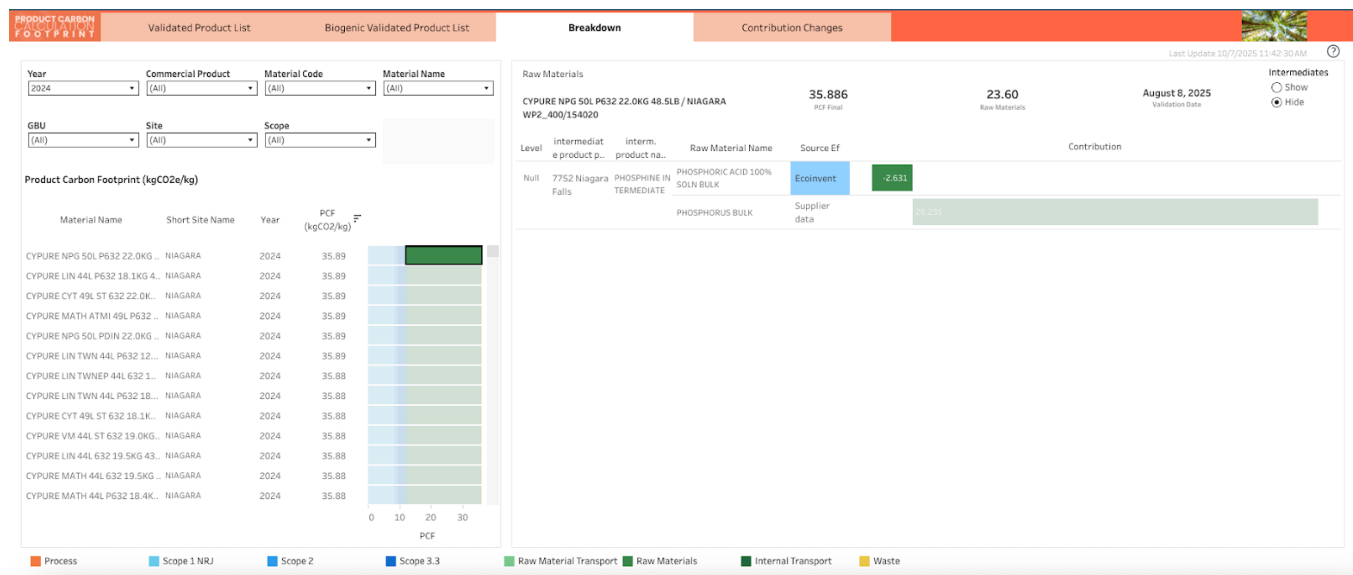


# Advanced Breakdown



## General description:

The Breakdown Dashboard provides a detailed analysis of the Product Carbon Footprint for finished products, allowing users to explore the specific contributions of various scopes such as raw materials, energy, transport, and waste. The dashboard is designed to help users understand the environmental impact of each component in the production process and supports data-driven sustainability decisions.

## Filters :

At the top of the dashboard, users can refine their analysis using a comprehensive set of filters:

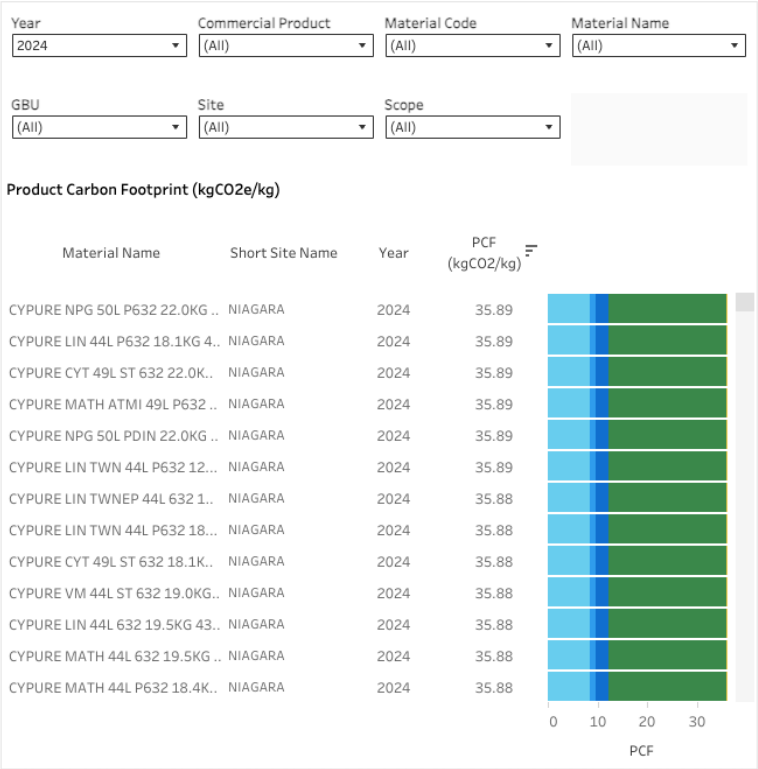
- Year: Select the reporting year for the data.
- Commercial Product: Choose the commercial product of interest.
- Material Code / Material Name: Filter by specific material codes or names.
- GBU (Global Business Unit): Focus on a particular business unit.
- Site: Narrow down data to a specific manufacturing site.
- Scope: Select the emission scope (e.g., Scope 1, Scope 2, Scope 3.3, etc.).
- Validation: Filter data based on validation status.

## Two Side Panels:

Left Panel (Main Data Table & Visualization)

Displays a summary table with key information such as Material Name, Site, Year, PCF (kgCO2e/kg), and the percentage of raw material mapped.

Includes a horizontal bar visualization showing the breakdown of the PCF by scope, with a color-coded legend for easy interpretation (e.g., Scope 1 NRJ, Scope 2, Scope 3.3, Raw Material Transport, Raw Materials, Internal Transport, Waste).



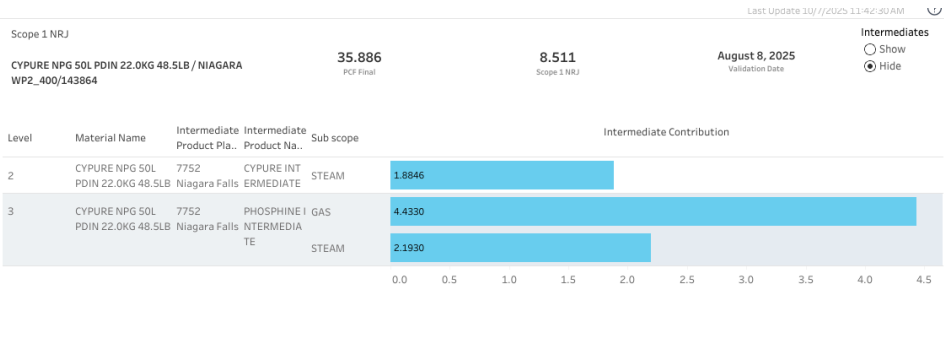
Right Panel (Detailed Breakdown)

This panel is designed to display detailed breakdowns for the selected product and scope.

When a user clicks on a specific scope in the left panel, the right panel will show in-depth information about the contributions from intermediates, raw materials, transport, or waste associated with the selected product.

The panel also includes an option to show or hide intermediates for further granularity.

Currently, the panel prompts users to select a product scope to access the detailed breakdown.



Breakdown by scope details:

| Color code | Scope          | Table columns                                                                                                                    |
|------------|----------------|----------------------------------------------------------------------------------------------------------------------------------|
|            | Scope 1 Energy | <ul style="list-style-type: none"><li>Energy type</li><li>Contribution</li><li>Emission factor</li><li>Quantity (Unit)</li></ul> |

|  |                   |                                                                                                                                                                                                                                                                                                                                                                                                |
|--|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Scope 1 other GHG | <ul style="list-style-type: none"> <li>■ Contribution</li> <li>■ Emission factor</li> <li>■ Quantity (Unit)</li> <li>■ Missing BOM recipe (KPI)</li> <li>■ Outbound site (Production site)</li> </ul>                                                                                                                                                                                          |
|  | Scope 2           | <ul style="list-style-type: none"> <li>• Energy type</li> <li>• Contribution</li> <li>• Emission factor</li> <li>• Quantity (Unit)</li> </ul>                                                                                                                                                                                                                                                  |
|  | Scope 3.3         | <ul style="list-style-type: none"> <li>• Energy type</li> <li>• Contribution</li> <li>• Emission factor</li> <li>• Quantity (Unit)</li> </ul>                                                                                                                                                                                                                                                  |
|  | Scope 3.4         | <ul style="list-style-type: none"> <li>■ Transported material ( Raw material )</li> <li>■ Contribution</li> <li>■ Emission factor</li> <li>■ Quantity (Unit )</li> <li>■ Missing routes (KPI)</li> <li>■ Missing BOM recipe (KPI)</li> <li>■ Outbound plant (Production plant of the transported material)</li> <li>■ Inbound plant ( Plant where the transported material is used)</li> </ul> |
|  | Scope 3.5         | <ul style="list-style-type: none"> <li>• Waste type</li> <li>• Contribution</li> <li>• Emission factor</li> <li>• Quantity (Unit)</li> <li>• Missing BOM recipe (KPI)</li> <li>• Outbound site ( Production site)</li> </ul>                                                                                                                                                                   |

## Key Features

### Comprehensive Filtering Options

- Easily customize your data view using filters for year, commercial product, material code, material name, Global Business Unit (GBU), site, scope, and validation status.
- Filtered products are displayed on the left, allowing you to focus on the most relevant data for your analysis.

### Scope Drill-Down and Detailed Contributions

- Drill down into specific scopes (e.g., Scope 1, 2 and 3.3, Scope 3.1, Scope 3.4, Scope 3.5) to see exactly where each contribution to the Product Carbon Footprint originates.
- Select a scope or hover over any section to view pop-up details, including contribution to the finished product, emission factors, usage factors, and validation status.

### Interactive Visualization and Legends

- Use the color-coded legend at the bottom of the dashboard to quickly interpret the meaning of each color and scope.
- Hover over bars and sections for instant access to detailed information.

### In-Depth Analysis by Scope

- Scope 1 & 2: Analyze energy sources (e.g., gas, steam, electricity) used by intermediates and their impact on the final product's PCF.
- Scope 3.1: Drill down into intermediates and raw materials, exploring the production process step by step, including manufacturing sites.
- Scope 3.4: Review detailed data on raw materials and upstream transportation, including emission factors calculated from manufacturing and delivery locations using tools like Ecotransit.
- Access detailed information on the transportation of intermediates between sites, including intermediate plant, outbound plant, raw material, and transport's contribution to the final PCF.
- Scope 3.5: Track the type and source of waste generated, with details on the outbound site and its contribution to the final product.

### Source Transparency

- See the origin of emission factors for each raw material—whether provided by suppliers (primary data), calculated from external sources like Ecoinvent (secondary data), or a combination of both.
- Understand how supplier-specific and external data are integrated for a comprehensive PCF calculation.

## KPIs:

| Name                            | Definition                                                                                                                                                                                                                                                               | Calculation                                                                                                                                                                                                                                          |                                                          |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| % Raw Material Mapped           | for each <b>finished product</b> of a site, the % of raw materials quantites for which an emission factor is available in the database                                                                                                                                   | <b>RM_Mapped_pc</b> = if (Emission_Factor' is not empty AND 'IS an Intermediate'='#') then <b>abs('Adjusted Qty')</b><br><br>if ( 'IS an Intermediate' ='#') then <b>abs('Adjusted Qty')</b><br><br><b>abs('Adjusted Qty') / abs('Adjusted Qty')</b> | <b>% mapped Raw Mat</b><br>                              |
| Contribution                    | Unit: (in kg of CO2 from RM / kg of FP)<br><br>Contribution of the selected Scope in the Finished Product carbon footprint.<br><br>The sum of all the Scope contributions of a finished product <b>IS</b> the PCF of the selected scope of the Finished products         | Emission Factor of the selected Scope x Adjusted_Qty / Finished_Product_STD_Qty                                                                                                                                                                      | <b>PCF Source RM Contribution In FP PCF 3 1 St..</b><br> |
| PCF Source                      | Indicate data source of the Emission factor for the Raw Materials.<br><br>Options of PCF Source: <ul style="list-style-type: none"> <li>RM Mapping = Ecoinvent data base or Proxy</li> <li>Name of the supplier that communicated the PCF of the Raw Material</li> </ul> | n.a                                                                                                                                                                                                                                                  |                                                          |
| Emission Factors                | emission factor Unit: (in kg of CO2 / kg of Finished product)<br><br>CO2 content per kg of the selected Scope (Raw material, intermediate transport, or waste)                                                                                                           | n.a                                                                                                                                                                                                                                                  | <b>RM Contribution In FP PCF 3 1 St..</b><br>            |
| Adjusted Quantity               | Quantity of the intermediate                                                                                                                                                                                                                                             | n.a                                                                                                                                                                                                                                                  |                                                          |
| Missing BOM recipe              | KPI to identify missing recipe of intermediates, kind of error in BOM                                                                                                                                                                                                    | Missing BOM recipe = 1 if missing BOM of intermediate (outbound plant is NULL).                                                                                                                                                                      |                                                          |
| Missing routes (Only Scope 3.4) | KPI to flag if the source table of Emission factors for standard routes is missing a route between 2 plants. If we are no able to map this route for a transported Raw Material, then Missing routes= 1                                                                  | n.a                                                                                                                                                                                                                                                  |                                                          |

## Guided Tour: Using This Section