

Scores



Life cycle impact assessment scores

Joan Muñoz-Liesa, Cédric Furrer, Laura Talens, Xavier Gabarrell,
Michael Martin, Thomas Nemecek, Mélanie Douziech



Scores



1. Objective
2. Tool structure
3. Demonstration

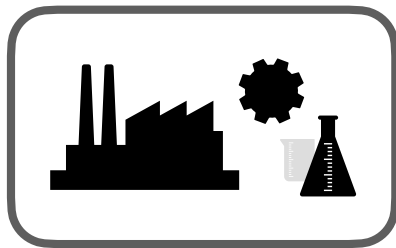
1. Objective: improving LCA workflows

- LCIA Scores is a tool to facilitate **inventory modelling**, designed to simplify and improve LCA workflows

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connect:



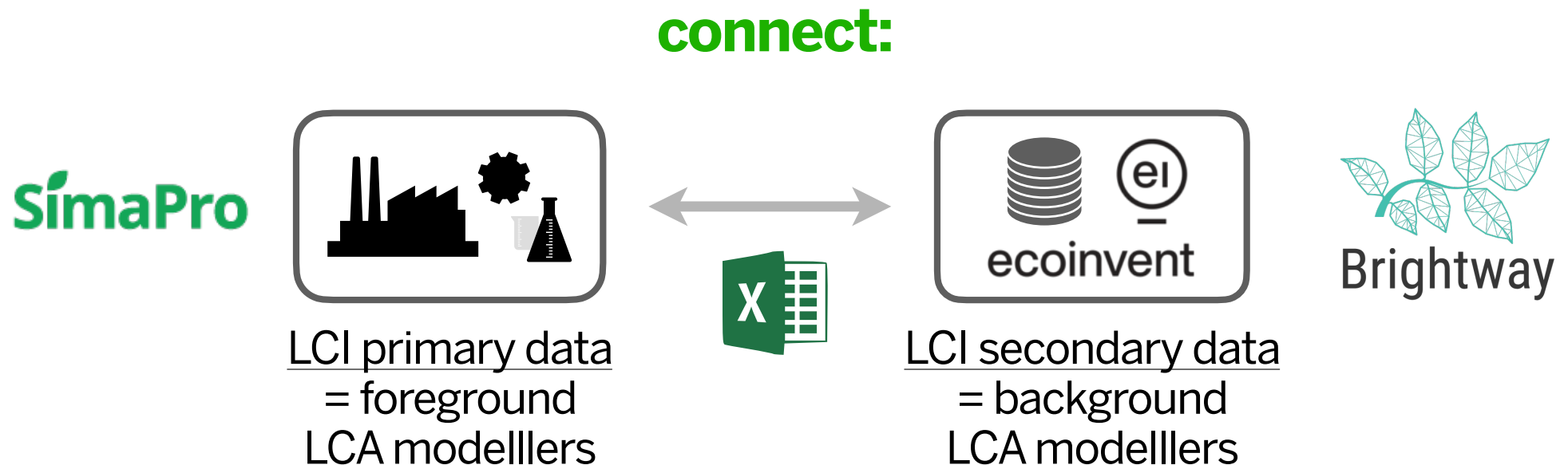
LCI primary data
= foreground
LCA modellers



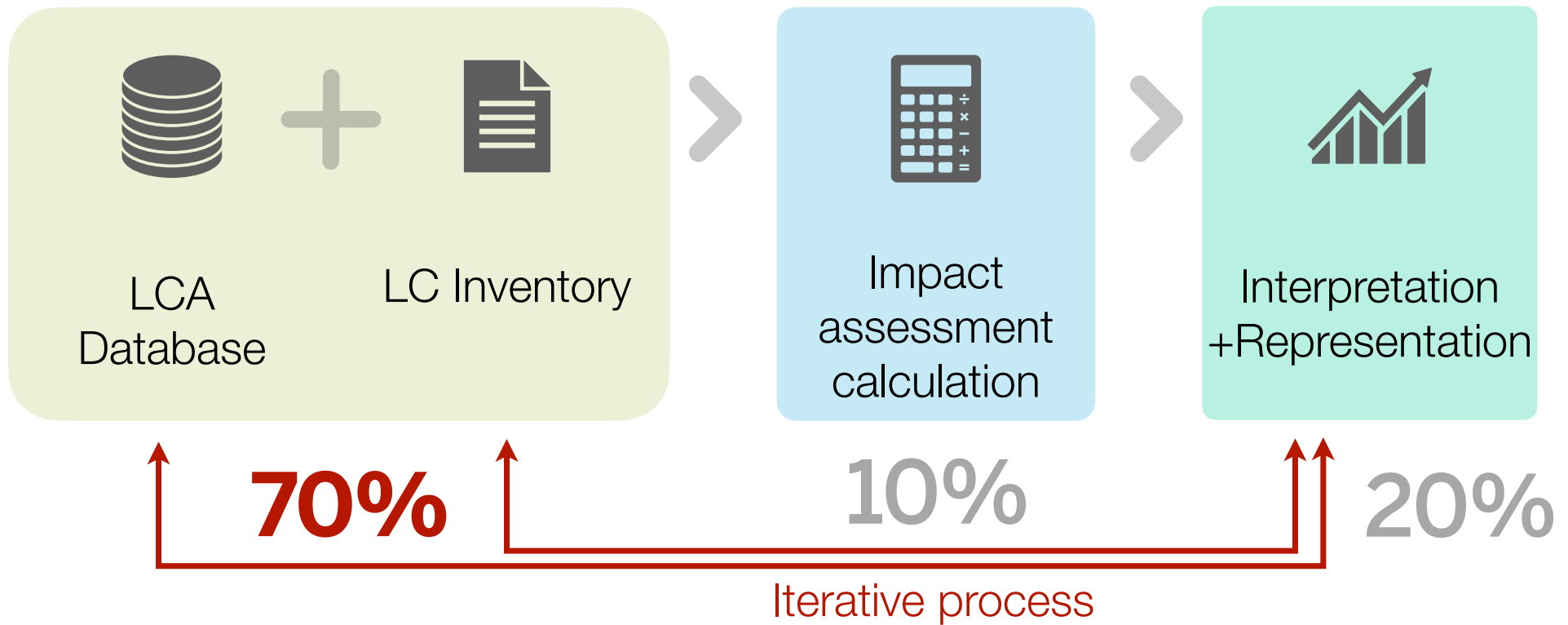
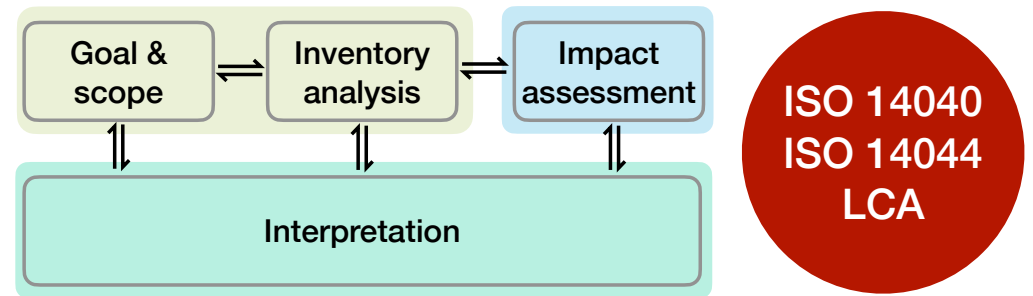
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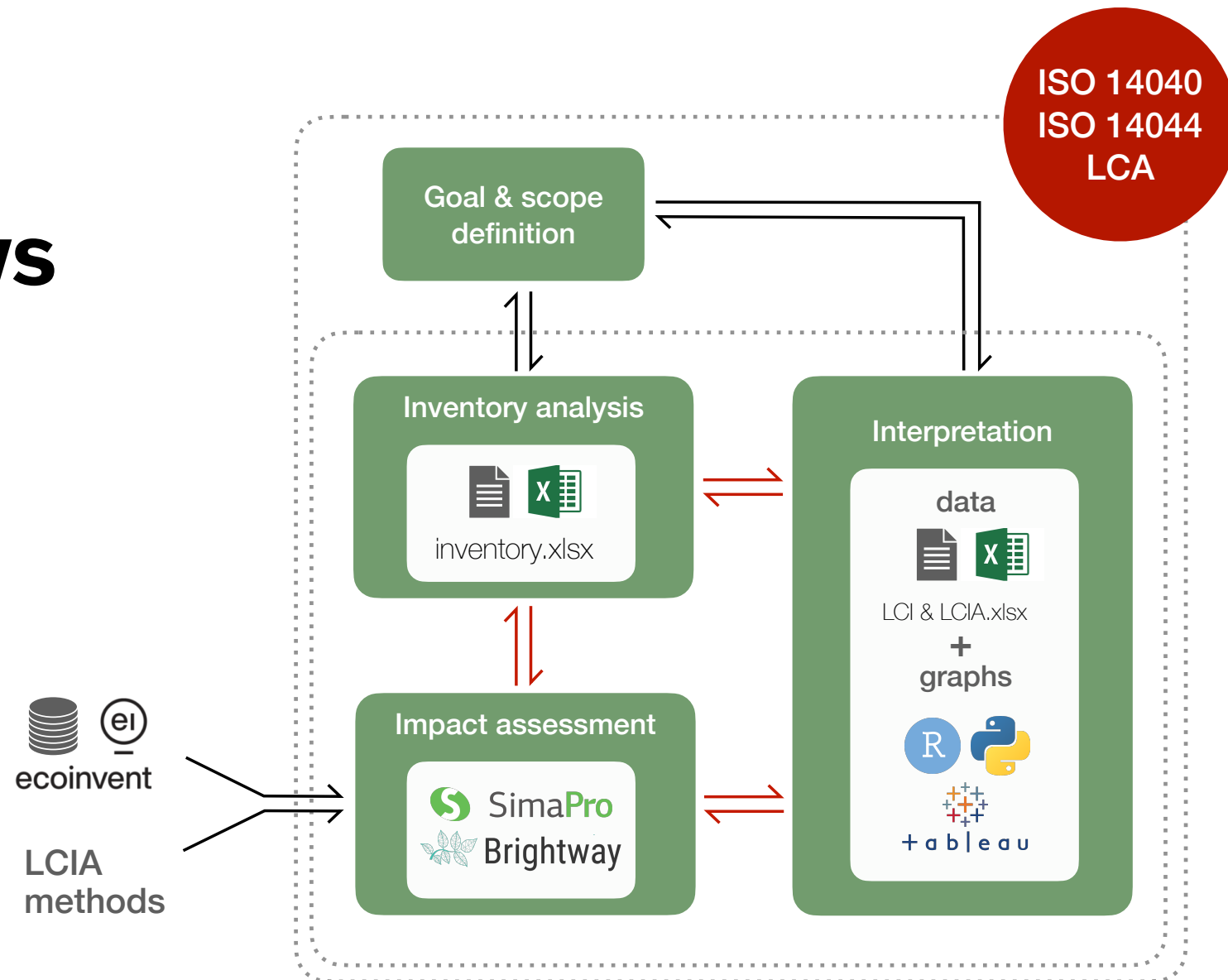
1. Objective: improving LCA workflows

➤ LCIA Scores is a tool to facilitate **inventory modelling**, designed to simplify and improve LCA workflows

➤ It aims to solve common problems faced by LCA practitioners when managing and gathering primary LCI data:

1. Establishing a **common structure for LCI's + identifying unique background datasets** = make them useful for anyone else.
2. One input data, **multiple outputs without programming skills**
3. Avoid **shifting results within multiple tools**, manual input data.

1. Objective: improving LCA workflows



2. Scores structure

The screenshot displays the Ecoinvent v3.9.1 software interface, specifically the "Scores" module. The main window shows a detailed view of the "Life Cycle Impact Assessment Scores" for a specific process, "Water in cooling".

Scores

Life Cycle Impact Assessment Scores

This is a data-driven tool developed by PhD. Joan Muñoz-Llisa, containing all life cycle impact assessment scores of all technosphere and ecosphere processes available at Ecoinvent v3.9.1 and further versions.

With all life cycle impact assessment scores of all technosphere and ecosphere processes, this tool provides comprehensive understanding into the environmental impact of a wide range of products and processes. With its easy-to-use interface and powerful analysis capabilities, it allows you to quickly and easily explore the environmental impact of different processes, identify areas for improvement, and make more informed decisions.

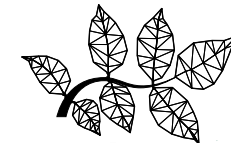
With its extensive coverage of all technosphere and ecosphere processes available in Ecoinvent 3.9.1 and further versions, this tool provides a wealth of data and insights that can help you to make more sustainable choices and reduce your environmental footprint. Whether you are interested in reducing your carbon footprint, minimizing water usage, or reducing waste, this tool is an indispensable resource for anyone who wants to make a positive impact on the environment.

Sheet name	Description	Link to sheet
LCIA Scores concept	Explanation of the Scores tool	Concept
Life cycle inventory template sheet	Need data from external providers? Here there is a template to collect inventory data of a process	LCI template
System life cycle inventory (and impact assessment calculations)	A LCI template for your system under assessment that automatically calculates the LCIA results	System_LCI
System LCIA database results	A worksheet containing a built-in code that automatically transforms LCIA/CIA data to a database format to easily analyze your system results	System_LCAdatabase
Score_matrix metadata information from activities and exchanges	A matrix containing the public information of ecosystem activities and elementary exchanges used in the LCIA Scores matrix	Score_matrix_info
Reverse matrix contribution impact	A matrix containing an example of the I/F3A-Scores matrix	Reverse_matrix

Below the navigation bar, the "Summary" tab is selected, showing a table of environmental impacts:

Impact Category	Value	Unit	Weighting Factor	Normalized Score	Global Weighted Score
Water in cooling	1.0	m³	1.0	1.0	1.0
Electricity	1.0	kWh	1.0	1.0	1.0
Fossil gas	1.0	MJ	1.0	1.0	1.0
Acid equivalent	1.0	kg substance	1.0	1.0	1.0

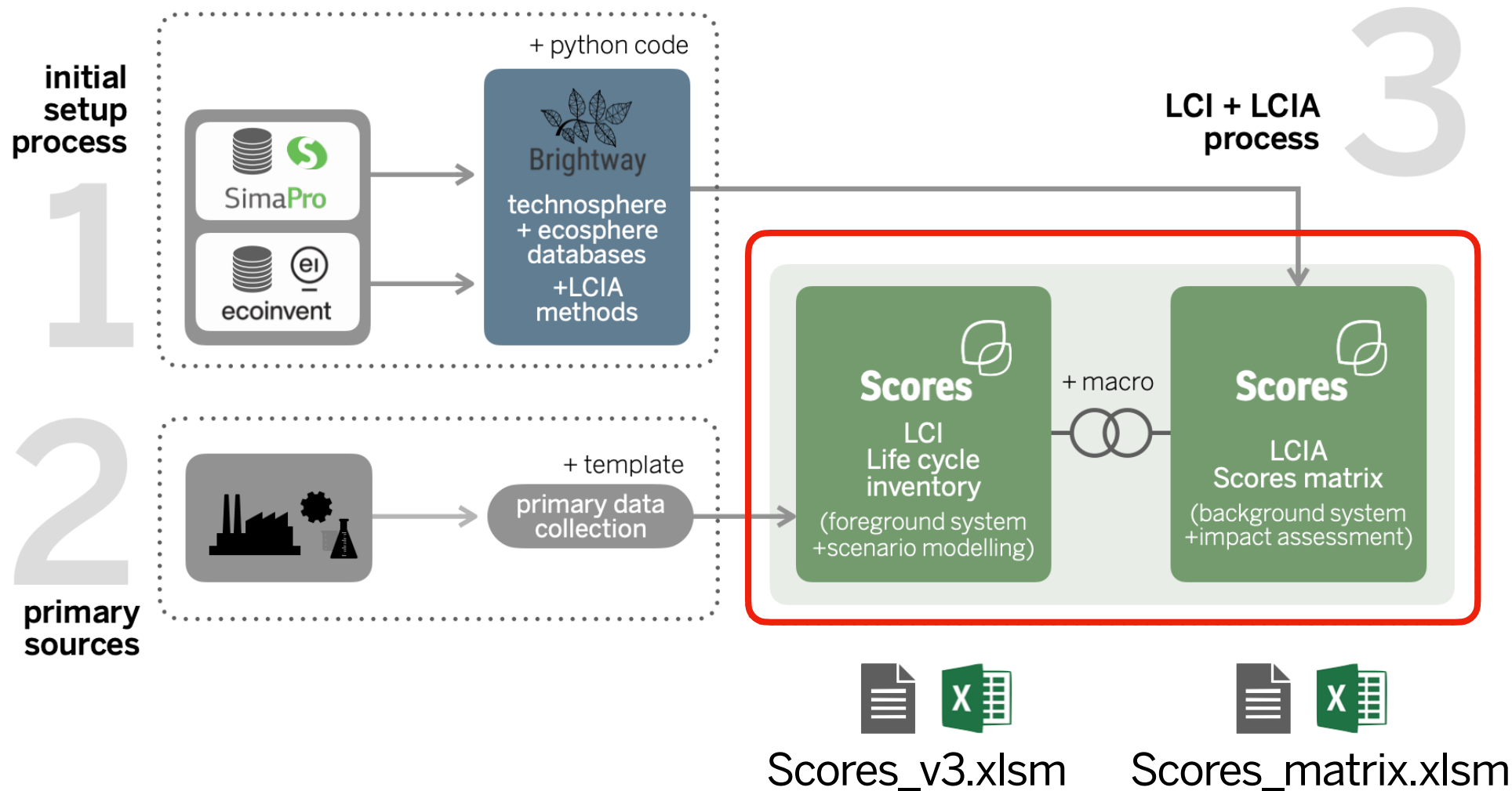
The right sidebar shows a summary of the process being analyzed, including the process name, location, and various input/output flows.

[illegible]

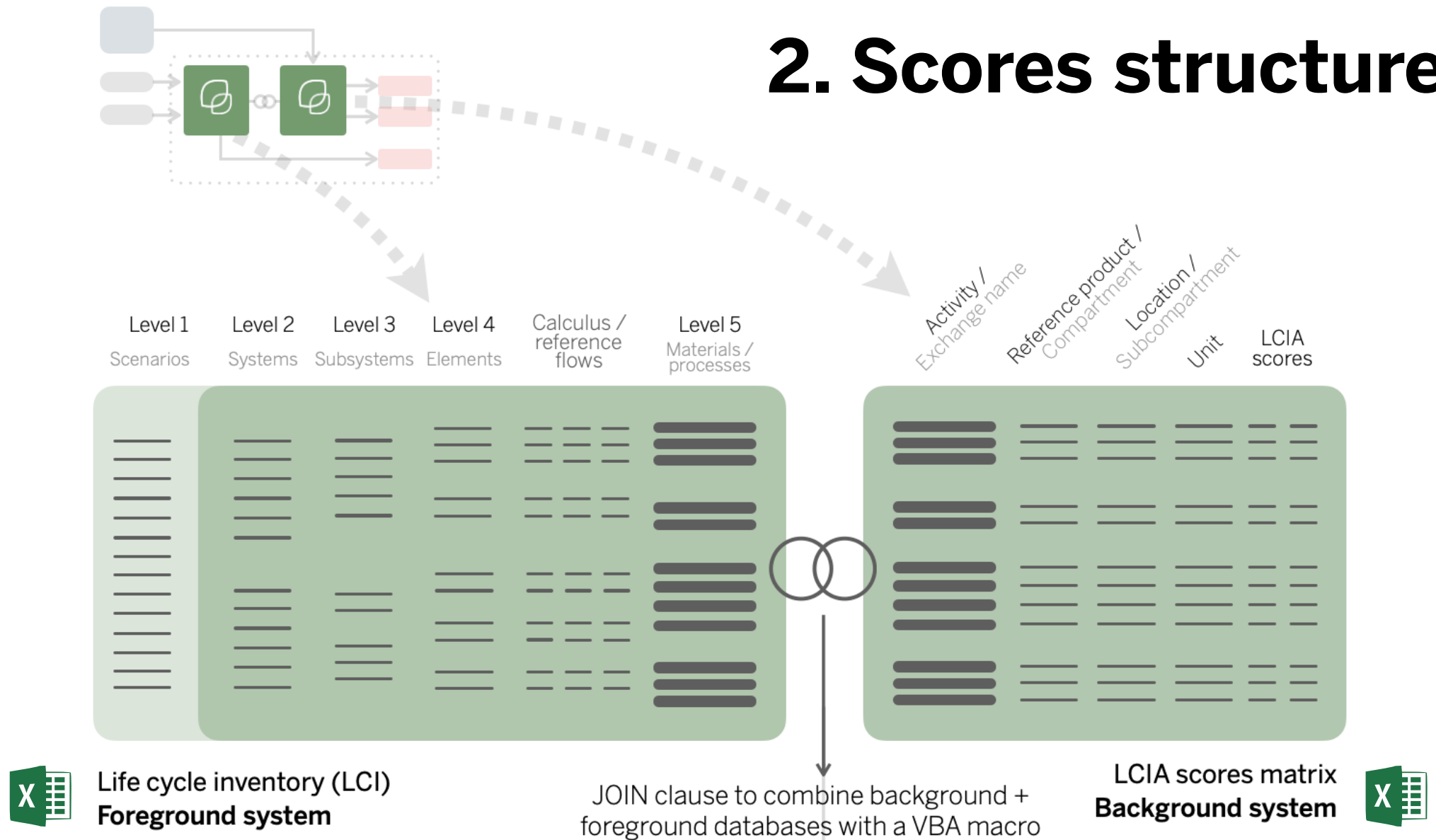
Brightway

Scores input < < output

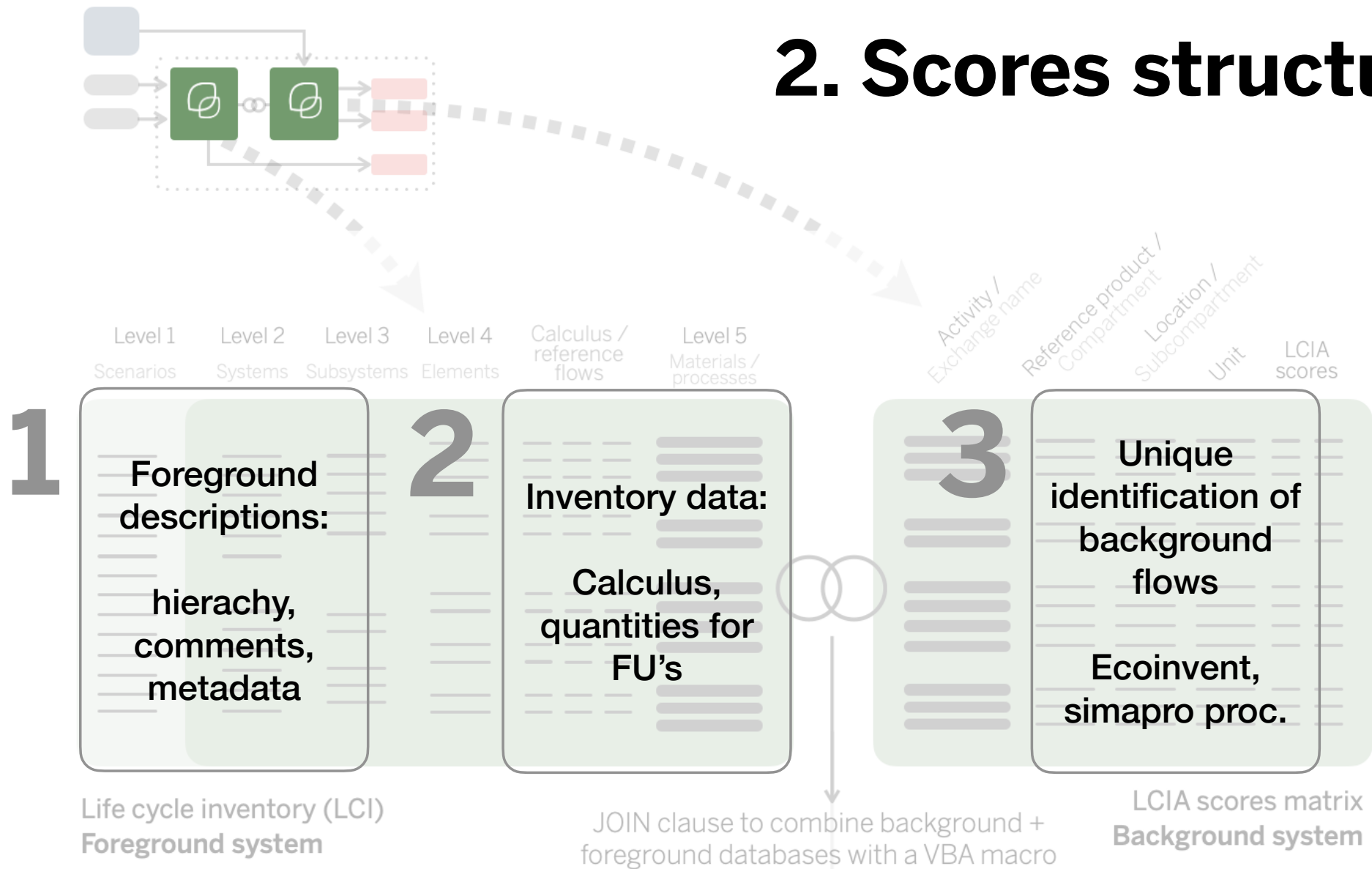
2. Scores structure



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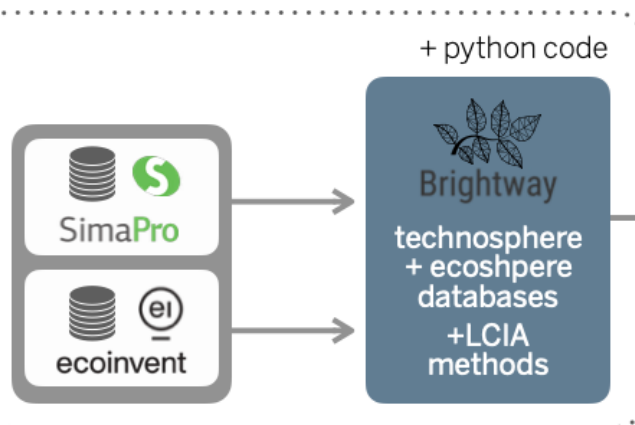


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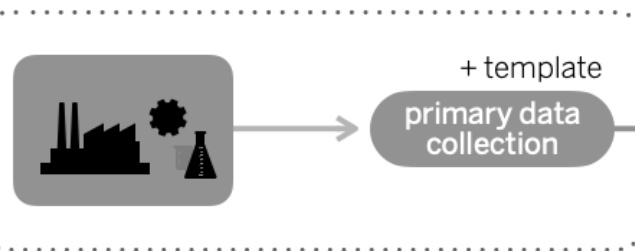


initial
setup
process

1

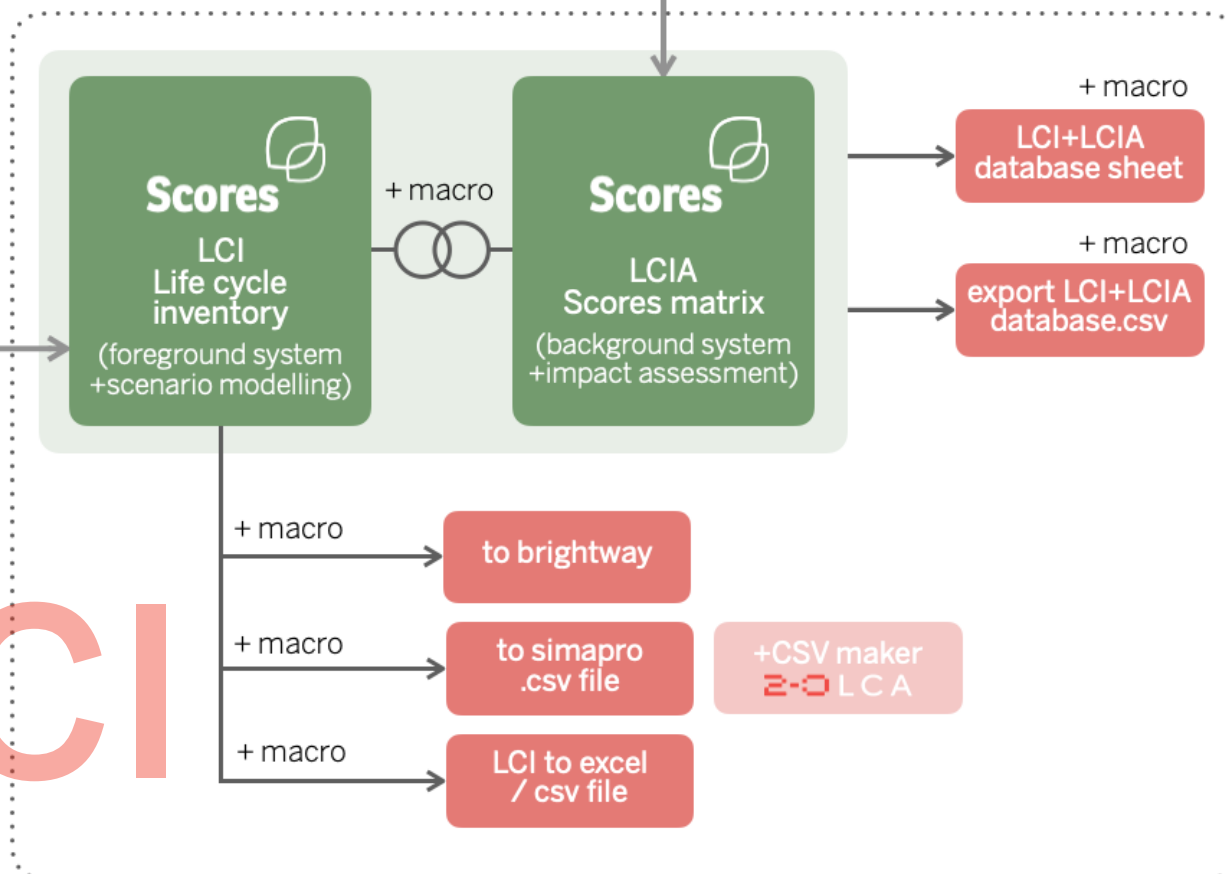


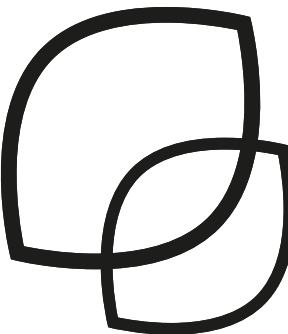
2
primary
sources



LCIA

LCI





Scores

Life cycle impact assessment scores

3. Hands-on: demonstration

Thank you!



Joan Muñoz-Liesa

PhD Environmental Engineering

MSc. Civil Engineer

joan.munozliesa@admin.agroscope.ch

joanml@kth.se



follow-up



Cédric Furrer

→ Details on the integration of food-databases to brightway.

→ Presentation on **Friday**