity'.

unit	VARCHAR(50)	NOT NULL	The unit of the final calculated value (e.g., 'kgCO ₂ e per £1m').
formula_json	JSONB	NOT NULL	Stores the calculation logic (e.g., {"numerator": "total_co2e", "denominator": "company_turnover"}).

Action: This table must be pre-populated (seeded) with the 5 preset KPIs you defined.

2.2. New Table: company_kpi_goals

This table will store the specific goals a user sets for themselves.

Column Name	Data Type	Constraints	Description
id	UUID	PRIMARY KEY	Unique identifier for the goal.
company_id	UUID	FOREIGN KEY (companies.id)	Links to the company that set the goal.
kpi_definition_id	UUID	FOREIGN KEY (kpi_definitions.id)	Links to the preset KPI this goal is for.

target_reduction_percentage	NUMERIC	NOT NULL	The percentage reduction the user wants to achieve.
target_date	DATE	NOT NULL	The deadline for achieving the goal.
baseline_value	NUMERIC	NOT NULL	The value of the KPI when the goal was set.
is_active	BOOLEAN	DEFAULT true	Flag to show if this is a current goal.

2.3. New Backend Service & API Endpoints

- **New Service: KpiService**
 - calculate_all_kpis(company_id): A function that calculates the current value for all preset KPIs for a given company.
 - track_goal_progress(goal_id): A function that calculates the current progress towards a specific goal.
- **New API Endpoints:**
 - GET /api/kpis/library: Fetches the list of all available preset KPIs from kpi_definitions.
 - POST /api/kpis/goals: Allows a user to select a KPI and set a new goal, creating an entry in company_kpi_goals.
 - GET /api/kpis/dashboard: Fetches the user's selected KPIs and their current progress against any set goals.

3. Part 2: Frontend Implementation

A new, dedicated page will be created at `/app/kpis`.

3.1. The KPI Selection Page

- **UI:** When a user first visits the KPI page, they are presented with a clean, card-based layout showing all the available preset KPIs from the library.
- **Content:** Each `KpiDefinitionCard` will display:
 - The `kpi_name` (e.g., "Carbon Emissions Reduction").
 - A short description of what it measures.
- **Action:** Each card will have a button: **"Track this KPI"**.

3.2. The Goal-Setting Modal

- **Trigger:** When a user clicks "Track this KPI", a modal appears.
- **UI:** A simple, guided form.
- **Fields:**
 1. **Target Reduction (%)**: A numeric input where the user enters their desired percentage reduction.
 2. **Target Completion Date**: A date picker for the goal's deadline.
- **Logic:** The modal will display the user's current baseline value for that KPI for context. On submission, it calls `POST /api/kpis/goals`.

3.3. The Main KPI Dashboard

- **UI:** Once a user has selected KPIs to track, the main view of `/app/kpis` becomes their dashboard. It will be a grid of `KpiProgressCard` components.
- **KpiProgressCard Component:** This is the core visual element. Each card will display:
 - The KPI Name (e.g., "Water Usage Reduction").
 - The Target (e.g., "15% Reduction by Dec 2026").
 - The Baseline Value.
 - The **Current Value**.
 - A prominent **Progress Bar** or **Gauge Chart** (using Recharts) that visually shows the progress from the baseline to the target.
- **Logic:** The dashboard will be populated with data from the `GET /api/kpis/dashboard` endpoint, which will automatically track and provide the latest progress for each goal.
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