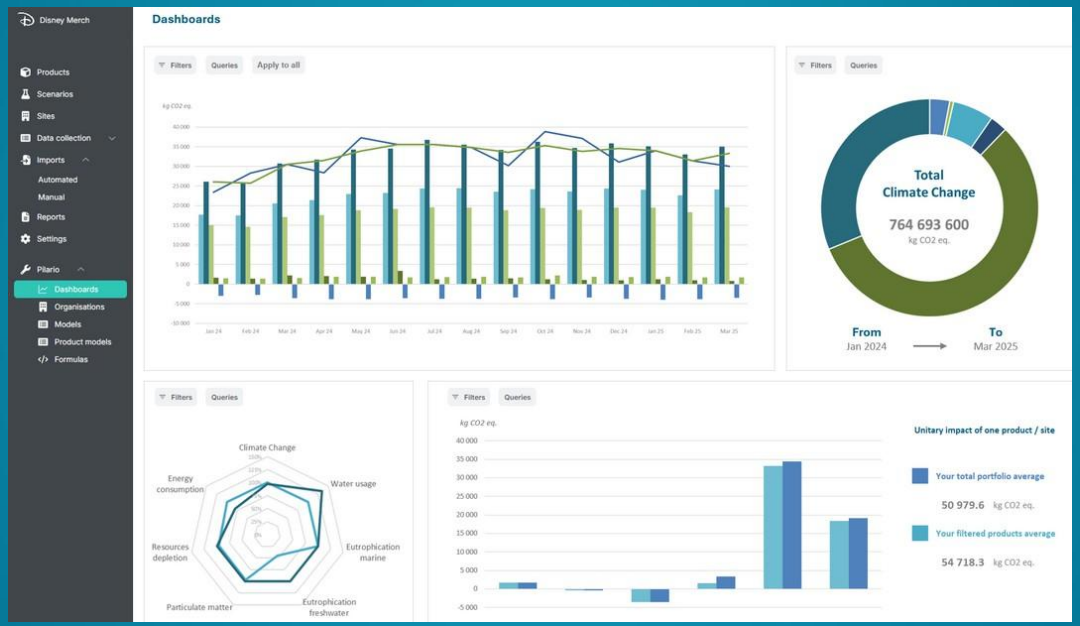
Pilario

Pioneering PET circularity since 1993

PETCORE EUROPE

MEASURE, REDUCE, REPORT.

Sustainability design and reporting software.



Trusted by:

ABInBev gerresheimer Carlsberg Group

ABOUT US

Our mission is to accelerate a sustainable future by helping companies make better environmental decisions.

With a legacy of over 33 years in LCA, we've got the best tools on the market to achieve this.

Aluminium Dunkerque · ABInBev · Nestlé Waters · Heineken · Ball · Walt Disney · EssilorLuxottica · Plastipak · L'ORÉAL · Carlsberg · HERMÈS PARIS

PARTNERSHIPS

Ecobeautyscore
We supply the technology for EcoBeautyScore to offer their members a unified LCA and “eco-scoring” tool.

Institute for sustainable packaging
The KIDV uses our technology to provide a “light” LCA and recycling tool for all companies in the Netherlands

PETCORE EUROPE
Pilario built a specific LCA tool for the PET industry, to provide to members of PETCORE Europe.

UNESDA
We supply the members of UNESDA an LCA software for their shadow-PEFCR

The Brewers of Europe
Pilario has been offering members of the Brewers of Europe an LCA tool since 2020, using the beer PEFCR methodology.

Microsoft
We partner with Microsoft to complement their Sustainability Cloud solution, which lacks LCA functionality.

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WHAT IS AN LCA?

Raw Material Extraction

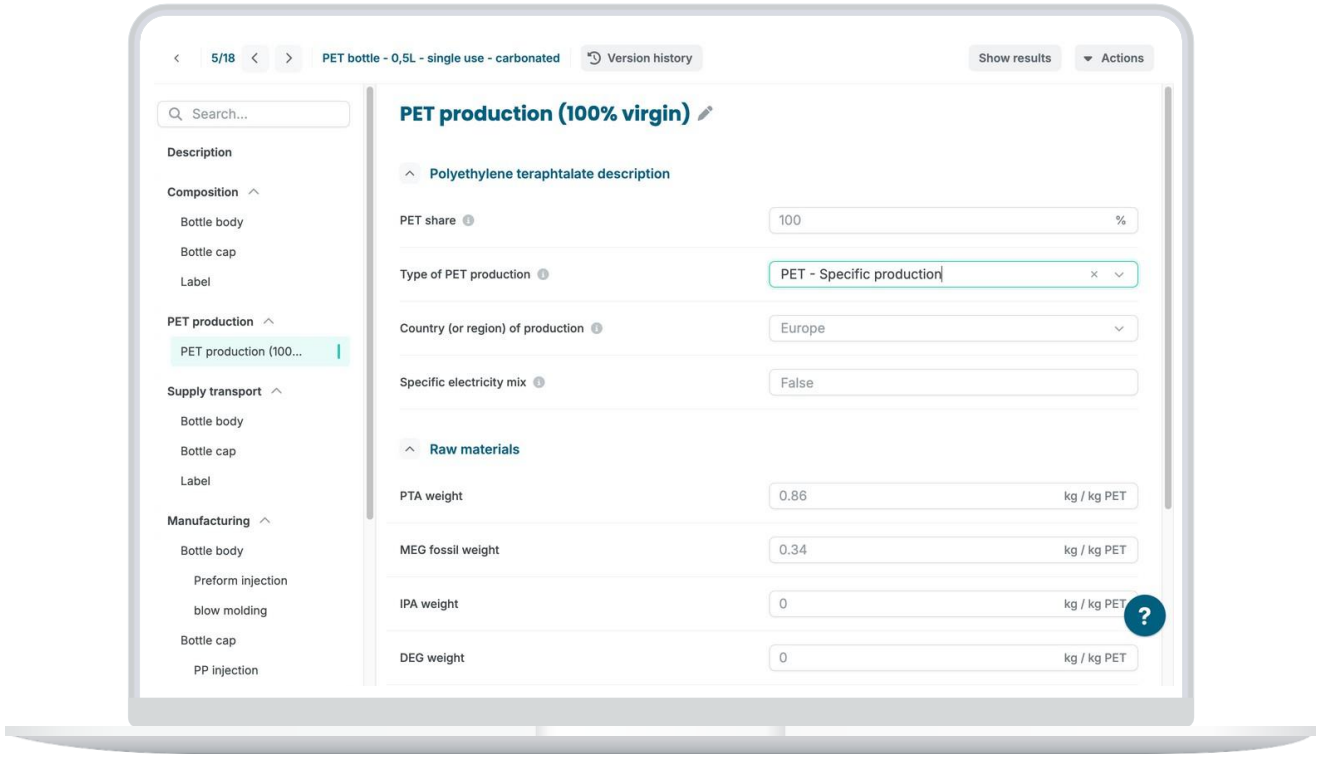
Processing & Manufacturing

Transport

Use

Recycling / Disposal

PETCORE MODEL – MEASURE



A variety of packaging materials included (plastics, glass, metals, etc)

Add your own primary data, such as material, energy and recycled %

Use third-party verified average data for data gaps

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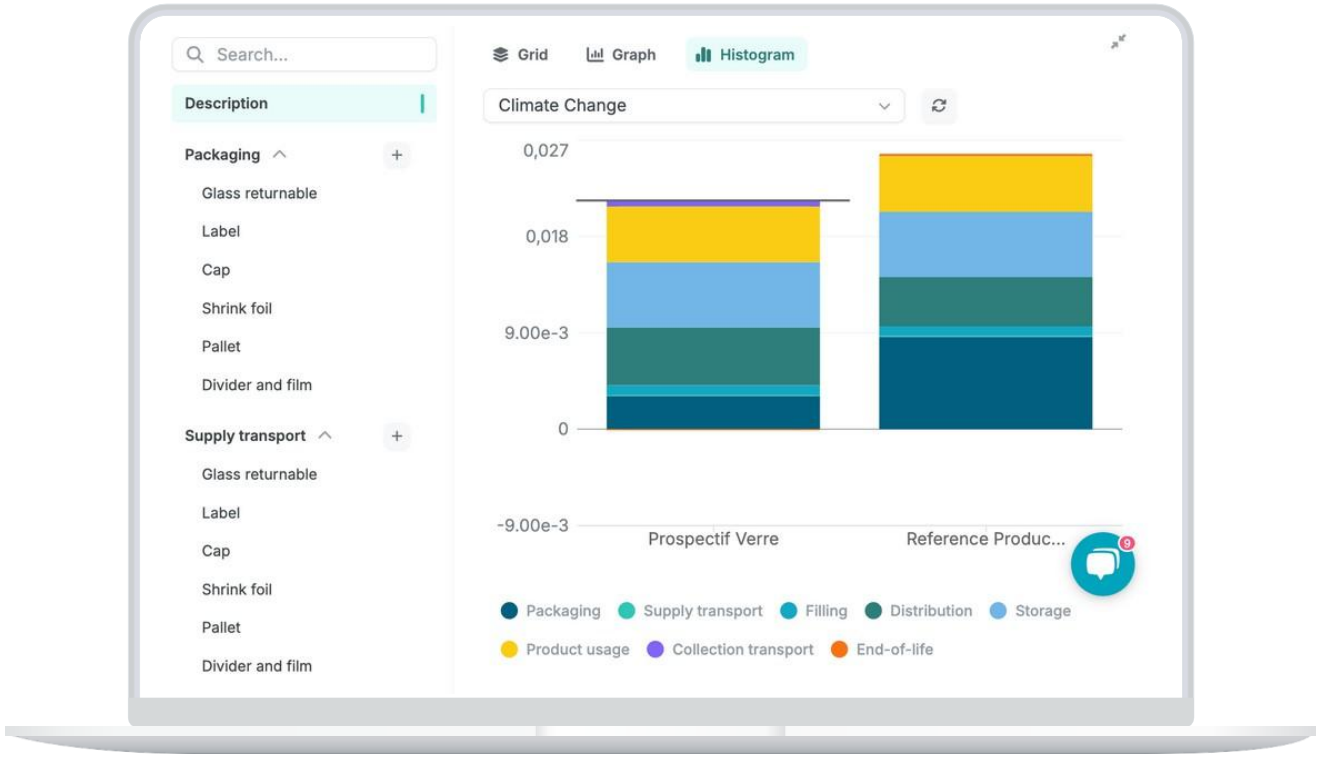
PETCORE MODEL – REDUCE



Identify hotspots through scenario testing

Implement reduction strategies through ecodesign

Get insights for your entire portfolio

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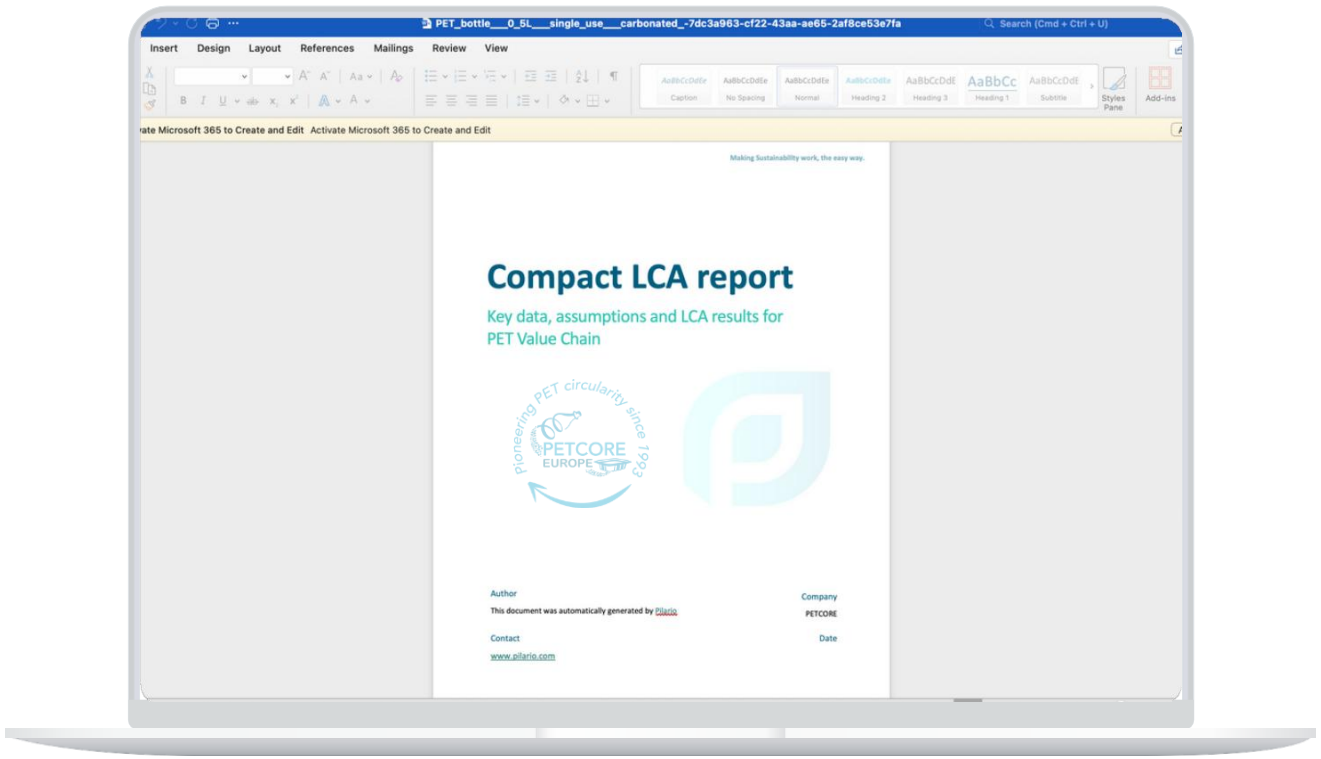
PETCORE MODEL – REPORT



Confidently share results across B2B value chain

Automatic compact LCA report generation

Easily verify LCA results for public claims

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SCENARIOS

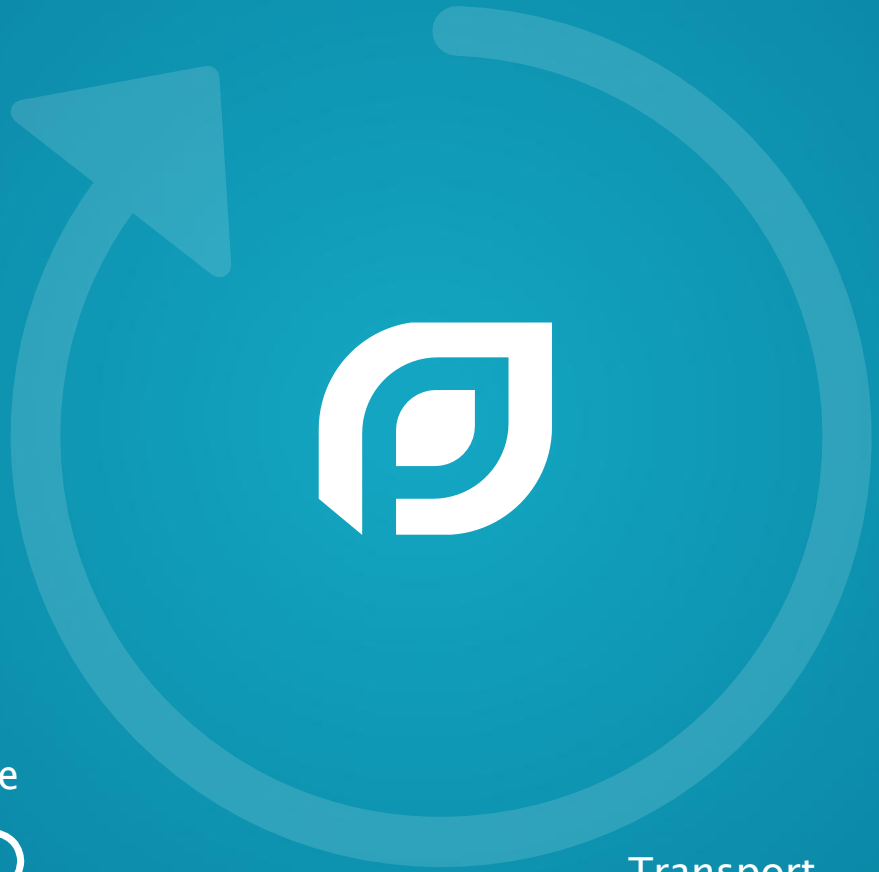
Raw Material Extraction

Processing & Manufacturing

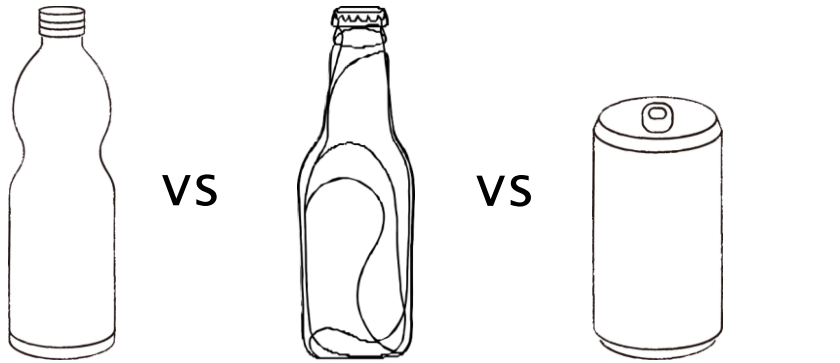
Transport

Use

Recycling / Disposal

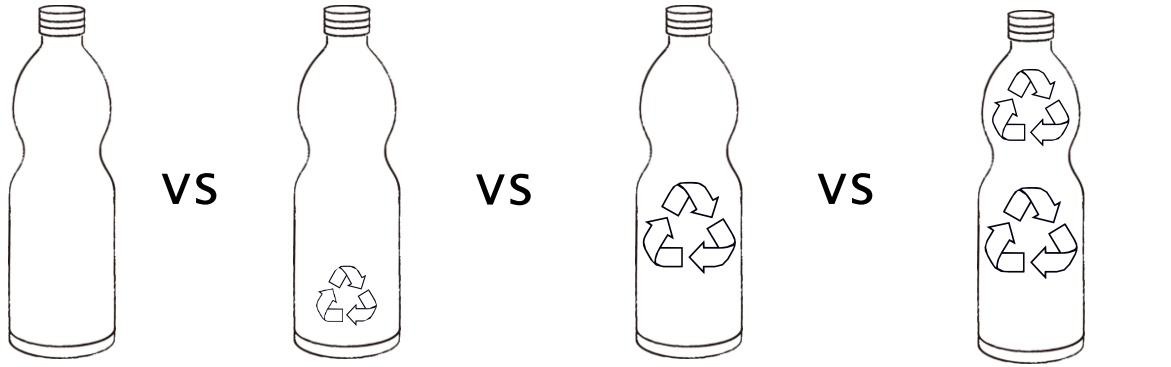


1. Material comparisons



PET vs Glass vs Aluminium

2. Recycled content



0% recycled vs 30% recycled vs 65% recycled vs 100% recycled

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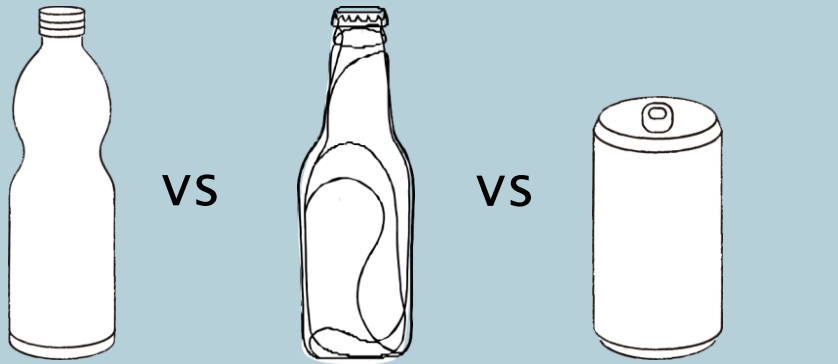

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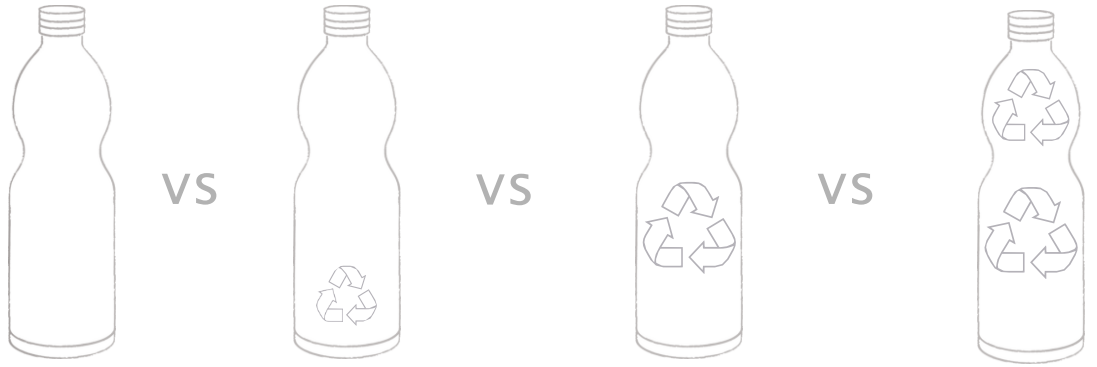

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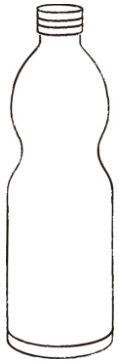


PET bottle

- **0,5L carbonated**
  - 21g PET 100% virgin
  - 4g PP cap
  - 3g LDPE label
- **1L non-carbonated**
  - 25g PET 100% virgin
  - 4g PP cap
  - 3g LDPE label

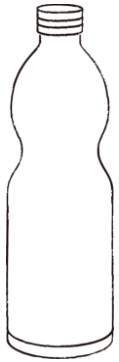
Glass bottle

- **0,25L returnable**
  - 210g glass
  - 2,1g steel cap
  - 2 uses
- **0,25L non-returnable**
  - 165g glass
  - 2,1g steel cap
- **0,5L non-returnable**
  - 400g glass
  - 2,1g steel cap

Aluminium can

- **0,33L**
  - 13g
- **0,5L**
  - 16g

SCENARIO 1: MATERIAL COMPARISON



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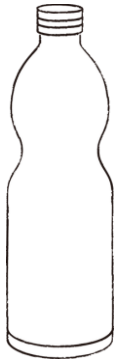
- **0,5L**
  - 16g

Assumptions were made for the weight of the different components
Rest of the LCA was built using default values available in the software

SCENARIO 1: MATERIAL COMPARISON



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Functional unit: **1 L** of product transported to the end consumer

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software

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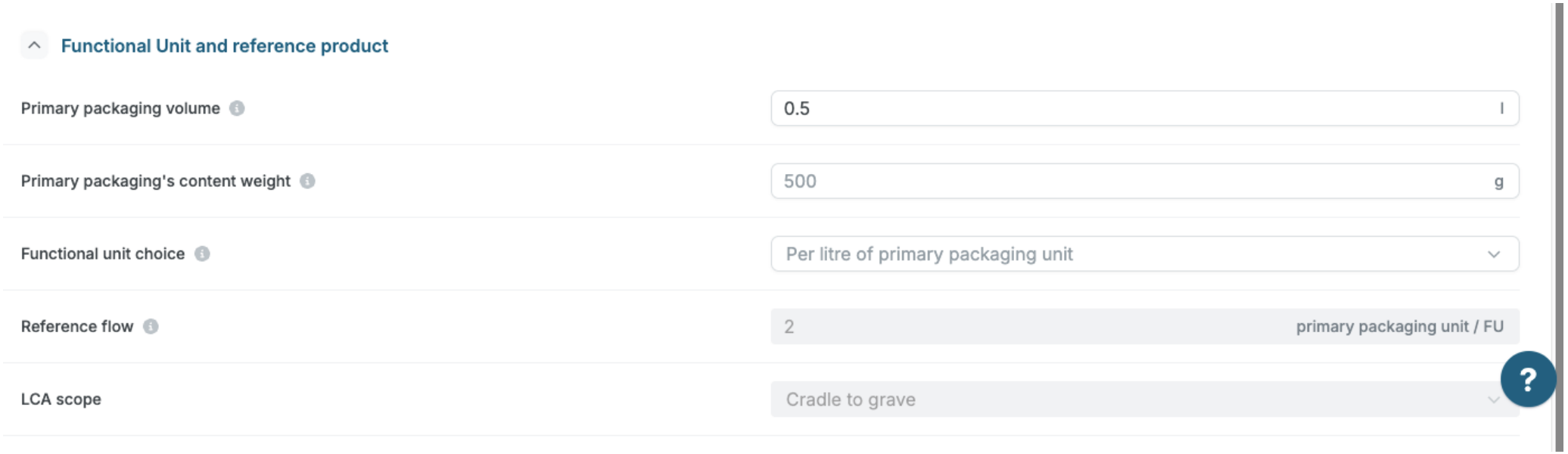
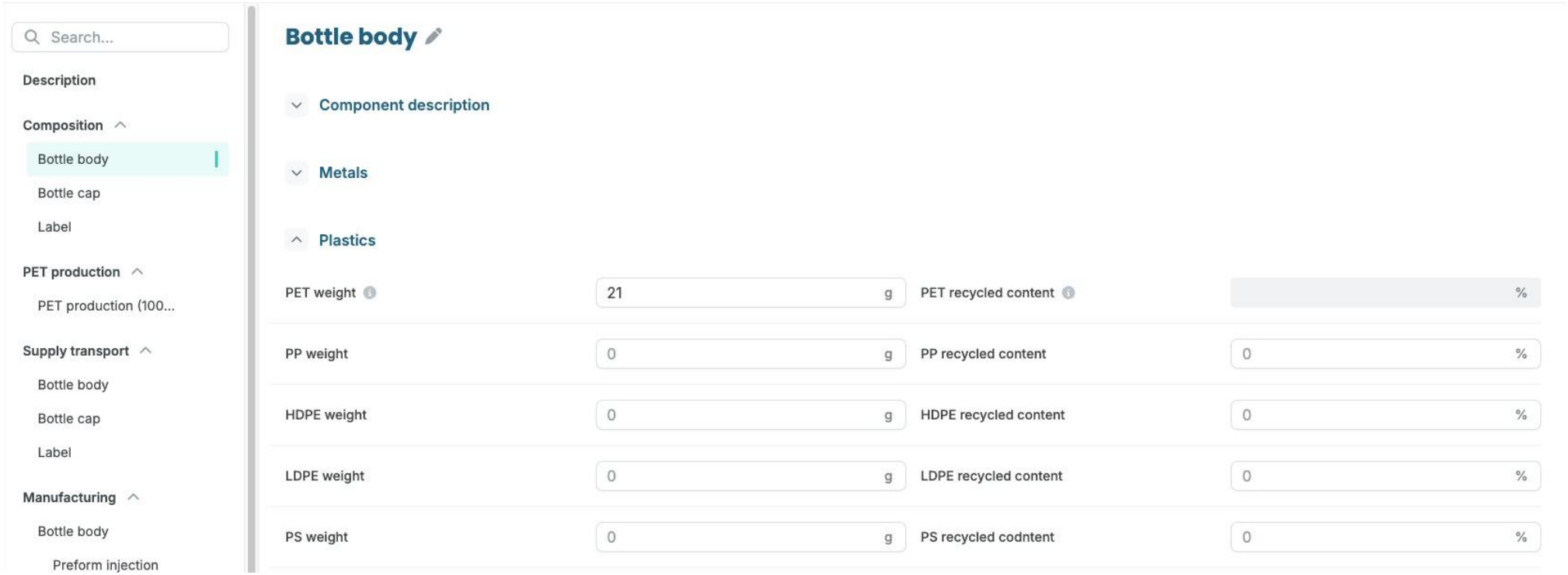
Step 1: establish a functional unit for the assessment

e.g. 0,5 L PET bottle requires 2 bottles to perform the function



Step 2: input raw material data in the software

e.g. 0,5 L PET bottle requires 21 grams of PET



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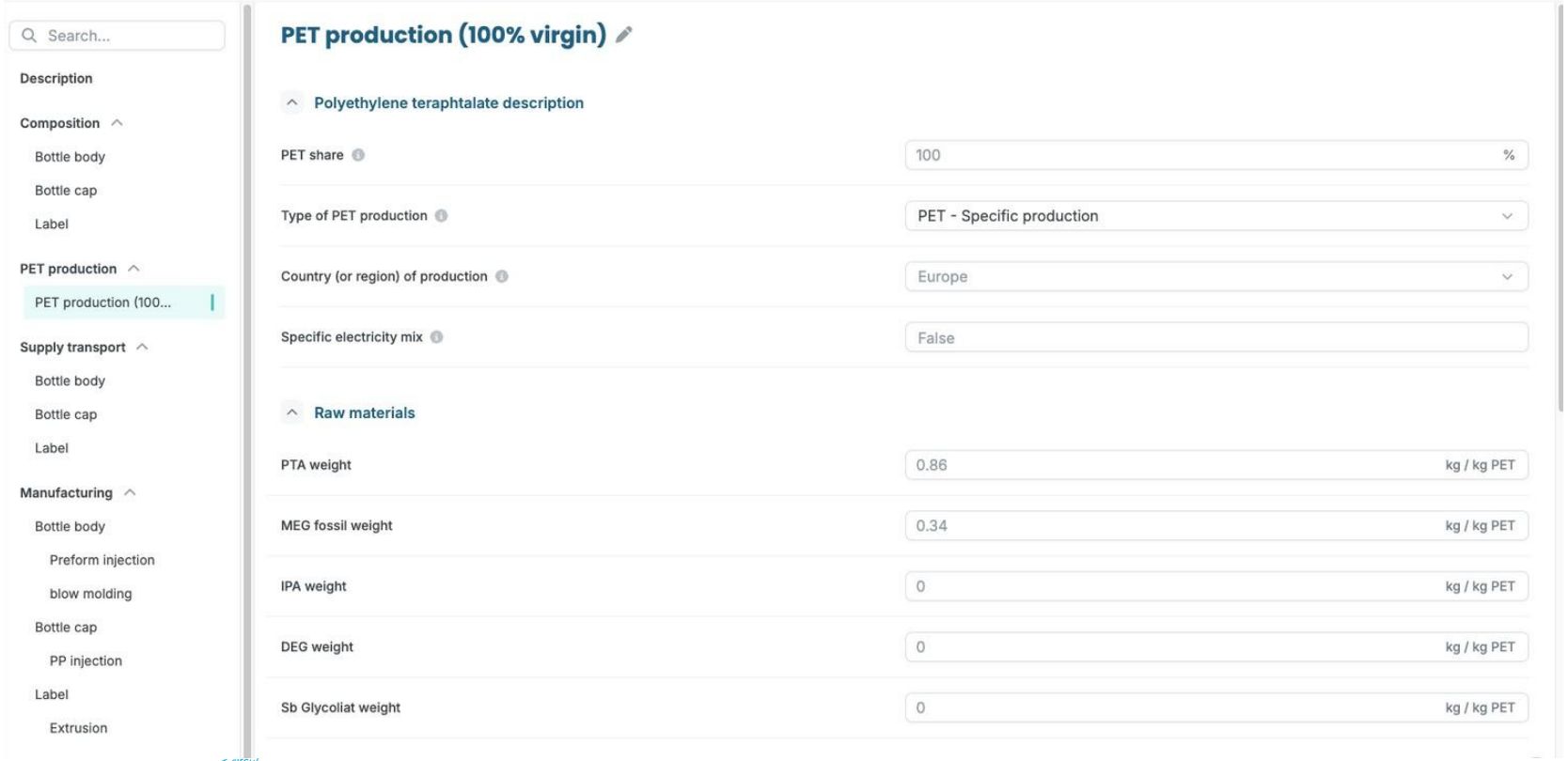
PETCORE EUROPE

Step 3: input PET data in the software

Add information about how the PET is produced. Average values available in the software.



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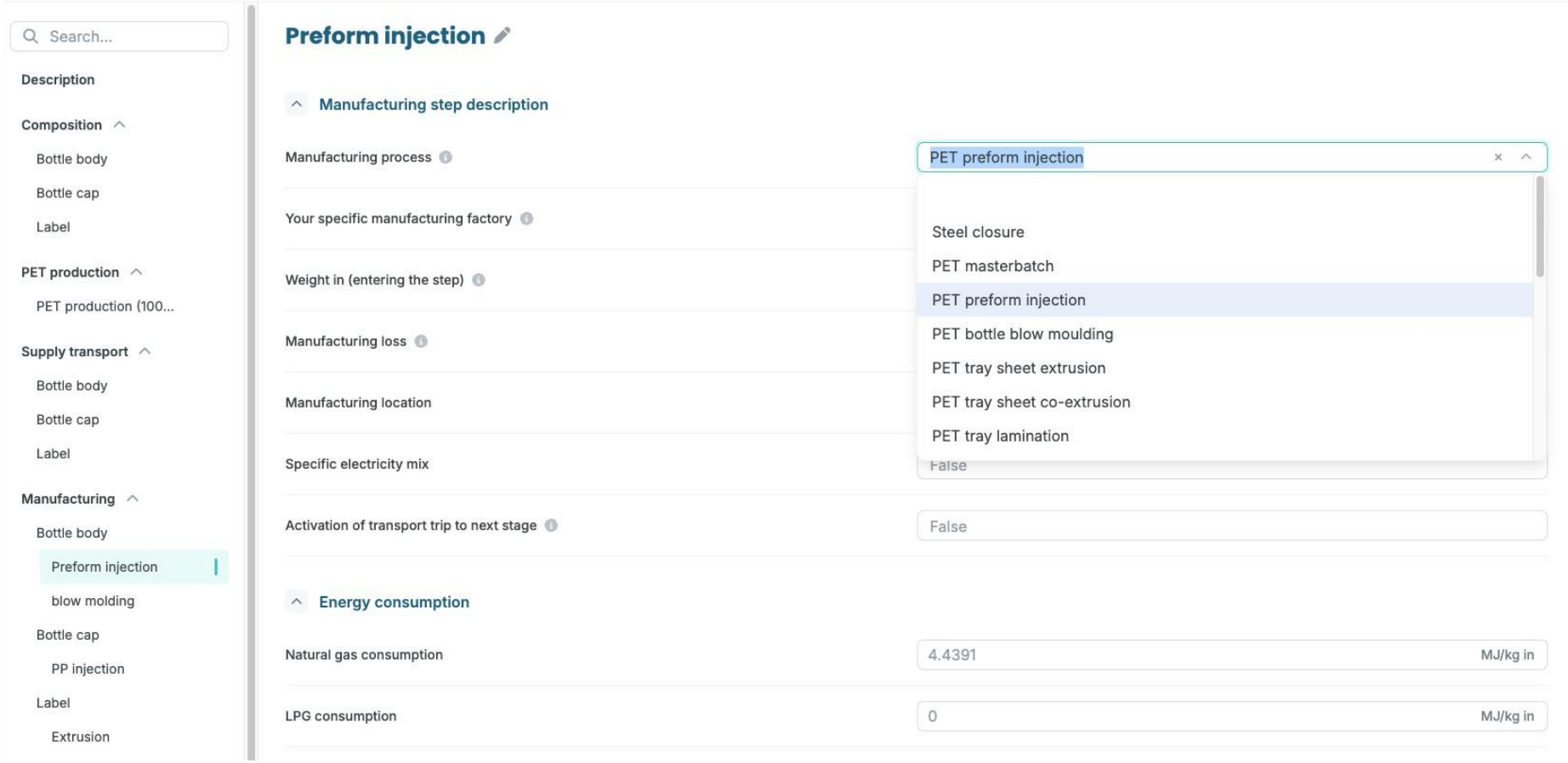
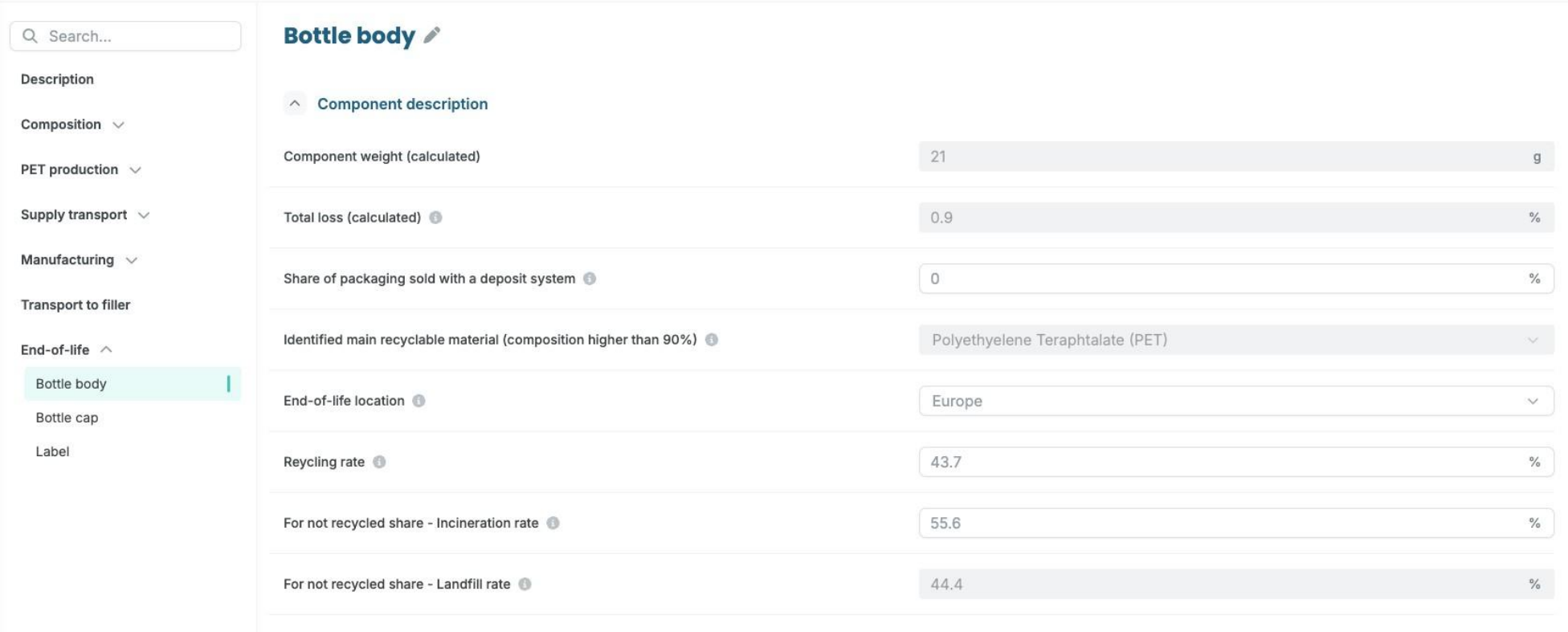
Step 4: input product manufacturing data in the software

Add information about how the bottle is produced using average or own data.



Step 5: add context to the end of life scenario

Select the primary location for end of life treatment of each component of the product.



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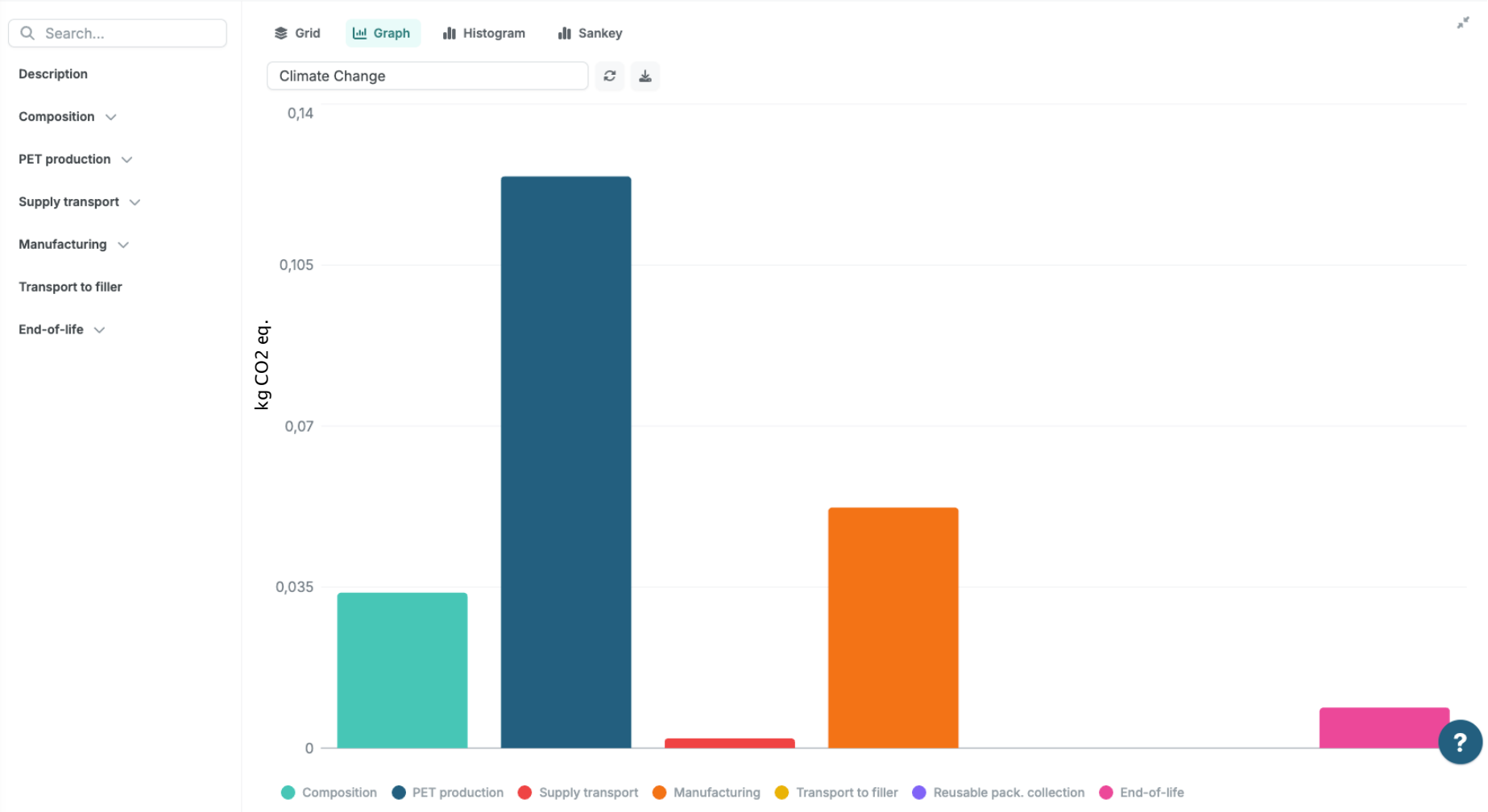
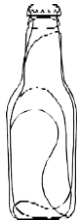
Step 6: look at results, identify hotspots and perform ecodesign



SCENARIO 1: MATERIAL COMPARISON – PET VS GLASS VS ALUMINIUM PER LITRE

PET bottle

- 0,5L carbonated

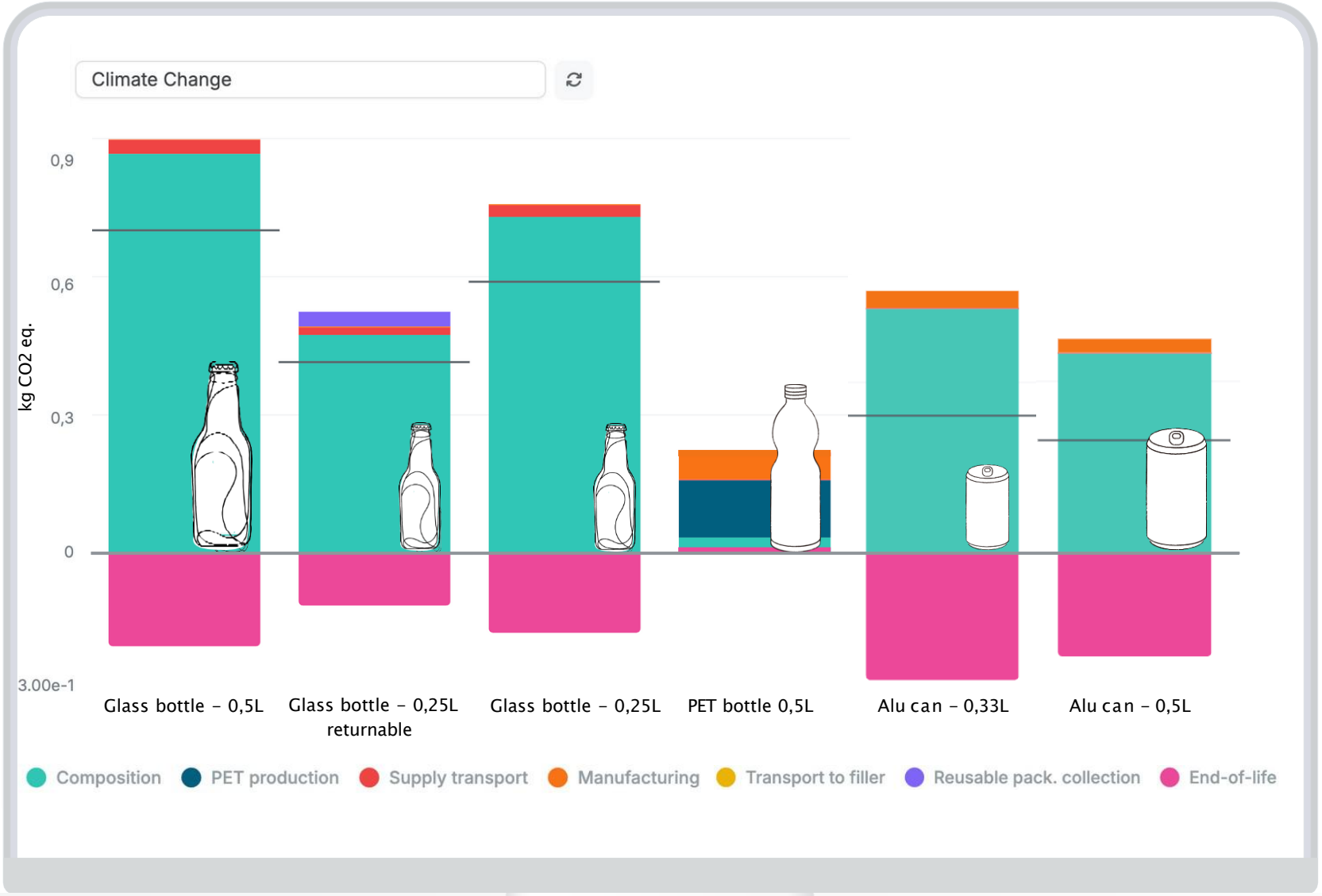


Glass bottle

- 0,5L non returnable
- 0,25L returnable & non returnable

Aluminium can

- 0,33L
- 0,5L



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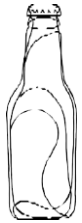

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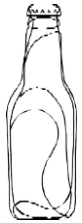

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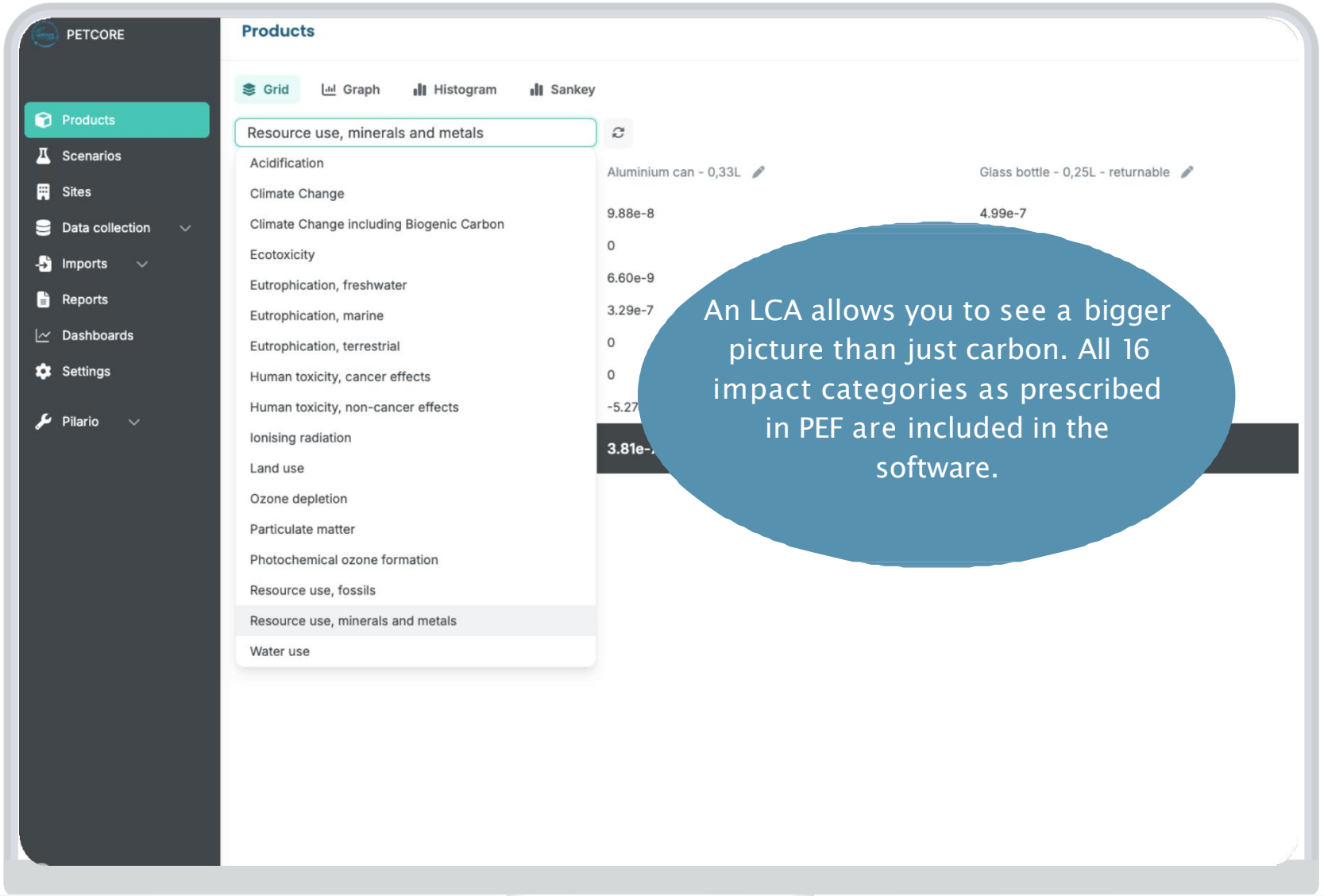

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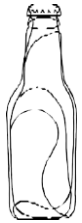

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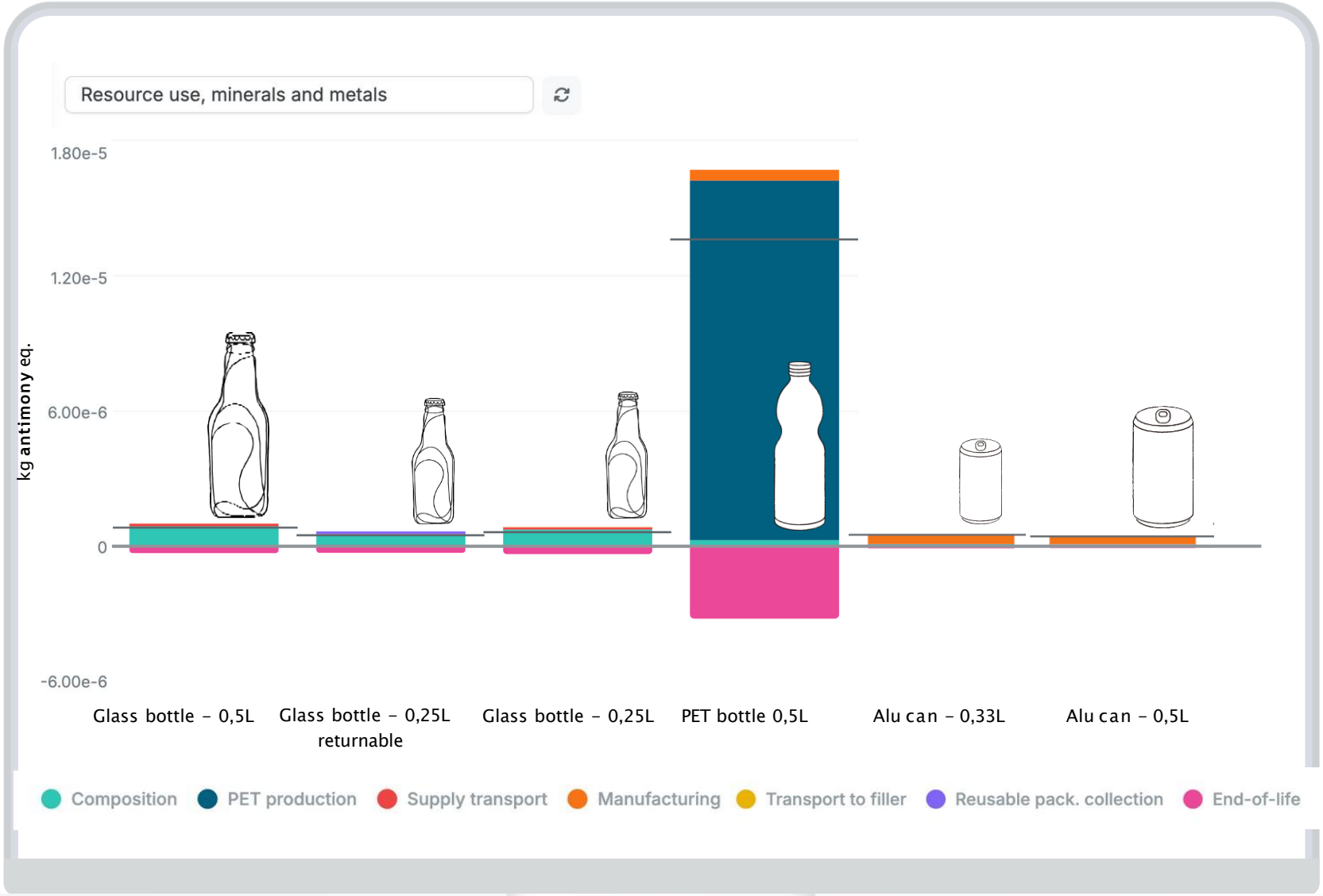

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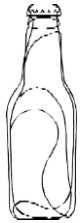

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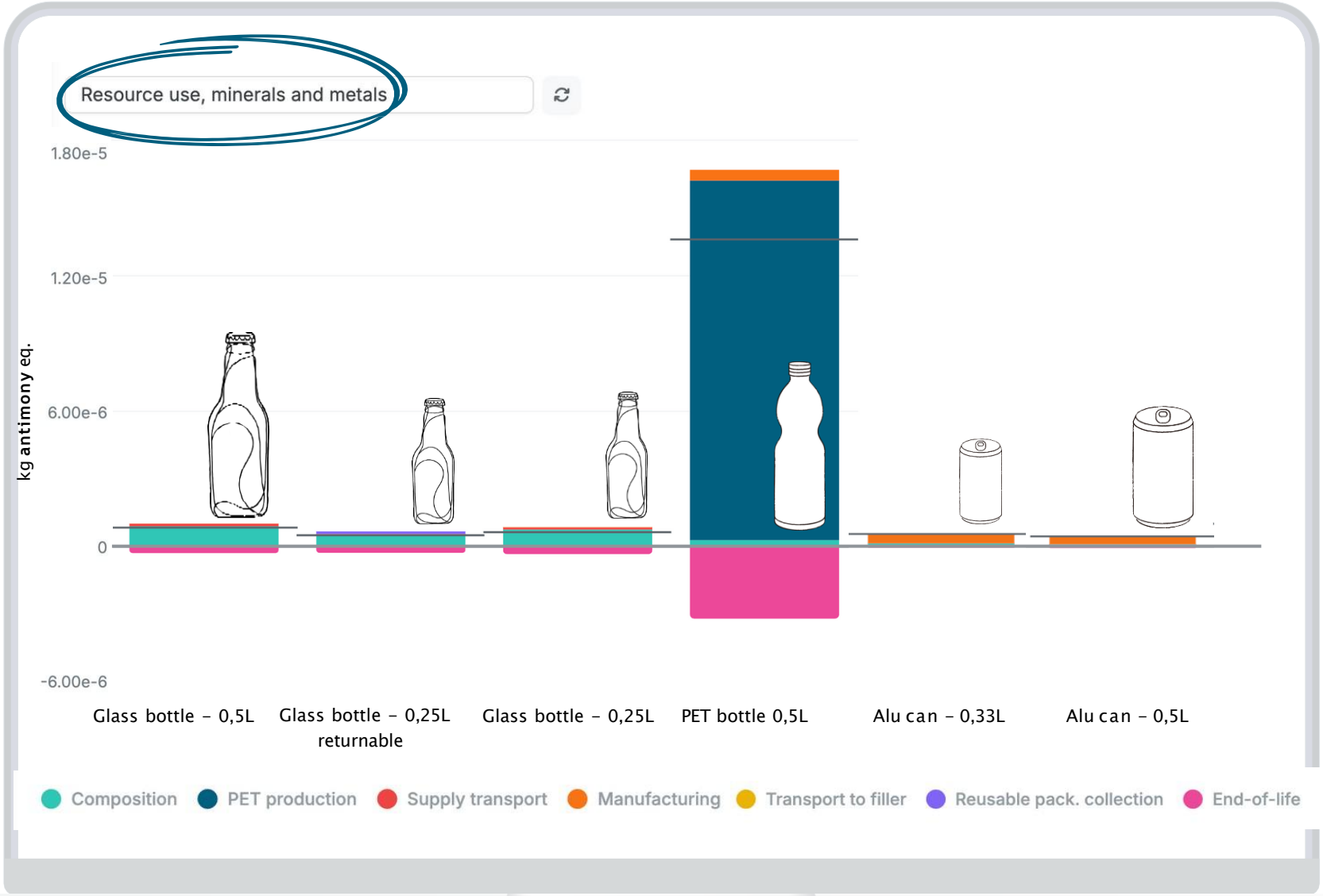

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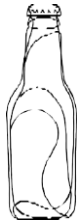

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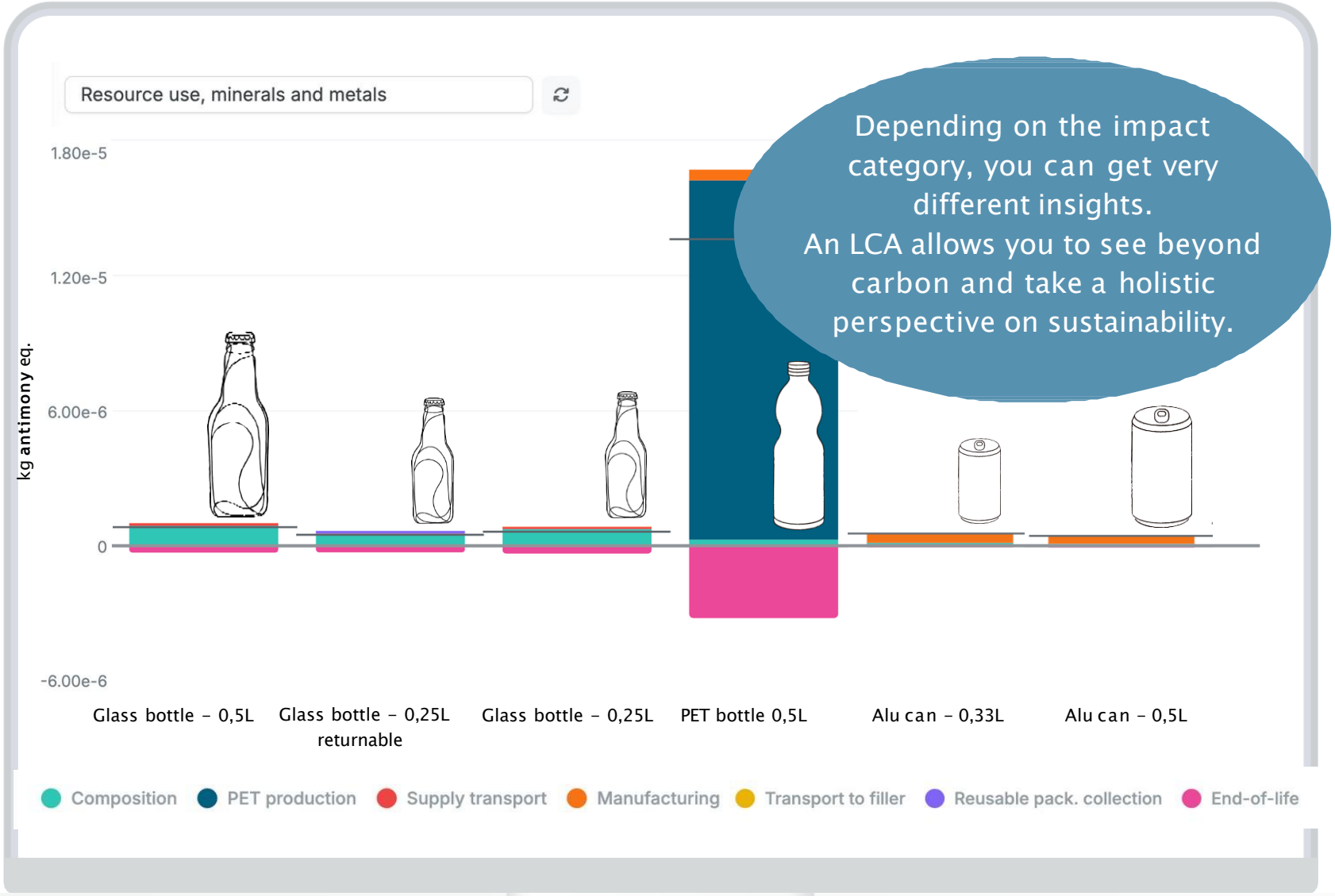


Depending on the impact category, you can get very different insights.
An LCA allows you to see beyond carbon and take a holistic perspective on sustainability.

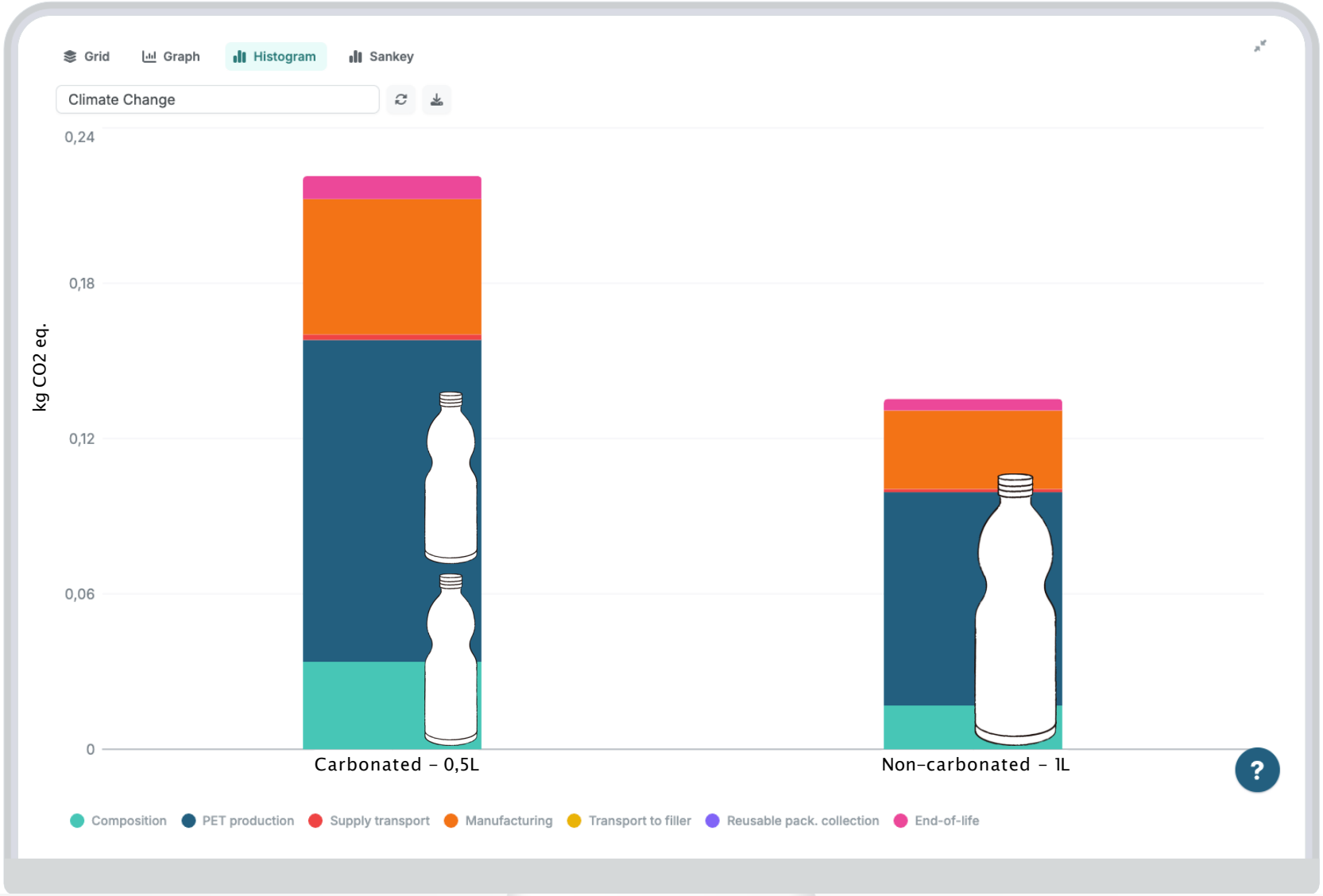
SCENARIO 1: MATERIAL COMPARISON – CARBONATED VS NON-CARBONATED PER LITRE

PET bottle

- 0,5L carbonated

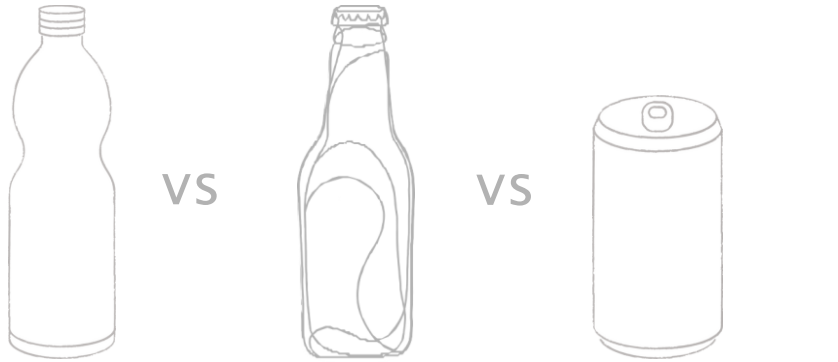
PET bottle

- 1L non-carbonated



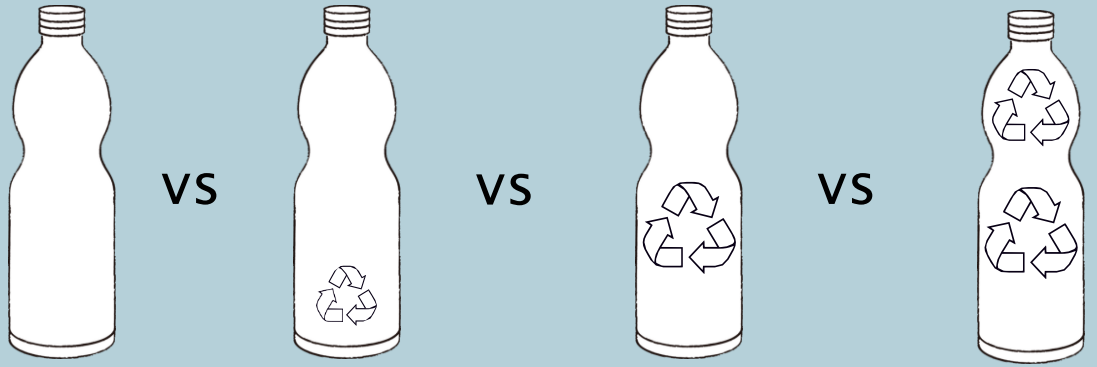
SCENARIOS

1. Material comparisons



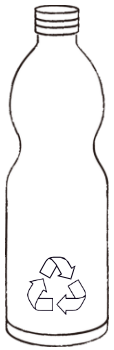
PET Glass Aluminium

2. Recycled content



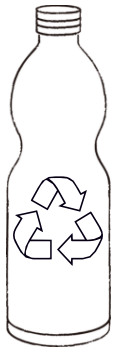
0% recycled | 30% recycled | 65% recycled | 100% recycled

SCENARIO 2: 2030 30% VS 2040 65% RECYCLED CONTENT



2030 - 30% recycled content

- 30% recycled PET pellets
- Generic recycling production



2040 - 65% recycled content

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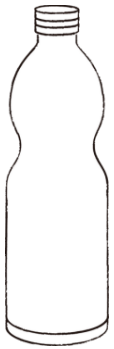
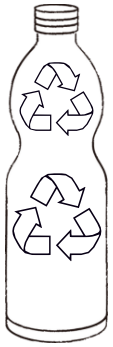
- Generic recycling production



0% recycled content

- 100% virgin PET pellets
- Generic PET production



100% recycled content

- 100% recycled PET pellets
- Generic recycling production

- Material inputs
  - 21g PET
  - 4g PP cap
  - 3g LDPE label
- Average european recycling rates for EoL

SCENARIO 2: 2030 30% VS 2040 65% RECYCLED CONTENT

0% recycled content

- 100% virgin PET pellets
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2030 - 30% recycled content

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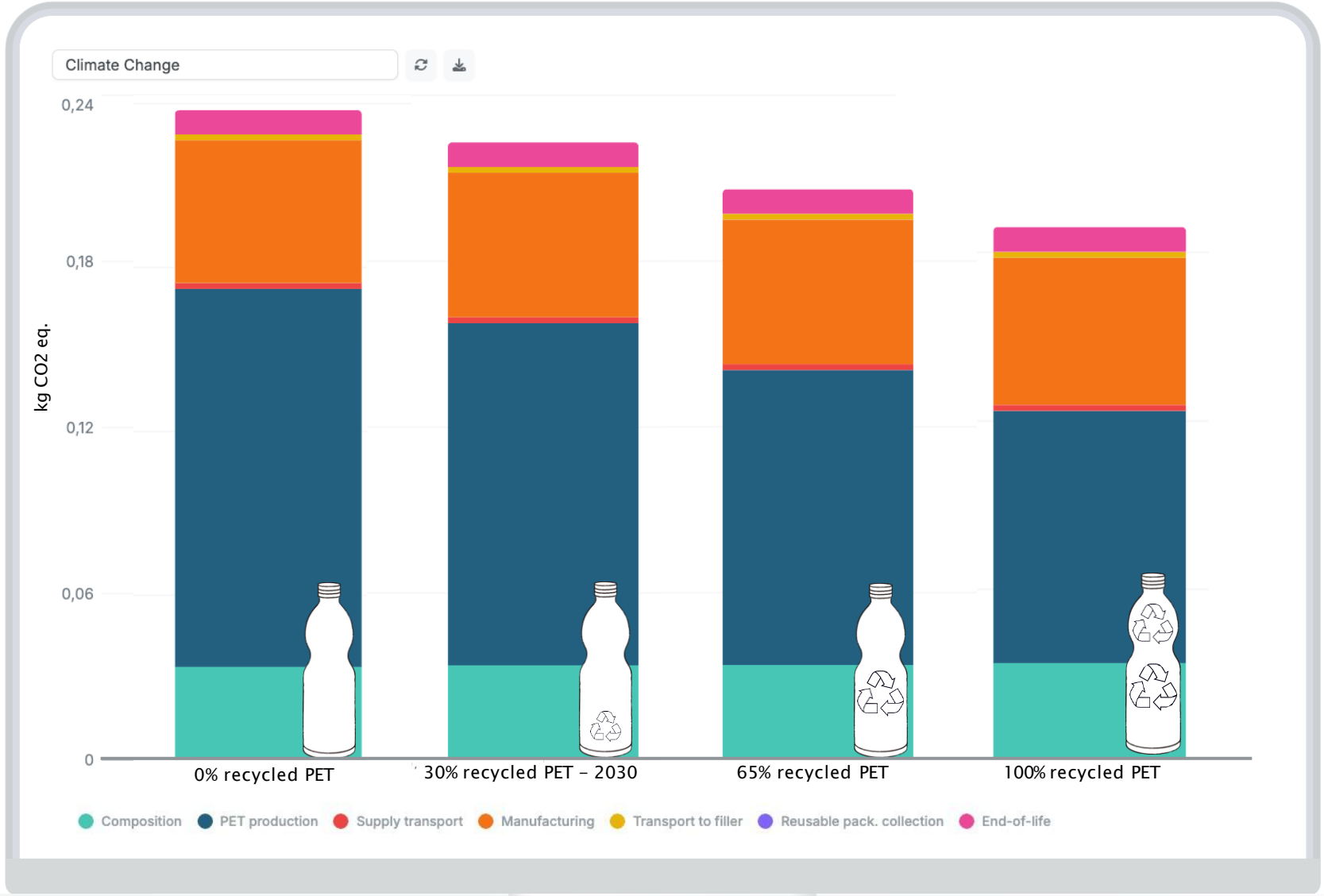

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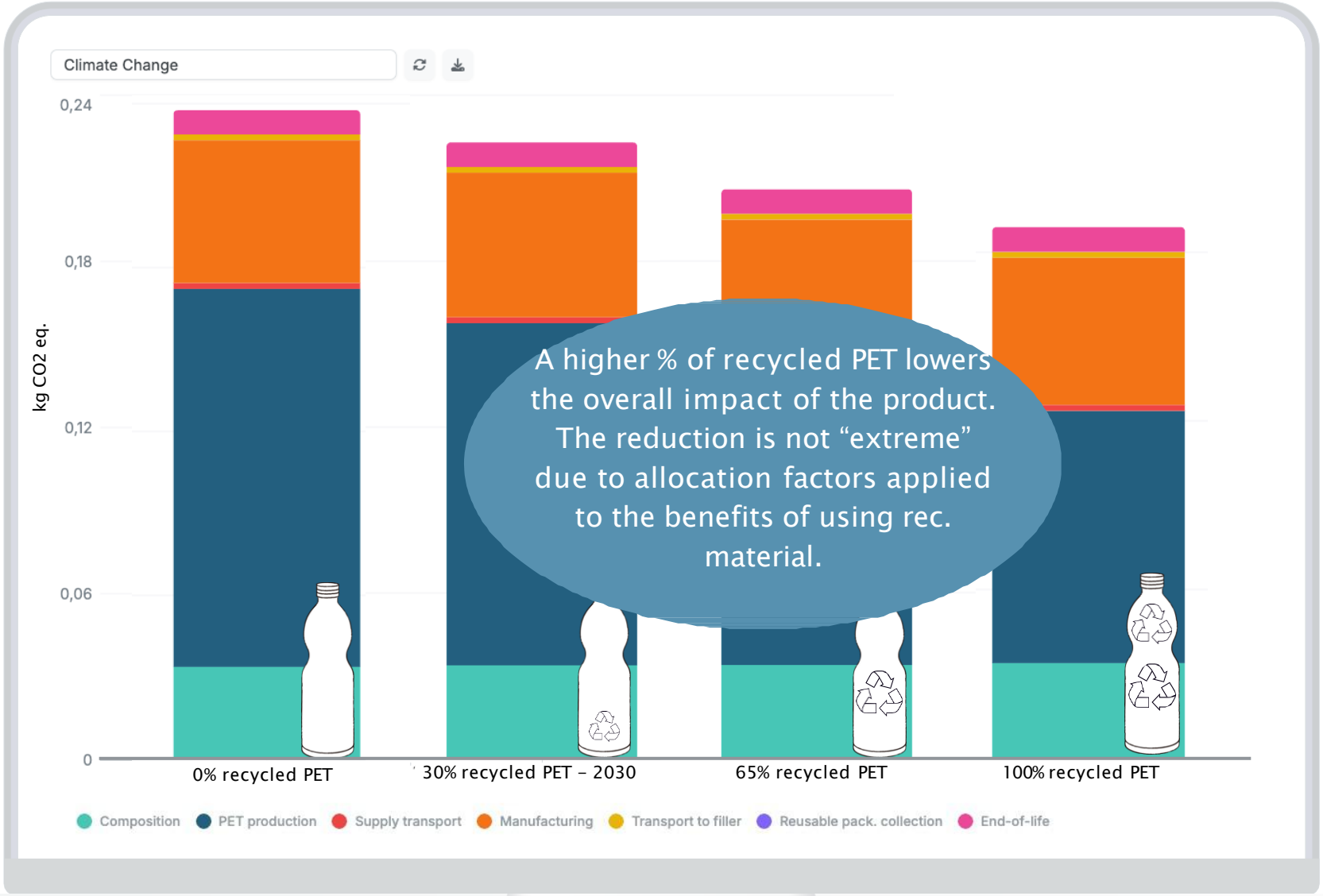

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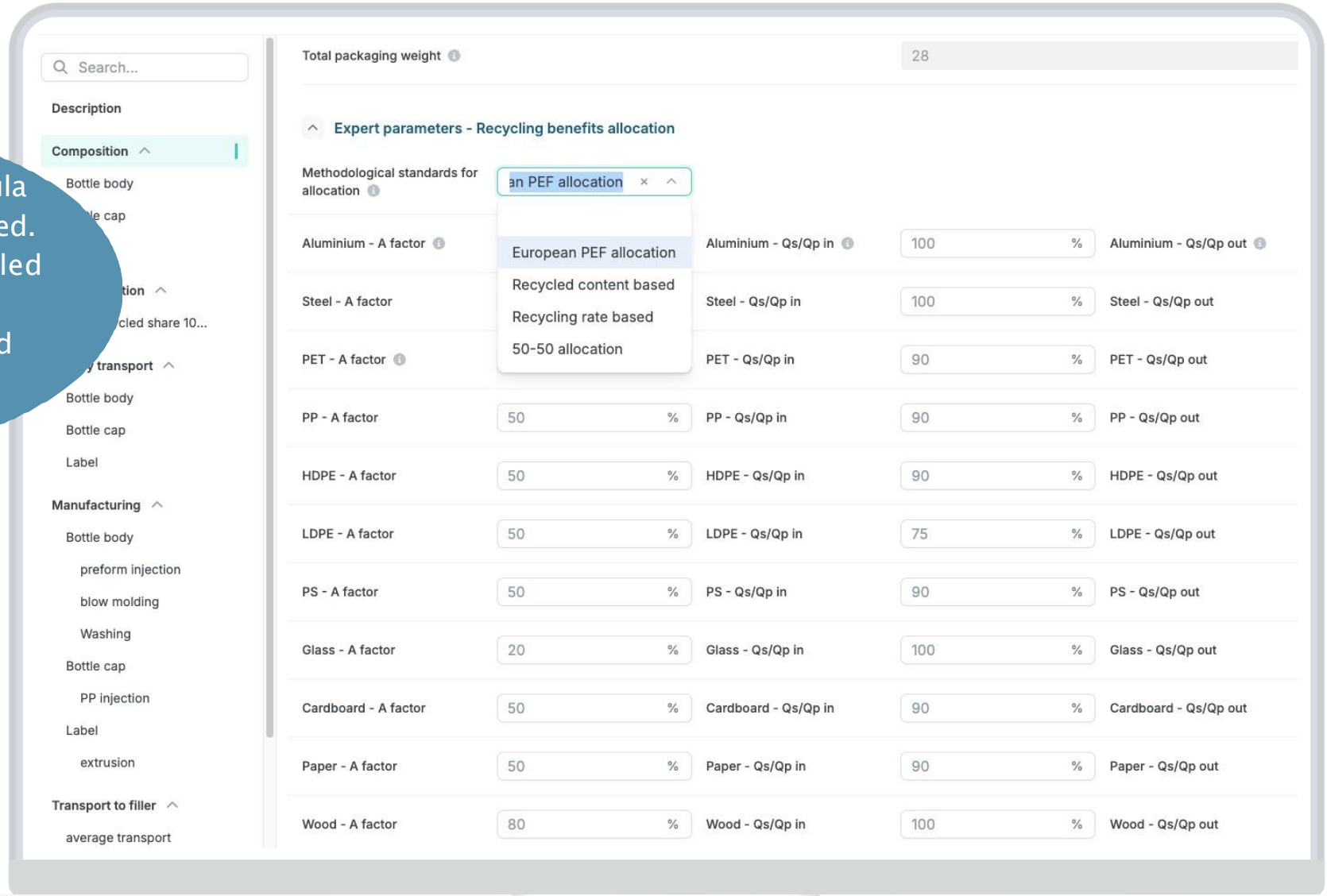
SCENARIO 2: 2030 30% VS 2040 65% RECYCLED CONTENT

The circular footprint formula (CFF) is automatically applied. Different allocation for recycled content can be selected depending on the intended application of results.



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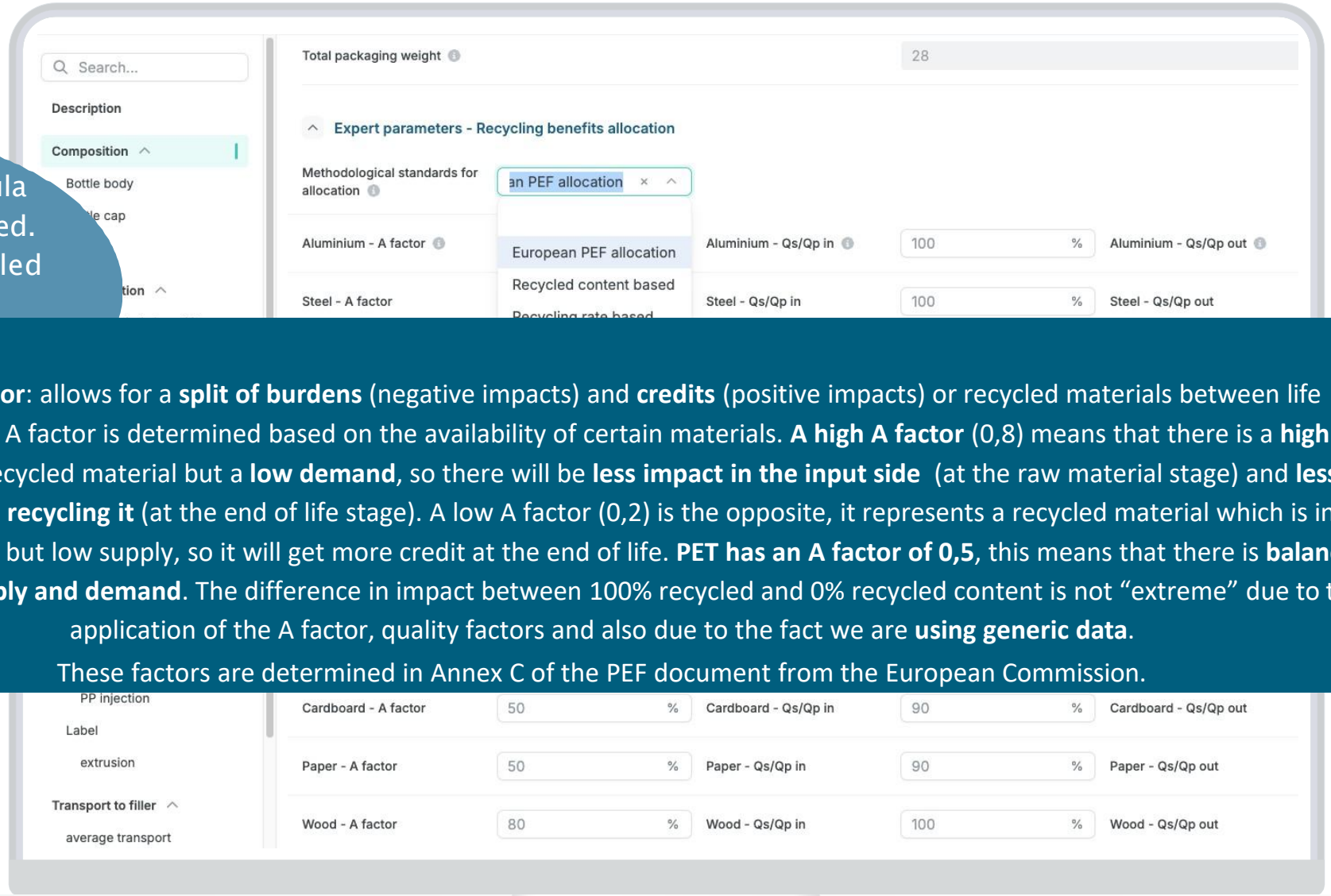
The circular footprint formula (CFF) is automatically applied. Different allocation for recycled content can be selected depending on application



The **A factor**: allows for a **split of burdens** (negative impacts) and **credits** (positive impacts) or recycled materials between life cycles. The A factor is determined based on the availability of certain materials. **A high A factor** (0,8) means that there is a **high supply** of recycled material but a **low demand**, so there will be **less impact in the input side** (at the raw material stage) and **less credit from recycling it** (at the end of life stage). A low A factor (0,2) is the opposite, it represents a recycled material which is in high demand but low supply, so it will get more credit at the end of life. **PET has an A factor of 0,5**, this means that there is **balance between supply and demand**. The difference in impact between 100% recycled and 0% recycled content is not “extreme” due to the application of the A factor, quality factors and also due to the fact we are **using generic data**.

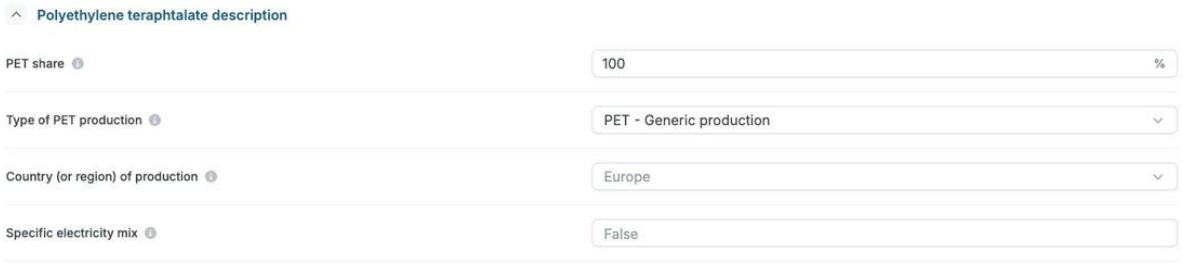
These factors are determined in Annex C of the PEF document from the European Commission.

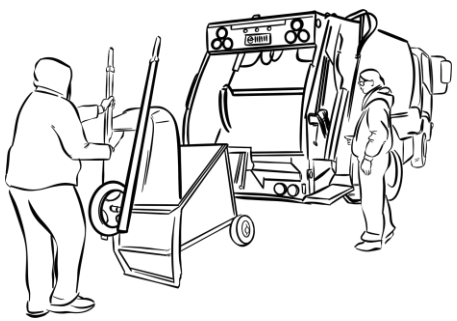
BONUS SCENARIO 2.2: INPUT OF SPECIFIC DATA

Generic vs **Specific data**

e.g. 100% recycled PET

e.g. 100% recycled PET
from DRS or curbside collection

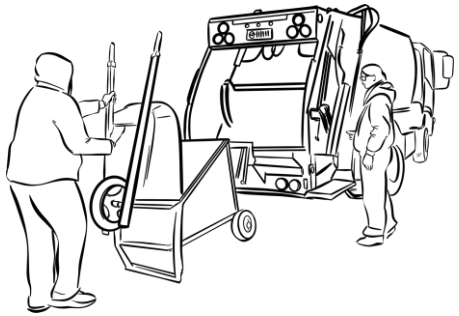




Curbside collection system

Deposit-return system

BONUS SCENARIO 2.2: INPUT OF SPECIFIC DATA



Curbside collection system

100% recycled PET from curbside

Polyethylene teraphtalate description

Upstream transport

Sorting Factory

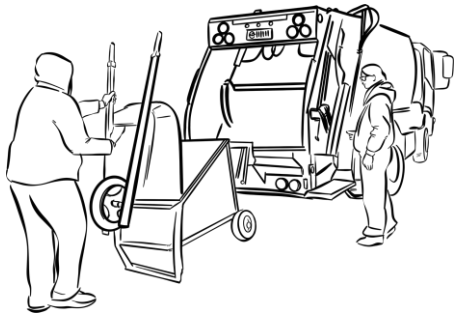
Kerbside collection share	100	%
DRS collection share	0	%
Total input of waste *	1096	ton / year
Total output of sorted waste *	1000	ton / year
Sorting yield	91.24	%
Incineration rate for unsorted waste	19.9104	ton / year
Landfill rate for unsorted waste	76.0896	ton / year
LHV of unsorted waste	11.7	MJ / kg

Sorting - Process

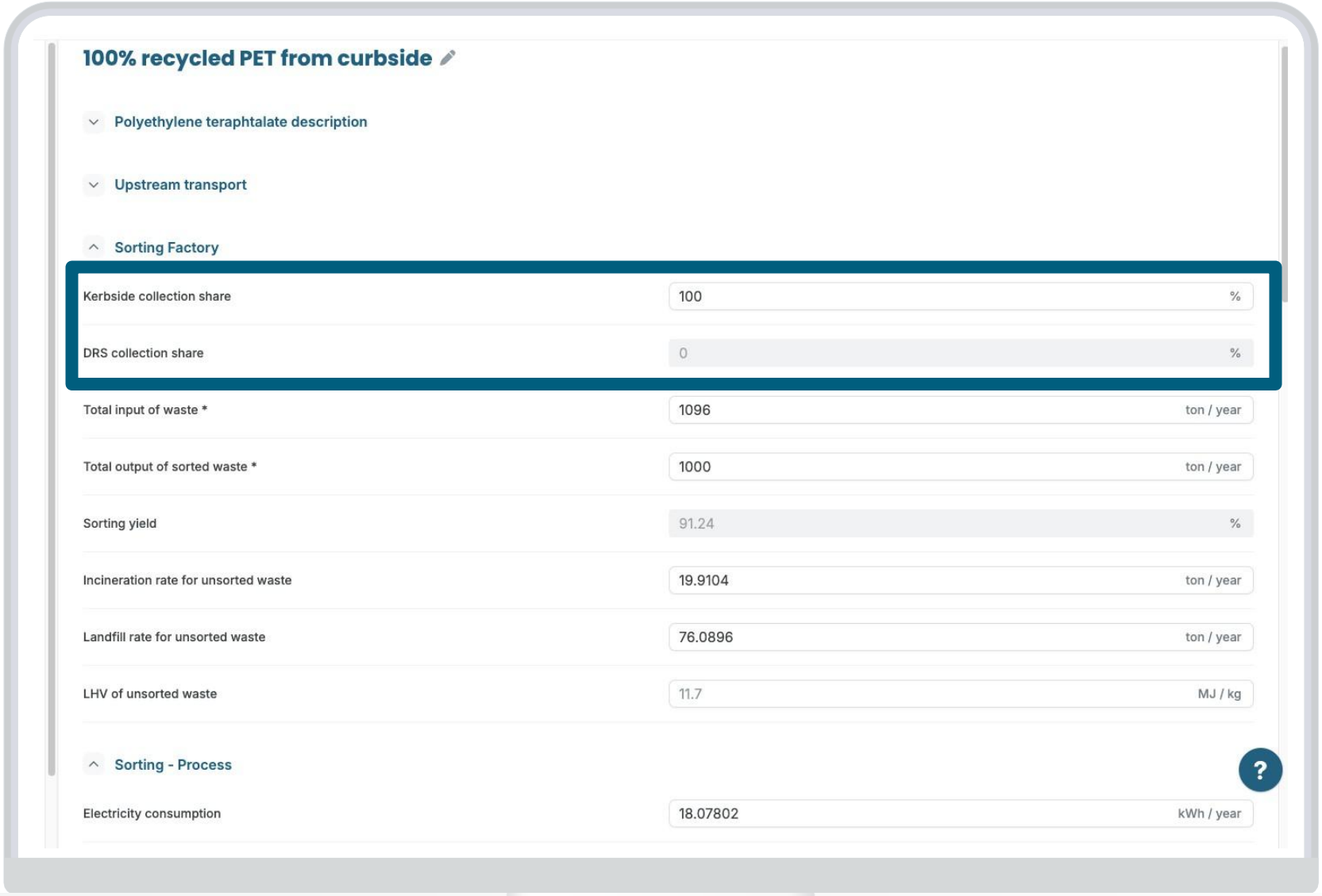
Electricity consumption	18.07802	kWh / year

?

BONUS SCENARIO 2.2: INPUT OF SPECIFIC DATA



Curbside collection system



BONUS SCENARIO 2.2: INPUT OF SPECIFIC DATA

Deposit-return system

100% recycled PET from DRS

Polyethylene teraphtalate description

Upstream transport

Sorting Factory

Kerbside collection share	0	%
DRS collection share	100	%
Total input of waste *	1096	ton / year
Total output of sorted waste *	1000	ton / year
Sorting yield	91.24	%
Incineration rate for unsorted waste	19.9104	ton / year
Landfill rate for unsorted waste	76.0896	ton / year
LHV of unsorted waste	11.7	MJ / kg

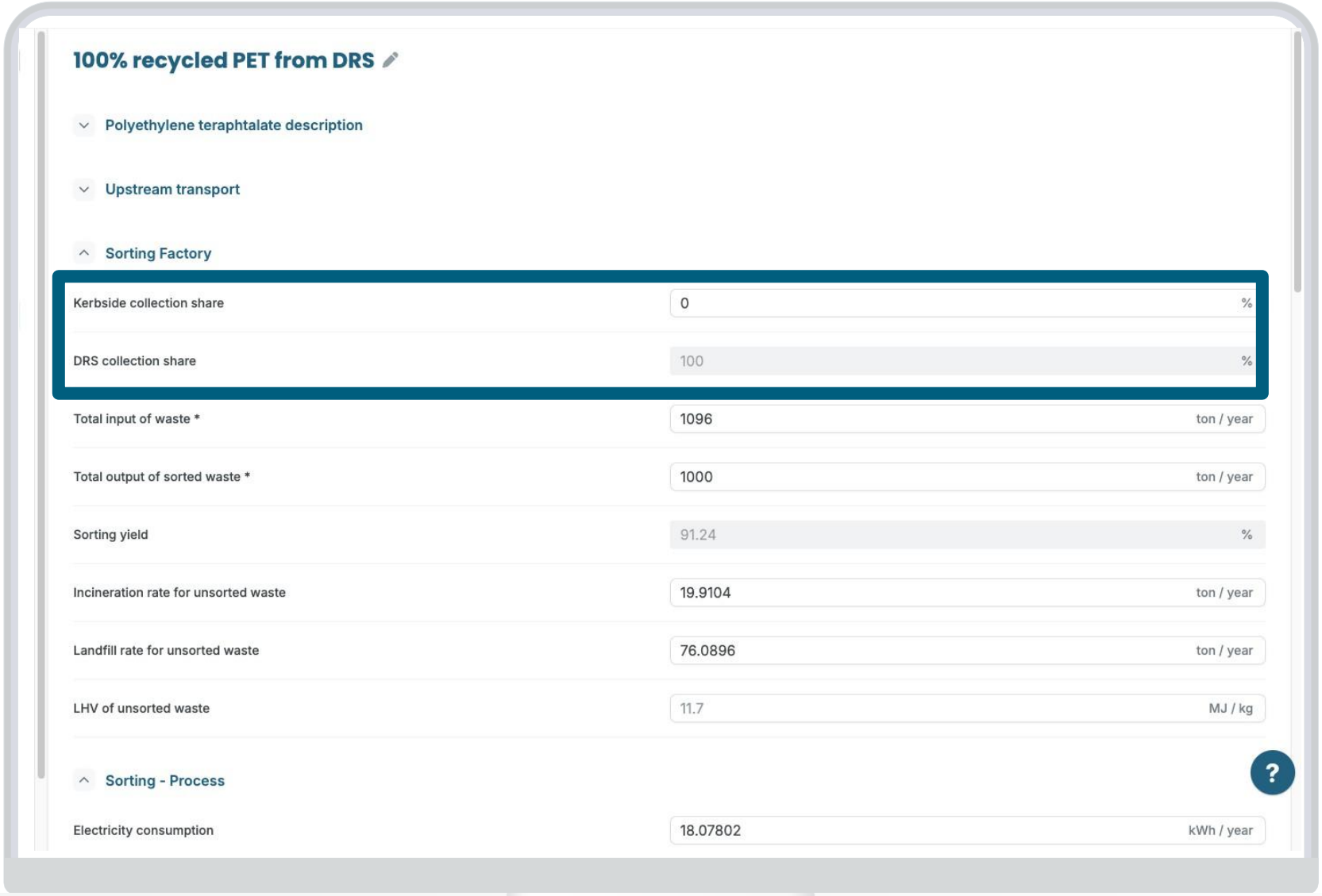
Sorting - Process

Electricity consumption	18.07802	kWh / year

?

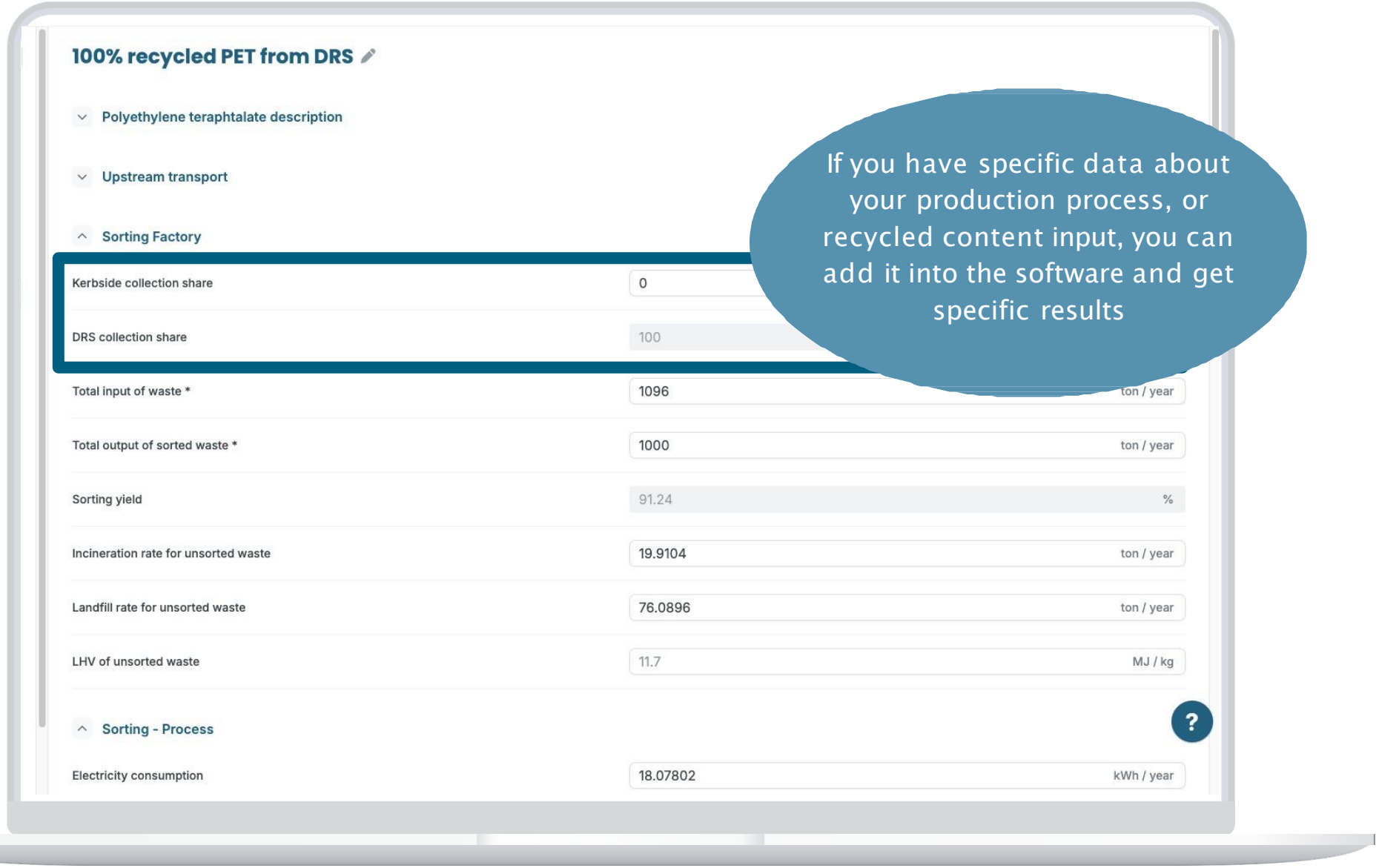
BONUS SCENARIO 2.2: INPUT OF SPECIFIC DATA

Deposit-return system



BONUS SCENARIO 2.2: INPUT OF SPECIFIC DATA

Deposit-return system



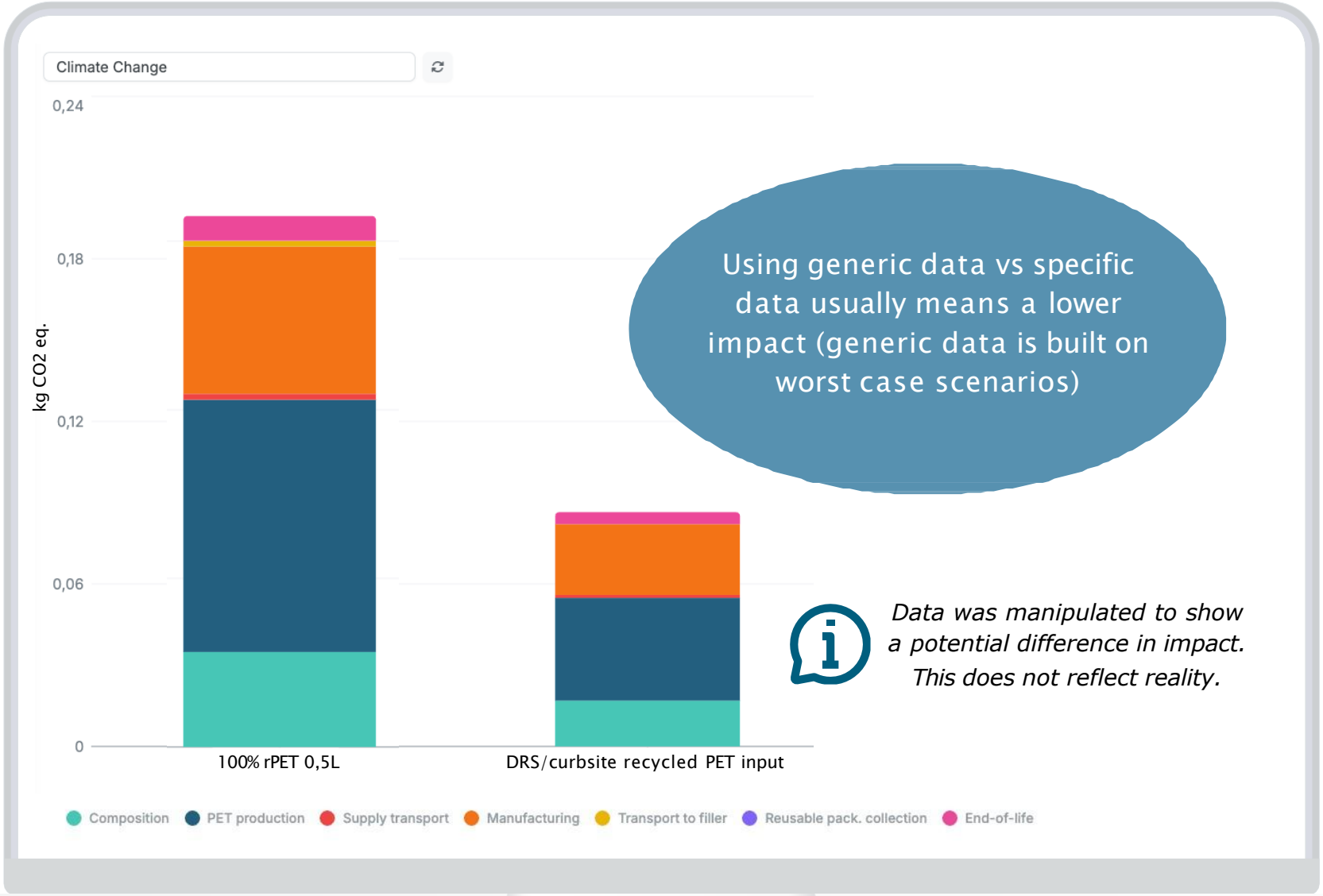
BONUS SCENARIO 2.2: INPUT OF SPECIFIC DATA

DRS input

- 100% recycled PET pellets from DRS

Curbside collection input

- 100% recycled PET pellets from curbside



Using generic data vs specific data usually means a lower impact (generic data is built on worst case scenarios)

Data was manipulated to show a potential difference in impact. This does not reflect reality.

WHY USE A SOFTWARE & PETCORE MEMBERS OFFER

Raw Material Extraction

Processing & Manufacturing

Transport

Use

Recycling / Disposal

WHY USE A SOFTWARE?

Easy

- A platform for the whole team - from marketing to R&D

Powerful

- Integrate with our API and move awayfrom spreadsheets

Scalable

- Calculate your entire portfolio without heavy consultancy fees

Pilario

Pioneering PET circularity since 1993
PETCORE EUROPE

LCA & ECODESIGN WITH PILARIO

Comply

- Comply with the **Green Claims Directive**
- Use results for **CSRD reporting**

Benchmark

- **Compare** your product's environmental impact against **other products/materials**

Reduce

- **Measure** your impact with LCA
- **Identify** hotspots to reduce your impact across the lifecycle

Pilario

Pioneering PET circularity since 1953 PETCORE EUROPE

OFFER SUMMARY

Pilario & PETCORE have partnered to offer an LCA software tailored to the PETCORE members to **measure**, **reduce** and **report** on their environmental impact.

Reduced license fee (€3500/year) for PETCORE members :

- 1 user
- Up to 20 products/scenarios
- Lifecycle Assessment (LCA) calculation cradle-to-grave
- PETCORE compact LCA report

Additional features available:

- More users, products, access roles
- Product Carbon Footprint, cradle-to-gate scope for Scope 3
- Single Sign On access

Book a call today.

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