BIS Innovation Hub

Project Symbiosis

Part 3: Applied example

Exploring AI for scope 3 accounting and transition finance

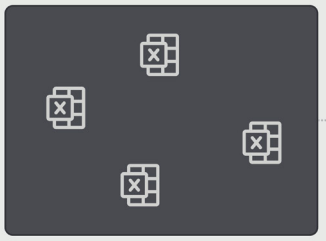
October 2025

Overview

Part 1 and Part 2 describe the goals, results and technical details of the approaches explored in Project Symbiosis. Part 3 provides a visual example of the approaches applied in a hypothetical use case within the consumer goods sector, from data collection through reduction assessment for a specified product type (apparel & footwear). As discussed in Part 1, AI and related technologies can be tailored and fine-tuned more optimally if they are specialised for the needs of a specific sector. The learnings are therefore intended to be of a generic nature and can be viewed as an illustration of the opportunities and challenges relating to the use of AI to enable calculations and matching.

Graph 3.1: Data collection and transformation

Acme Clothes Ltd are a fashion retailer and wish to calculate the impact of their bestselling item, the Basic Tee. Acme have access to just a few basic datapoints about the product in disparate formats, but do not yet have access to any supply chain data



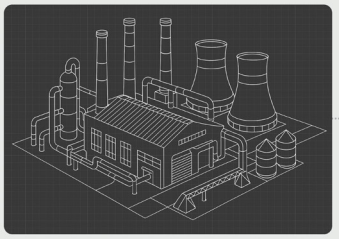
Transformation service to extract relevant data.

Extracted Values

- "Product Title: "The Basic Tee"
- "Composition": 100% CO;
- "Mass": "0.8m of 150g/m2 fabric, width 1.5m"
- "Country of Origin": "Bangladesh"

Graph 3.2: Supply chain data collection

To improve granularity and usefulness of results, Acme requests data directly from its supplier, Tier 1 Shirt Assembly LLC, through a standardized interface to enable more accurate and useful calculation results



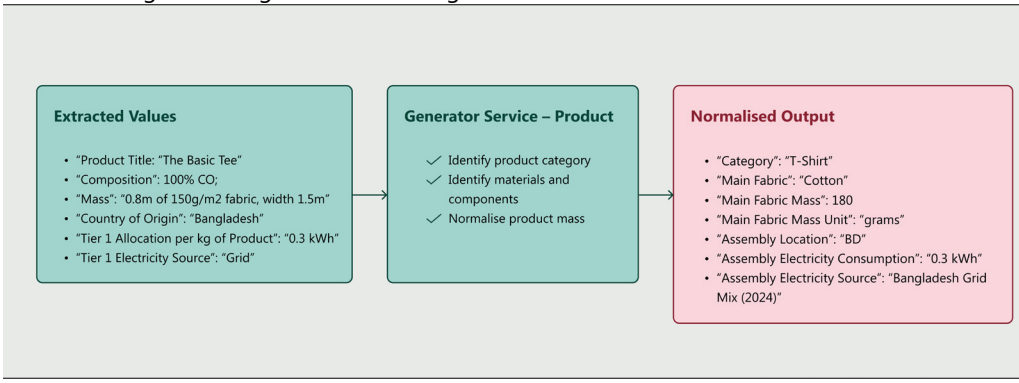
Tier 1 energy consumption data

Supplier Data

- "Annual Electricity Consumption": "500,000 kWh"
- "Allocation per kg of Product": "0.3 kWh"
- "Electricity Source": "Grid"

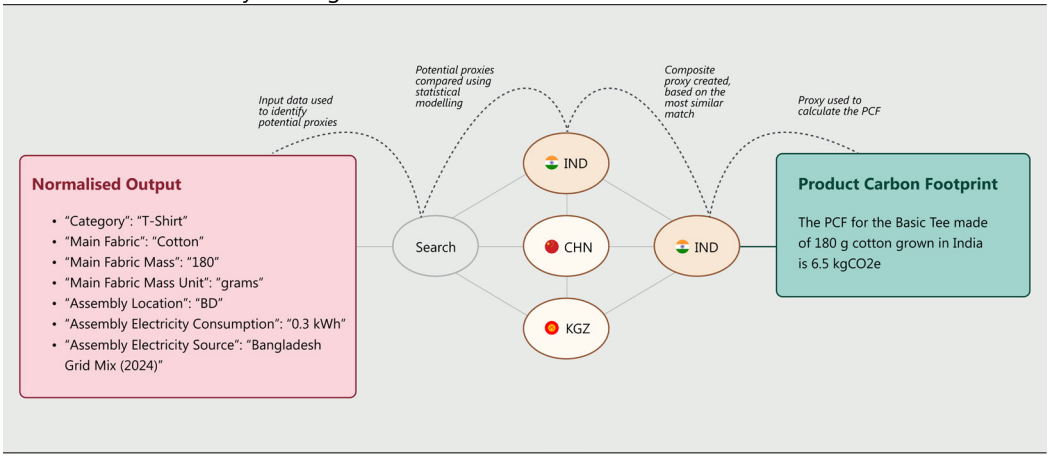
Graph 3.3: Generator services

Extracted data from Acme and its Tier 1 supplier are processed through generator services, a pre-calculation logic enabling automated categorization and further data normalization



Graph 3.4: Modelling engine

Even with limited supply chain data for the Basic Tee, the modelling engine can use statistical modelling to identify the most suitable proxy for raw material provenance, based on the use of cotton and its assembly in Bangladesh



Graph 3.5: NEMO generator path reductions

Reduction opportunities are identified with AI and estimated using an embedded impact calculation engine

Measure	Reduction %	Reduction kg CO_2e
Transition to renewable energy for yarn construction and product assembly	19.76%	1.28
Implement energy-efficient lighting and equipment in production facilities	14.05%	0.91

Measure	Reduction %	Reduction kg CO_2e
Reduce waste and improve material efficiency in production processes	3.19%	0.21
Optimize transportation logistics for raw materials and finished products	3.11%	0.20
Totals	**40.11%**	**2.61**

Graph 3.6: NEMO matcher path reductions

Using available input data and predefined measures, reduction opportunities are identified through AI and calculated on a percentage basis

Measure	Reduction %	Reduction kg CO_2e
Switch from cotton to recycled cotton	20.00%	1.30
Renewable electricity supply from the grid for textile production	15.00%	0.97
Photovoltaic and electrolyzer systems for hydrogen production	10.00%	0.65
Electrification of steam production for textile finishing	10.00%	0.65
Electrification of thermal oil boiler in fabric production	5.00%	0.33
Use of solar water heaters for pre-heating water used in fabric production	4.00%	0.26
Installation of turbo ventilators at the roofs that rotate by wind in fabric production facilities	3.00%	0.20
Use of heat pump technology for air-conditioning and humidity control in fabric production facilities	2.00%	0.13
Totals	**69%**	**4.49**