

PETCORE EUROPE

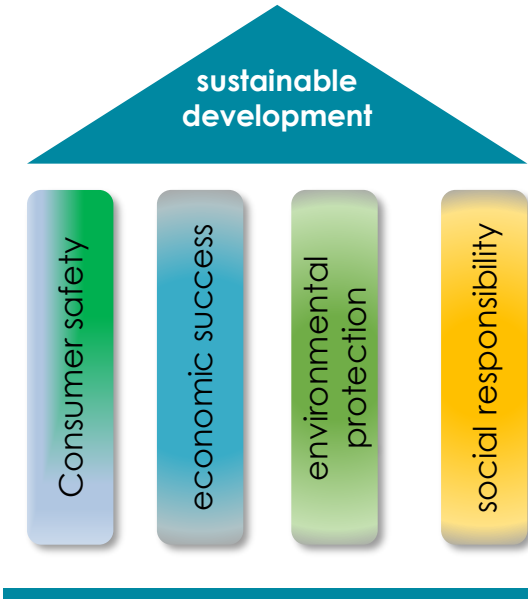
PETCORE LCA Tool
October 17th, 2024



www.petcore-europe.org



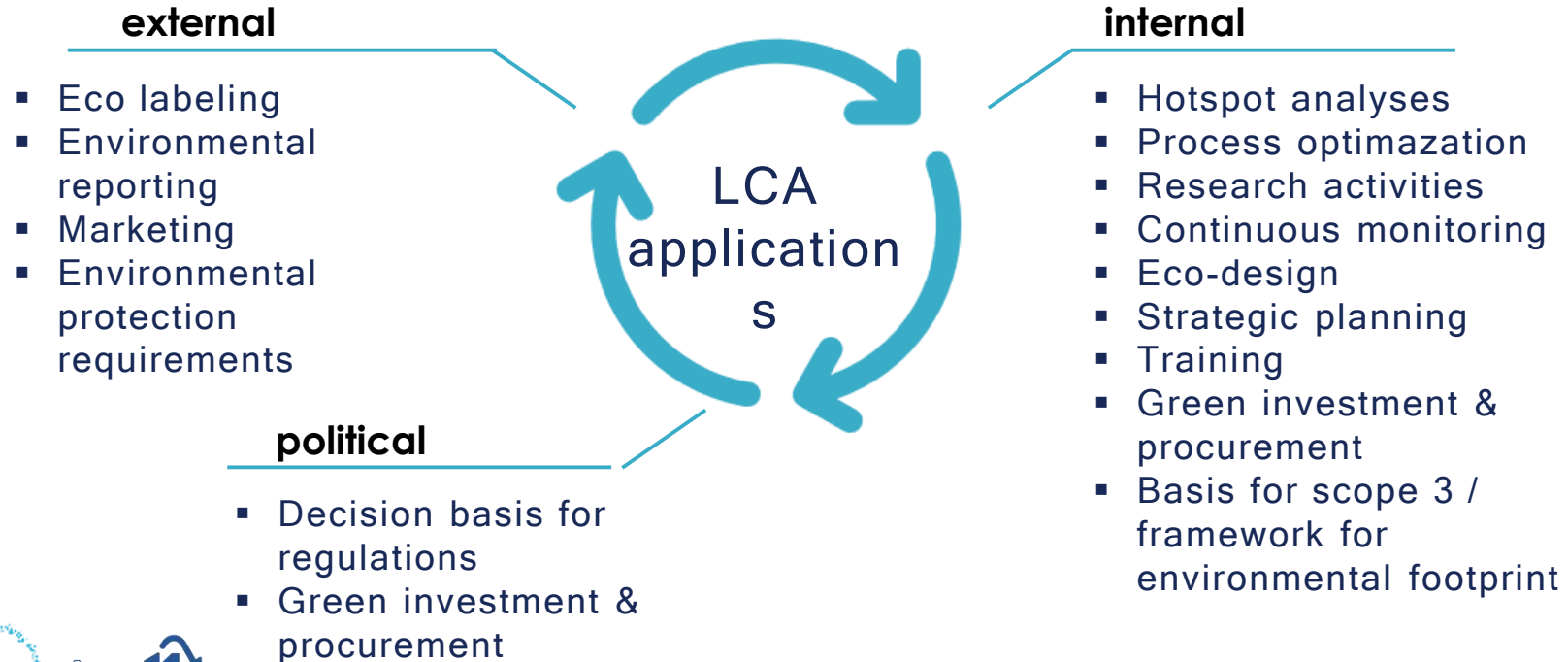
About Life Cycle Analysis (LCA)



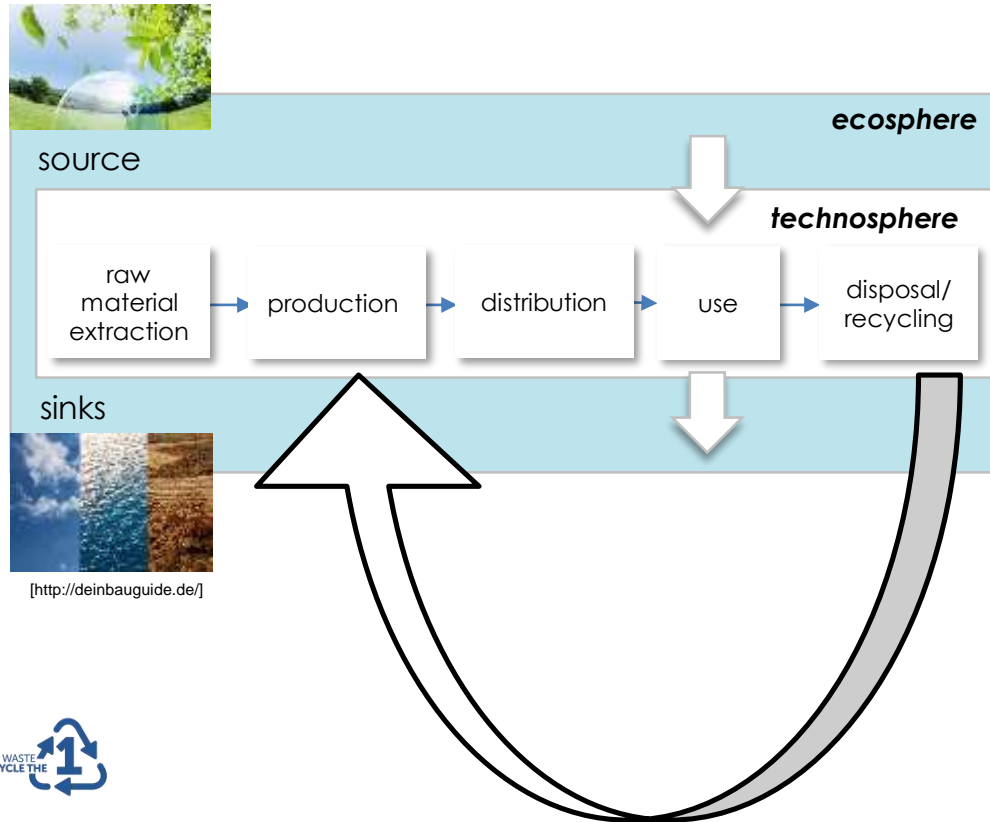
- For the environmental impacts , LCA has been a powerful method since decades.
- A very strong tool for business development toward sustainability
 - ✓ To effectively manage sustainability, companies must be able to quantify sustainability aspects
 - ✓ Holistic view on the potential environmental impacts of a product, service, technology, process,... over its life cycle
 - ✓ Many different indicators are addressed to assess the potential environmental impacts
 - ✓ Consistency of the assumptions that are use is IMPERATIVE



Applications where LCA can be used



Background: how it works



Principle procedure for carrying out reliable LCA

1. Capture all inputs and outputs over the life cycle

2. Capturing all elementary flows exchanged between ecosphere and technosphere

3. Quantify of potential environmental impacts for different environmental problem areas, e.g., climate change or acidification



Take Home Messages



LCA is a powerful, analytical tool to estimate the potential environmental impacts of a product, a process, a service, a technology, etc.

But LCA is highly dependant on the assumptions



Goal and scope definition means the preparation of the LCA study, special focus should be paid to

- system boundaries
- allocation procedures
- secondary data & generic data sets
- characterization factors resp. assessment methods



Decisions and assumptions have to be well documented and described to communicate the results of an LCA study in a transparent and comprehensible way



PETCORE - Pilario Partnership



- There was a need for a more specific LCA model for the PET value chain
- Based on an existing model that was using only one generic dataset from Ecoinvent
- The new PET module has A LOT more parameters specific to the PET industry
- Resulting in a much more accurate and relevant LCA calculation
- Only PETCORE members have access to this module
- LCA tool development is has been done jointly with Pilario (www.Pilario.com, www.linkedin.com/company/Pilario)



LCA tool

- LCA Tool development with Pilario (based on Product Environmental Footprint)
- LCA Tool calculation method is peer reviewed
- Covers more PET packaging types (thermoforms, colours/opaque & functional) and processes (production, recycling,...)

Mechanical
Recycling ✓

Reuse (Bottle) ✓

Virgin
Production ✓

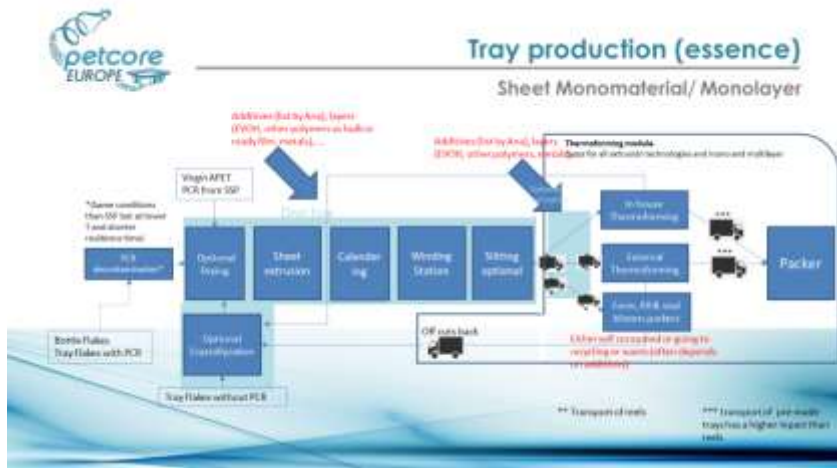
Bottles, Trays &
Colours/O&F ✓

Chemical
Recycling ✓

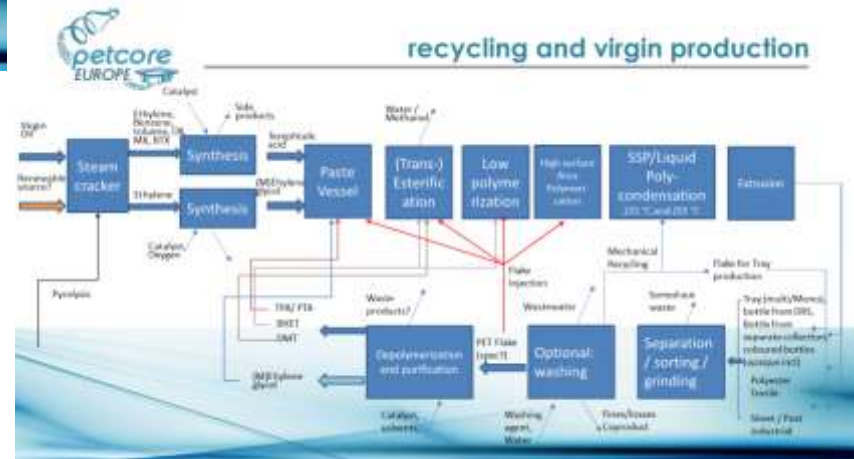
- Report contains all relevant KPI and supports interpretation of values, with up to 3 scenario comparison



LCA tool data flow



- ✓ The broadening of scope is based on the expertise shared in PETCORE LCA Working Group (WG)
- ✓ LCA WG members actively participated in the tool development



Second phase

- To further improve the accuracy of the data available for the PET industry
- When we have enough PETCORE members using this model we will be able to get an industry average and therefore improve the global databases
- Data would be shared only with permission from members and will be completely anonymous to PETCORE
- Benefits for the members are that they can more accurately compare themselves against the industry standard



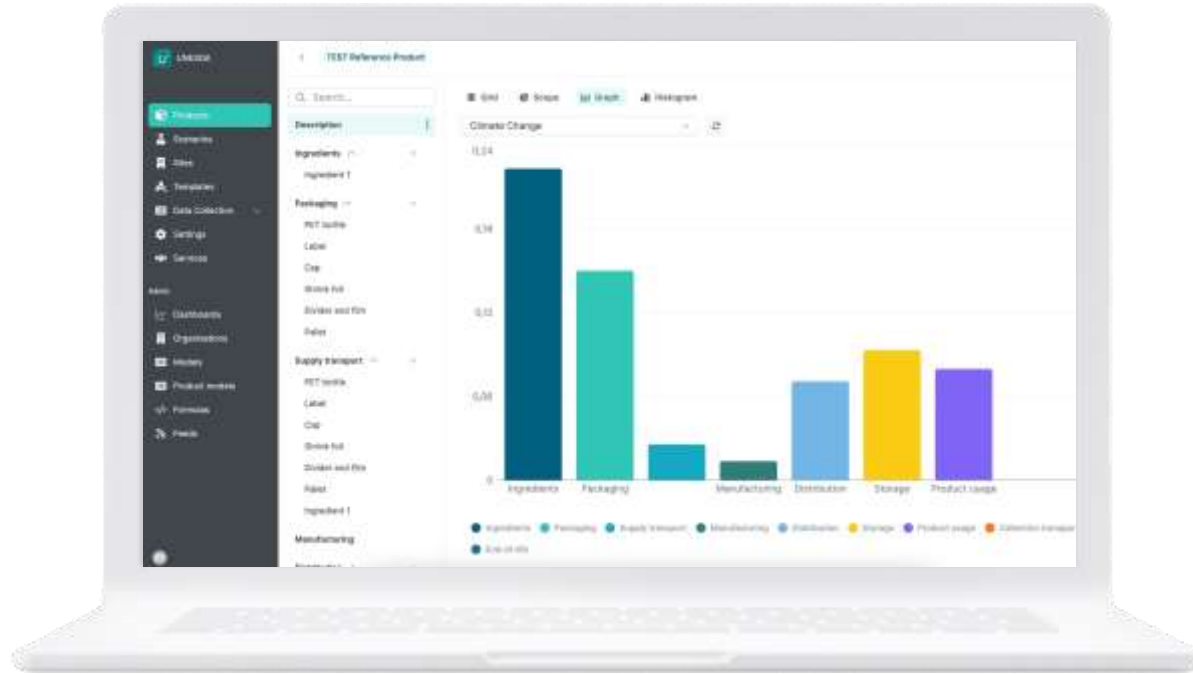
System overview

Every member receives a tenant,
which member's users (up to 3) can
access.

Access to tenants are completely
personalized to ensure
confidentiality

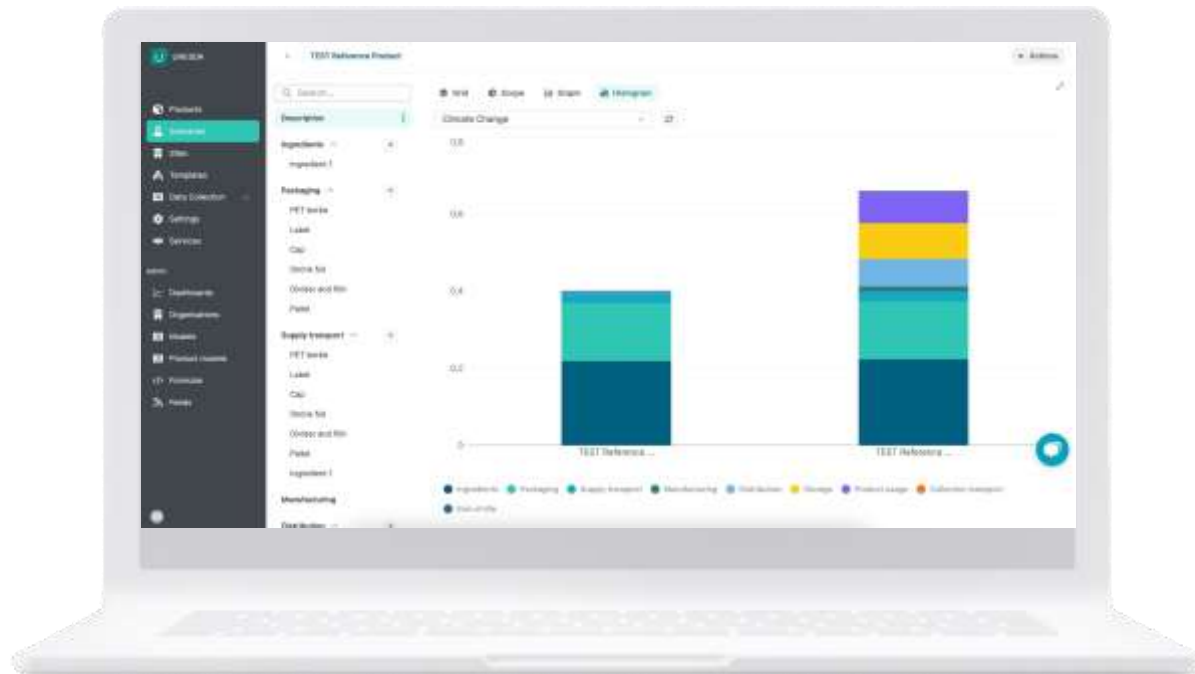
Pilario is ISO 27001 compliant





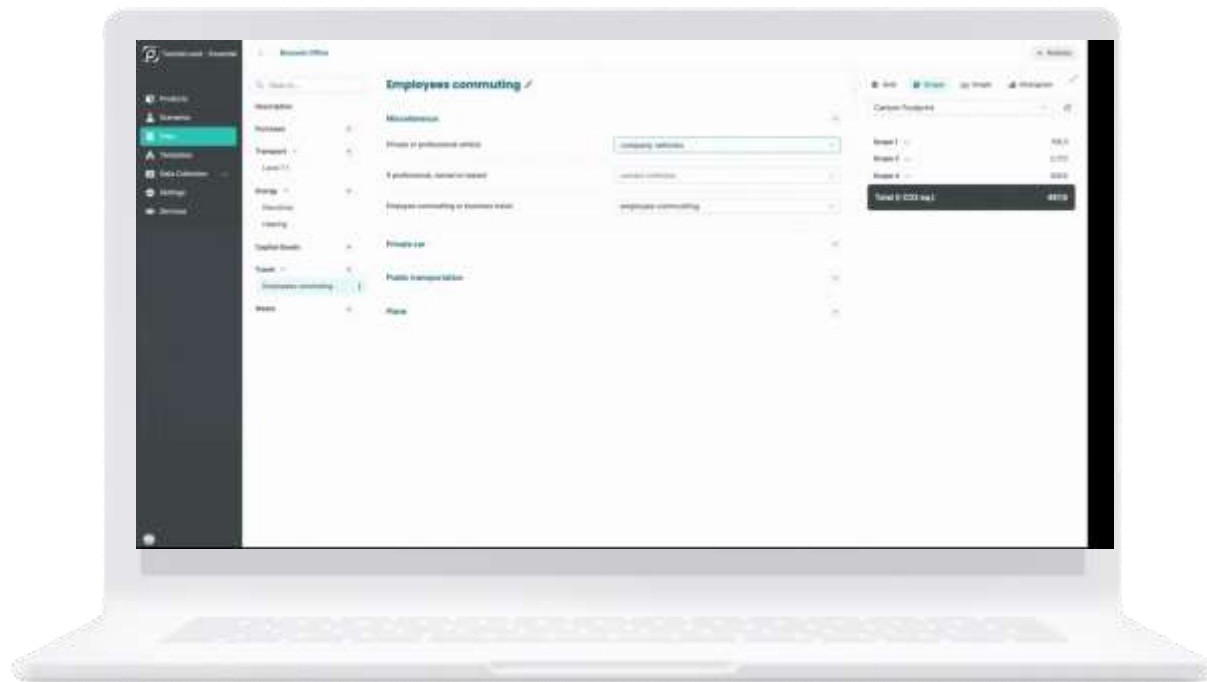
Life Cycle Assessment

- LCA model for PETCORE EUROPE
- Environmental impact analyses specific to the PET value chain compliant
- Measure on all 13 impact categories



Eco-design

- compare results (scenarios)
- test new products
- different user roles for security



Carbon Footprint

- Measure scope 1, 2 & 3 emissions
- Use your specific emission factors

Our offer for PETCORE EUROPE members

€3,500

per year

- 3 users
- Access to the PETCORE LCA model
- Measurement on all 13 impact categories
- Conduct LCA's on up to 20 products
- Access to the Carbon Footprint model (for factory and site emissions)
- Access to the Ecodesign module

- We offer to our Members free 30-day trial period to get a first look at the module and explore the capabilities



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Annual Conference 2024

www.petcoreeuropeannualconference.eu



Communications Campaign

www.recycletheone.com



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