

# Product Requirements Document (PRD)

## Drinks Sustainability Tool

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### 1. Introduction

This document outlines the product requirements for the Minimum Viable Product (MVP) of the "Drinks Sustainability Tool," a comprehensive, one-stop-shop sustainability platform designed for Small and Medium-sized Enterprise (SME) drinks brands.

#### 1.1. Problem Statement

Small and Medium-sized Enterprise (SME) drinks brands operate within a complex sustainability landscape where they face significant pressure to perform but are constrained by limited resources. The primary problem is a combination of several critical barriers:

- **Operational Complexity:** Navigating the world of sustainability, including evolving regulations and data requirements, is inherently complex. SMEs often lack clear guidance and specialized knowledge.
- **Data Management Challenges:** Gathering the necessary data across intricate supply chains is extremely time-consuming. Data is often fragmented and siloed, leading to inaccuracies and making robust analysis nearly impossible with manual, error-prone methods.
- **Financial & Resource Constraints:** SMEs operate with tighter budgets and leaner teams. The high cost of hiring specialized sustainability consultants or agencies is often prohibitive.
- **Lack of In-House Expertise:** Employees are frequently required to manage sustainability tasks on top of their primary roles (e.g., sales or marketing). While they may have a personal interest, they often lack the formal training, time, or resources to understand and manage the complexities of ESG reporting.

#### 1.2. Vision

To empower every SME drinks brand to become a leader in sustainability by providing an affordable, intuitive, and credible platform that transforms complex environmental data into a clear, actionable, and commercial advantage.

### 1.3. User Personas

#### Primary Persona: "Alex the Brand Builder"

- **Role:** Founder / Marketing Manager at an SME drinks brand.
- **Demographics:** 28-45 years old, tech-savvy, passionate about their brand's story and impact.
- **Responsibilities:** Manages marketing, sales, and brand development. Has recently taken on "sustainability" as a key responsibility due to personal interest and market pressure.
- **Goals:**
  - To genuinely understand and reduce the company's environmental footprint.
  - To use sustainability as a powerful part of the brand's story to connect with consumers.
  - To ensure the company complies with emerging regulations without getting bogged down.
  - To find a cost-effective solution that doesn't require hiring a full-time expert.
- **Frustrations:**
  - "I know sustainability is important, but I don't know where to start. It's overwhelming."
  - "Chasing our suppliers for data is a nightmare. It takes forever, and the data is a mess."
  - "Consultants are too expensive for a business our size."
  - "I'm worried about getting it wrong and being accused of greenwashing."

#### Secondary Persona: "Sam the Strategic Founder"

- **Role:** Founder & CEO of a growing SME drinks brand.
- **Demographics:** 35-55, experienced in business, focused on growth, profitability, and long-term strategy.
- **Responsibilities:** Oversees all aspects of the business, from finance and operations to strategy and investor relations.
- **Goals:**
  - To build a resilient, future-proof business that is attractive to investors.
  - To leverage sustainability to enhance brand value and mitigate long-term risks.
  - To find an efficient, data-driven tool that provides a clear Return on Investment (ROI).
  - To ensure compliance with future regulations without distracting the team from core growth activities.
- **Frustrations:**

- "Sustainability is a line item on my risk register, but I don't have a clear, cost-effective way to manage it."
- "I need hard data to justify sustainability investments to my board and investors, not just vague concepts."
- "My team is already stretched thin; I can't afford to pull them away from revenue-generating activities for complex data entry."
- "How do I ensure we are compliant with future regulations without hiring a legal team?"

#### 1.4. Strategic Goals & Success Metrics

Goal	Success Metrics (KPIs)
Validate the Core Value Proposition	<b>Activation Rate:</b> % of new sign-ups that complete the full onboarding journey and generate their first LCA report. (Target: >60%)
Achieve Product-Market Fit	<b>Retention Rate:</b> % of paid users who remain active after 6 months. (Target: >70%) <b>NPS Score:</b> Net Promoter Score. (Target: >40)
Establish Credibility & Trust	<b>Human Validation Rate:</b> % of generated reports that are reviewed and approved by the internal expert team. (Target: 100% for premium tiers)
Drive User Success	<b>Supplier Engagement:</b> % of data requests successfully completed by clients' suppliers via the Supplier Portal. (Target: >50%)

## 2. Feature Requirements (MVP)

The MVP is focused on delivering the core LCA/EPD engine, which is the most critical and complex component of the platform.

### 2.1. Core Epic: Foundational Life Cycle Assessment (LCA) Engine

Priority	User Story	Details
<b>Must-Have</b>	As <b>Alex</b> , I want to follow a guided, step-by-step onboarding process to input my company's data, so that I can provide all necessary	This includes the "gamified" level-based journey for the client. It must support OCR for utility bills and branching logic for different product types

	information without feeling overwhelmed.	(spirits, wine, beer, etc.).
<b>Must-Have</b>	As <b>Sam</b> , I want my team to use an efficient onboarding process, so that we can minimize the time spent on data entry and focus on core business activities.	The onboarding must be designed for speed and clarity, saving time for resource-constrained teams.
<b>Must-Have</b>	As <b>Alex</b> , I want the platform to automatically calculate the environmental footprint (carbon, water, waste) for my products, so that I can use this story in my marketing.	This is the core calculation engine. It will use OpenLCA in the backend, integrated with databases like ecoinvent, to perform a "cradle-to-gate" assessment.
<b>Must-Have</b>	As <b>Sam</b> , I want the platform to generate verifiable LCA/EPD data for my products, so that I have the hard metrics required for investor reporting and risk management.	The calculations must be methodologically sound (ISO 14040/44 compliant) to be considered credible for external stakeholders.
<b>Must-Have</b>	As <b>Alex or Sam</b> , I want to view our environmental footprint on a simple, clear dashboard, so that we can easily understand our key impact areas and make data-driven decisions.	The MVP dashboard will visualize the three core metrics: total CO2e (Scope 1, 2, and product-related Scope 3), water usage, and waste generated. It must allow a drill-down from company total to a single SKU view.
<b>Must-Have</b>	As <b>Alex or Sam</b> , I want to invite our contract manufacturers to a simplified "Supplier Portal" to provide their data, so that we can accurately capture Scope 3 emissions and mitigate supply chain risks.	This requires a separate, secure portal for suppliers with its own value-driven onboarding journey. The client dashboard must show the status of supplier data requests.
<b>Must-Have</b>	As a platform operator, I need a workflow to manually review and validate the data and reports generated by clients, so that we can provide the	This requires a backend interface for the internal team to access, review, comment on, and approve client reports. The system must

	"human-in-the-loop" assurance that builds trust.	track the validation status of each report.
<b>Must-Have</b>	As <b>Sam or Alex</b> , I want a clear way to request an expert review of my generated LCA report from the Avallen Solutions team, so that I can ensure its accuracy and correct any input errors before finalising it.	The platform must have a feature for a user to submit a generated report for manual review. The status of the review (e.g., "Pending Review," "Review in Progress," "Approved") must be visible to the user on their dashboard. This is a core part of the "human-in-the-loop" value proposition.
<b>Want-to-Have</b>	As <b>Sam</b> , I want to generate a simple, audit-ready sustainability report, so I can confidently present our performance to the board, investors, and regulatory bodies.	This feature will pull data from the dashboard into a standardized, "Dry and Data-Driven" PDF report. This should only be available after a report has been validated by the expert team.
<b>Nice-to-Have</b>	As <b>Sam</b> , I want to benchmark our performance against the industry, so I can identify areas of competitive advantage or strategic weakness.	This requires the system to aggregate and anonymize data from multiple clients to create a benchmark average. Data privacy and anonymization protocols are critical.

## 2.2. Non-Functional Requirements

Category	Requirement
<b>Performance</b>	LCA report generation will be an asynchronous process. The system will acknowledge the user's request within 5 seconds and notify the user (e.g., via email and an in-app notification) upon completion. The target for background processing is under 10 minutes. Dashboard loading time should be under 3 seconds.
<b>Security</b>	All user data must be encrypted in transit and at rest. The platform must use Replit Auth for

	secure user login. Sensitive data like supplier information must be handled with strict access controls.
<b>Scalability</b>	The architecture must be able to support an initial load of 1,000 SME clients and 5,000 of their suppliers, with the ability to scale horizontally as the user base grows.
<b>Usability</b>	The user interface must be intuitive and self-explanatory, designed for non-technical users. The onboarding journey is the primary tool for ensuring high usability.
<b>Reliability</b>	The platform must have an uptime of 99.5%. A robust data backup and recovery plan must be in place for all client and system data.

### 3. User Flow & Design Considerations

- **Onboarding:** The primary user flow is the guided, multi-level onboarding journey. This is the main interaction model for the MVP and must be designed to be as frictionless as possible.
- **Dashboard:** The design should be clean, modern, and prioritize data visualization. Key numbers should be prominent. The ability to switch between a company-level view and a product-level view must be intuitive.
- **Supplier Portal:** This must have a distinct, simplified UI that is focused solely on the task of data submission. It should not contain the full dashboard features available to the client.

### 4. Technical Considerations

- **Backend Calculation Engine:** The platform will use a server-hosted instance of OpenLCA for all LCA calculations to ensure methodological consistency and credibility. This will run as an asynchronous background service.
- **Database:** A relational database (e.g., PostgreSQL) will be used to store all user, company, product, and supplier data.
- **Authentication:** User authentication will be handled exclusively through Replit Auth to leverage its security and simplicity.
- **Pricing & Billing:** The system must be architected to support a tiered, revenue-based pricing model. This will require a mechanism for users to self-declare revenue and for the system to assign them to the correct pricing tier.

## 5. Out of Scope for MVP

To ensure a focused and timely launch, the following features are explicitly **out of scope** for the MVP:

- **Advanced Reporting:** The "Rich Storytelling" and highly customizable report formats.
- **Strategy & Guidance Modules:** Sections for Net Zero planning, detailed strategy guidance, and specific certification assistance (e.g., B Corp).
- **Advanced Biodiversity Tracking:** Quantitative biodiversity metrics and geospatial data integration.
- **Full Supplier Database:** A searchable, public-facing database of sustainable suppliers.
- **Direct API access for clients.**