Geosys
Insight Solutions

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Food & Beverage Manufacturing

Improving profitability, resource efficiency and resilience

Jamaica & the Caribbean

INPUTS	PRODUCTION	MARKETS
Ingredients / packaging	Energy / water / yield	Distribution / customers

A business-focused perspective for manufacturing leaders, finance teams and operational decision-makers.

The commercial imperative

Environmental performance is most useful when it informs decisions about costs, continuity, competitiveness and growth.

Commercial pressure	Management question
Imported inputs and foreign exchange	Where can material losses and avoidable purchases be reduced?
Energy and water costs	Which lines or facilities have the greatest efficiency opportunity?
Climate and supply disruption	Which suppliers, sites and routes are most exposed?
Customer and financing expectations	Can the business provide credible environmental evidence?
Capital constraints	Which improvements warrant further investment?

The opportunity

Connect production, procurement and utility information so that management can distinguish genuine performance improvements from changes in output, product mix or prices.

For Jamaican and Caribbean manufacturers, the relevance of these pressures varies by product, location, sourcing model and customer base. A useful assessment starts with the actual operating context, not a generic ESG checklist.

Where performance is shaped

Different manufacturing processes create different environmental dependencies and opportunities.

Subsector	Priority areas to investigate
Beverages	Water use, cleaning, packaging, refrigeration and distribution.
Poultry and meat	Cold chain, water, effluent, feed sourcing and organic residues.
Bakery and grain	Oven energy, batch scheduling, ingredient yield and product returns.
Dairy and nutrition	Heat, refrigeration, cleaning and product-specific energy intensity.
Packaged foods	Process heat, ingredient losses, packaging and wastewater.

A practical management dashboard

Measure	Decision supported
kWh per tonne or litre	Identify unusual energy performance
Water per unit of output	Investigate cleaning and process efficiency
Saleable output / input	Identify material yield losses
tCO2e by source	Prioritise emissions reduction
Supplier and facility locations	Screen exposure to environmental hazards

Food safety and product quality must remain non-negotiable. Technical interventions should be reviewed by qualified engineering and food safety specialists.

From measurement to value

Benchmarking and financial translation can help prioritise improvements before committing capital.

1.78 L/L

Coca-Cola system water use ratio in 2024, compared with 1.98 L/L in 2015. This is a global beverage-system reference, not a Jamaican plant target. [1]



Illustrative business case: water efficiency

A beverage plant produces 10 million litres annually at 3 litres of water per litre of product. A 15% reduction in water intensity would save 4,500 m³ annually. At an assumed avoidable cost of J$500/m³, this represents J$2.25 million in gross annual savings before implementation costs.

A second example: energy intensity

A plant increases output from 5,000 to 6,500 tonnes while electricity rises from 2,000 to 2,200 MWh. Electricity intensity falls from 400 to 338 kWh/tonne (15.4%), despite higher absolute consumption. Both indicators matter.

Examples are hypothetical, not client results or savings guarantees. Compare equivalent production boundaries and validate avoidable tariffs, costs and operational constraints.

How Geosys can support you

Integrated environmental, sustainability and geospatial intelligence for better management decisions.

Service pillar	Potential deliverables and business value
ESG & Sustainability Reporting	Carbon inventories, evidence-based readiness reviews, materiality support and peer benchmarking. Improve reporting consistency and customer or investor responses.
Climate & Environmental Intelligence	Facility and supplier exposure screening, environmental performance baselines and resource efficiency opportunity assessments. Prioritise resilience and further technical investigation.
Data & Geospatial Solutions	Data quality reviews, standardised metrics, spatial analysis and management dashboards. Reduce fragmented reporting and improve visibility across operations.

Start with a defined business problem

A focused assessment can establish the baseline, identify information gaps and prioritise actions. Where appropriate, Geosys can then support implementation of repeatable monitoring and reporting processes.

Our approach draws on relevant frameworks including the GHG Protocol, GRI and ISSB standards, where appropriate to the organisation’s objectives. IFC sector guidance provides useful technical context for resource and environmental management. [2]

Geosys provides analytical and advisory support; engineering design, accredited testing, legal certification and independent assurance are outside the standard scope.

Let’s identify your next opportunity

A discovery conversation is an opportunity to understand your priorities and determine whether a focused assessment would be useful.

01 Understand

Identify the commercial issue, management priorities and existing information.

02 Assess

Agree the scope, relevant data, methodology and deliverables.

03 Translate

Present findings in a form that supports practical management decisions.

About Geosys Insight Solutions

A Jamaica-based specialist consultancy combining sustainability reporting, environmental intelligence, geospatial analysis and data management. Our approach connects environmental evidence with business priorities across Jamaica and the Caribbean.

Book a discovery call

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References

[1] The Coca-Cola Company, 2024 Environmental Update, p. 5. View report.
[2] IFC / World Bank Group, Environmental, Health and Safety Guidelines: Food and Beverage Processing (2007). View guidance.