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EESF
Engineering Education
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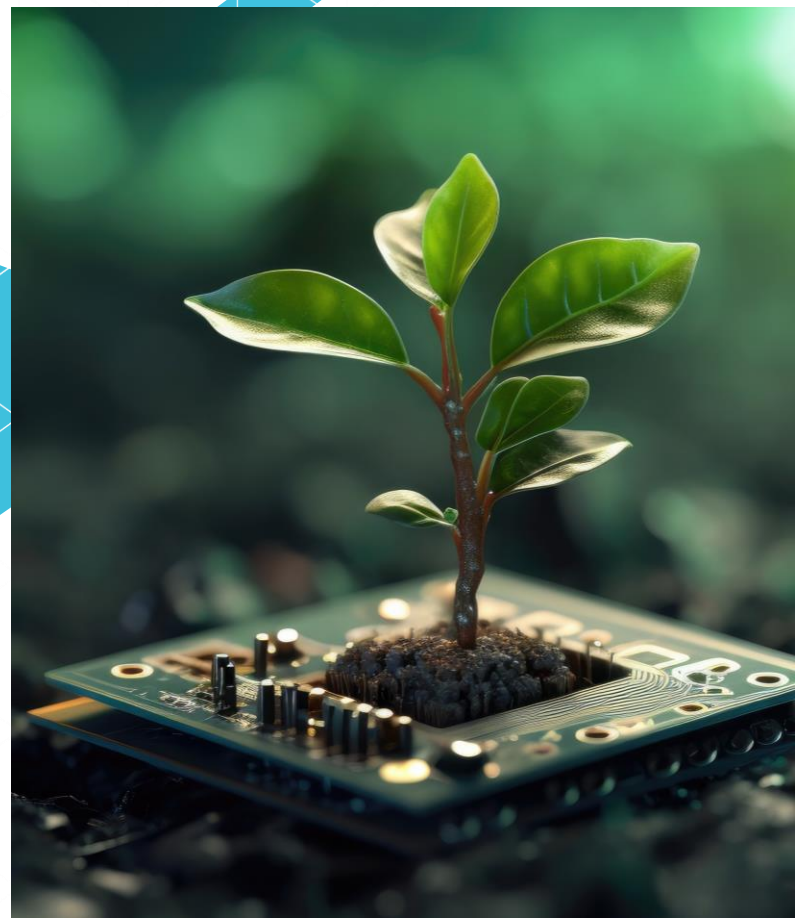
Life Cycle Assessment

Florinda F. Martins , ffm@isep.ipp.pt
Nídia Sá Caetano
Carlos Felgueiras
Paulo Silva



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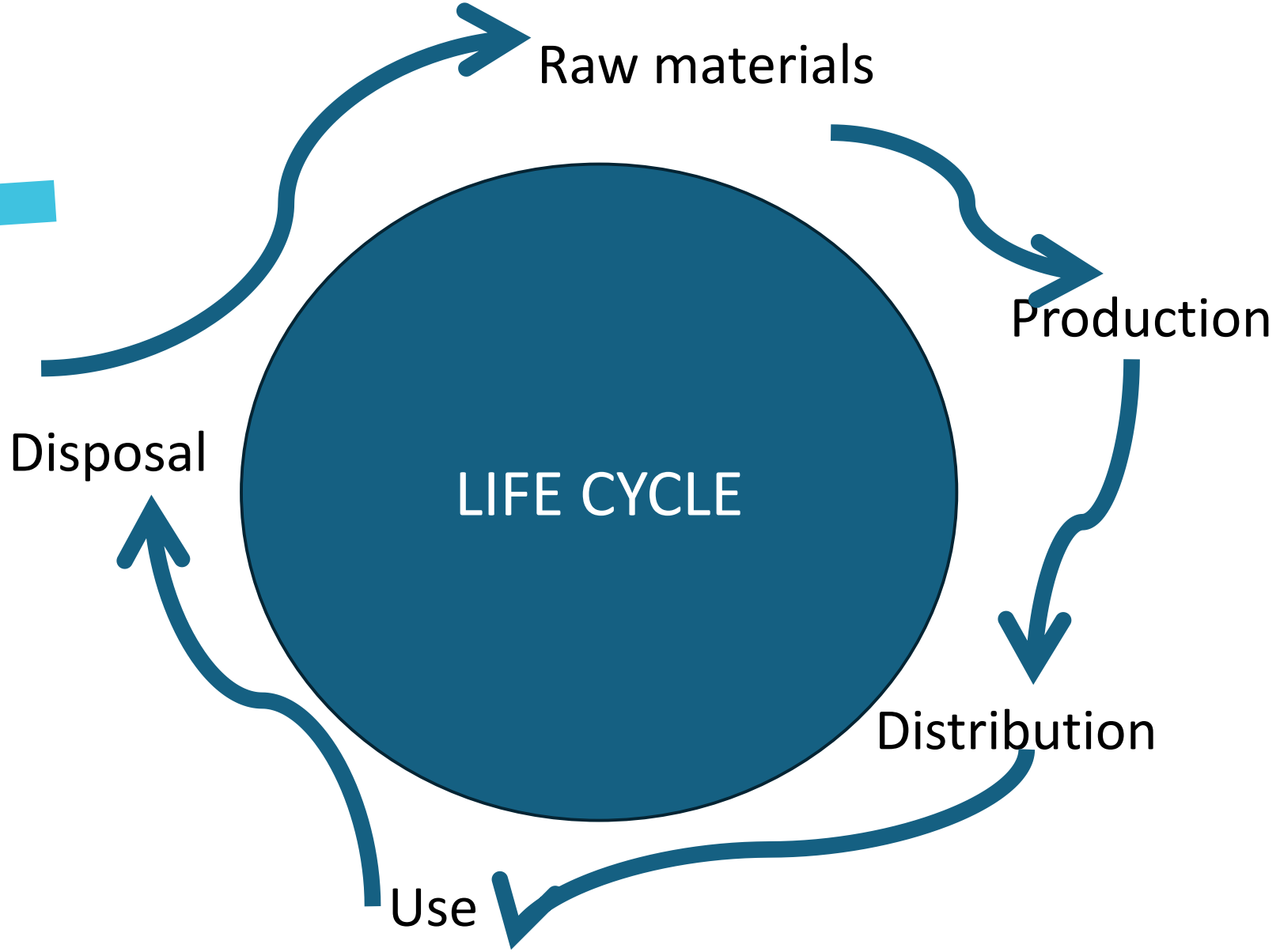
LCA

- **Methodology to determine the environmental impacts of products and services considering life cycle.**

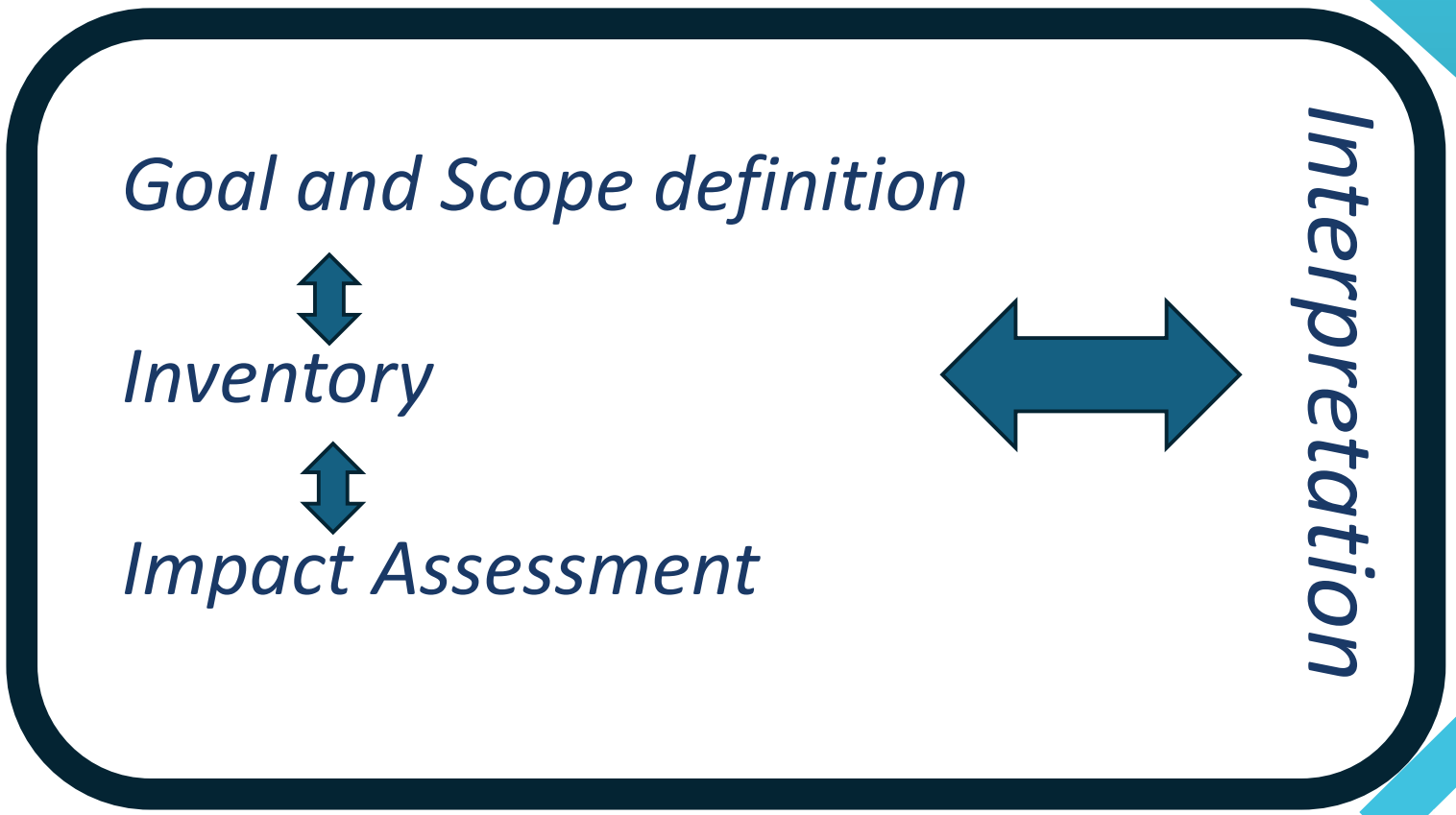
Purposes of LCA

1	▫ identifying opportunities to improve the environmental performance of products at various points in their life cycle
2	▫ informing decision-makers in government, non-government organizations and industry
3	▫ selecting key indicators of environmental performance, including measurement methods
4	▫ marketing such as implementing an ecolabelling scheme or producing an environmental product declaration.


Raw materials
Production
Distribution
Use
Disposal
LIFE CYCLE

ISO 14040:2006

LCA methodology



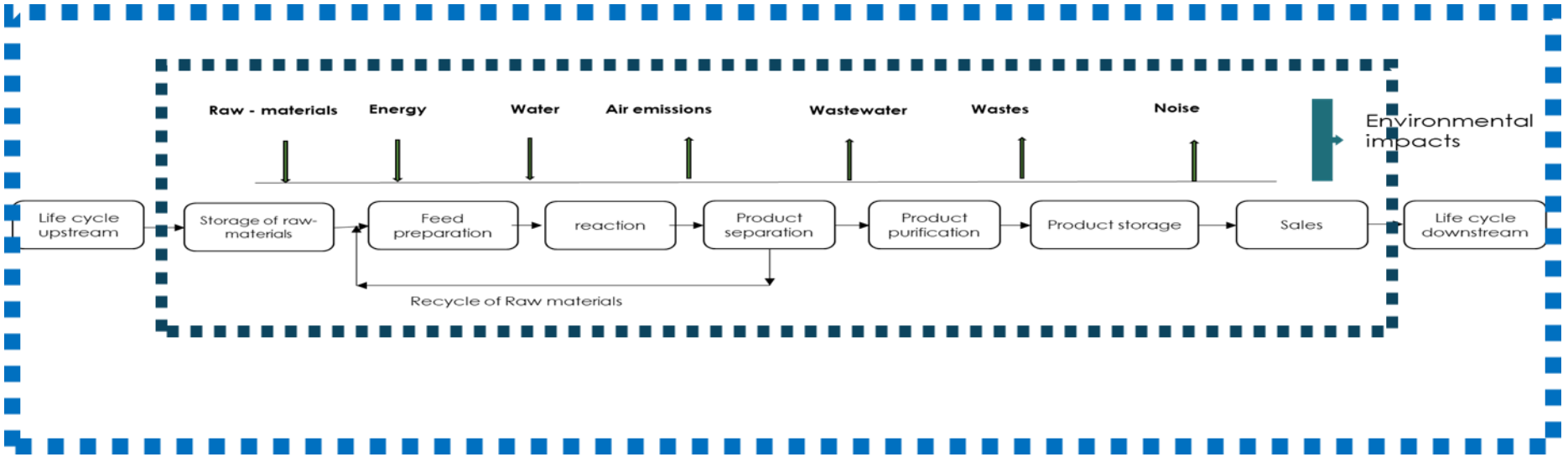
Goal and scope definition

- Definition of the objective of the LCA study
- Definition of the functional unit
- Definition of the reference flows
- Definition of system boundaries

Other issues such as data quality, technology, assessment parameters are also addressed.

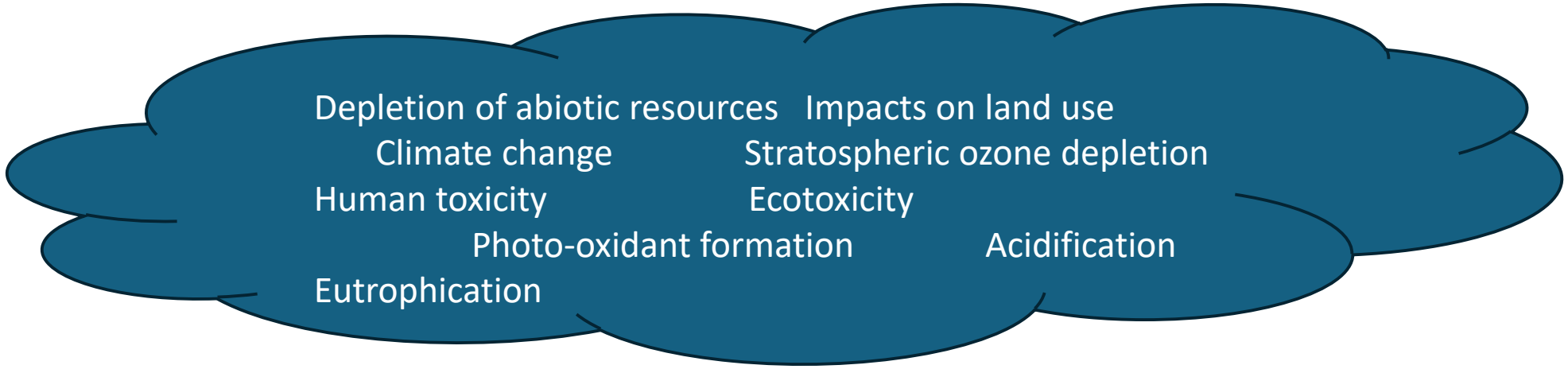
Inventory

- Collection of all data concerning inputs(resources and intermediate products) and outputs (emissions, wastes) to all processes of the life cycle of the product.



Impact assessment

- The data from inventory concerning inputs and outputs are converted in indicators: potential impacts on the environment, human health and natural resources.



Impact assessment

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- **Selection** - Consists in the selection of the categories of impact and characterization models.
- **Classification** - The different substances / compounds are placed in each category.
- **Characterization** – Calculation of the value of the indicator
- **Normalization** - The magnitude in relation to a reference value is calculated.
- **Aggregation** - Consists in joining the different categories, taking into account the type of damage.
- **Weighing** - Allocation of a certain weight to each category by the importance of each.

Interpretation

- Phase where the results of inventory and impact assessment are interpreted taking in consideration the goals of the study and where sensitivity and uncertainty are discussed.

Software and data bases

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