

CASE STUDY

AVON ENERGY PARTNERS



RECIPE ZERO AND PRODUCT CARBON FOOTPRINTS

The Client:

THE
BILLINGTON
GROUP

Recipe Zero is a SKU-level product carbon-footprint (PCF) and supplier-data platform developed by Avon Energy Partners (AEP) for The Billington Group. The platform converts ERP recipe and bill-of-materials (BOM) data into auditable product-level greenhouse-gas results and supports supplier-data ingestion and FLAG/SBTi-aligned Scope-3 reporting and product net-zero planning via the in development Product Carbon Footprinting supplier form.



“Recipe Zero turned company-level emissions into SKU-level intelligence, enabling product teams to act with confidence and engage with suppliers.”

The Challenge:

Large food businesses often understand corporate emissions but lack visibility at the processing level. The Billington Group needed a reliable, repeatable way to:

Produce auditable Product Carbon Footprints for thousands of SKUs

Integrate ERP recipe and BOM data to automatically generate PCFs

Ingest and govern supplier-specific footprint data

Create FLAG/SBTi-aligned outputs that are defensible for external assurance and practical for commercial use

Without that capability, decisions about reformulation, supplier engagement, and low-carbon product launches were slow, or based on low-quality assumptions, making genuine Scope 3 decarbonisation difficult.

Delivery and support by AEP:

Avon Energy Partners designed, tested, and operated Recipe Zero as a production-grade PCF engine. Key deliveries included:

ERP Integration and Testing	SKU to CO2e Calculation Engine
System configuration reviews, ERP output testing and cross-verification routines to ensure results were repeatable, defensible, and suitable for limited assurance.	Automated conversion of recipes and bills of materials into SKU-level Product Carbon Footprints, enabling product teams to benchmark and compare across portfolios.
Supplier Data Ingestion and Governance	Emission-factor Quality Scoring
A supplier dataset layer and quarterly review workflow designed to accept supplier-specific datasets aligned with the GHG Product Standard, LSRG, and FLAG criteria, enabling progressive replacement of low-quality factors with supplier evidence.	A transparent scoring approach that assessed factors based on relevance, geography, raw-material specificity, FLAG alignment, completeness, transparency, and recency, allowing The Billington Group to prioritise data improvements.
Methodology and Assurance Pack	Ongoing Support and Evolution
A full methodology and assurance document detailing boundaries, assumptions, calculation rules, and test procedures to support governance and external scrutiny.	Retainer support and iterative enhancements enabling Recipe Zero to continue to evolve as supplier data improves and FLAG/SBTi requirements mature.

How we delivered value

Actionable product insight	Recipe Zero converted company-level data into SKU-level intelligence, allowing procurement, R&D, and bran teams to target the biggest carbon hotspots by product rather than approximation.
Defensible accounting	ERP integration, verification controls, and the assurance pack produced outputs suited for external validation and internal decision making.
Data quality first	The emission-factor scoring and supplier onboarding pathway focused effort where it mattered most, enabling progressive improvement of Scope 3 data quality.
Commercially useful outputs	SKU PCFs fed practical use cases: benchmarking, reformulation, supplier negotiation and consumer communications (e.g., product claims and low-carbon launches).
Operational capability	Through retained support and governance, Recipe Zero became a living capability within The Billington Group, rather than a single deliverable.

Outcomes and Impact

SKU-level transparency	Supplier engagement path	Assurance readiness	Commercial action
Product carbon footprints available across ranges for targeted interventions	A defined route to replace generic factors with supplier footprints that meet FLAG/GHG standards	Outputs structured and tested to be auditable and assembly-ready for SBTi/FLAG submissions	Directly enabled product development conversations and choices grounded in PCF evidence, necessary for credible product claims and low-carbon product launches.

Technical Snapshot

Standards	GHG Protocol (Corporate & Product), Land Sector Removals Guidance, FLAG Criteria
Architecture (high level)	ERP recipes/BOM → Recipe Zero calculation engine → supplier dataset layer → emission factor library with quality scoring. Quarterly reviews to onboard supplier data and improve coverage.
Assurance readiness	Outputs structured and tested to be auditable and assembly-ready for SBTi/FLAG submissions
Commercial action	Directly enabled product development conversations and choices grounded in PCF evidence, necessary for credible product claims and low-carbon product launches.

Why this case matters:

Recipe Zero is an example of how technical rigour (standards and assurance) and commercial thinking (ERP integration, supplier governance and SKU-level outputs) combine to turn emissions accounting into business action. For any food business moving from corporate inventories to product decarbonisation, Recipe Zero demonstrates the practical, repeatable steps needed to generate credible product footprints and to use them to reduce emissions across the value chain.

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Sources

AEP: Recipe Zero Methodology & Assurance, Recipe Zero supplier-data design proposals; Billington GHG tool documentation and project invoices.