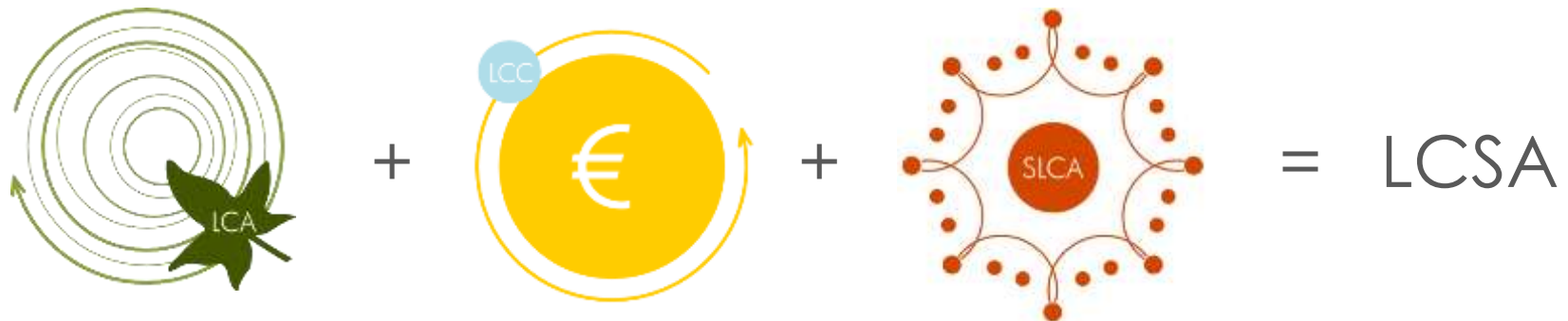




# Principles for the application of life cycle sustainability assessment



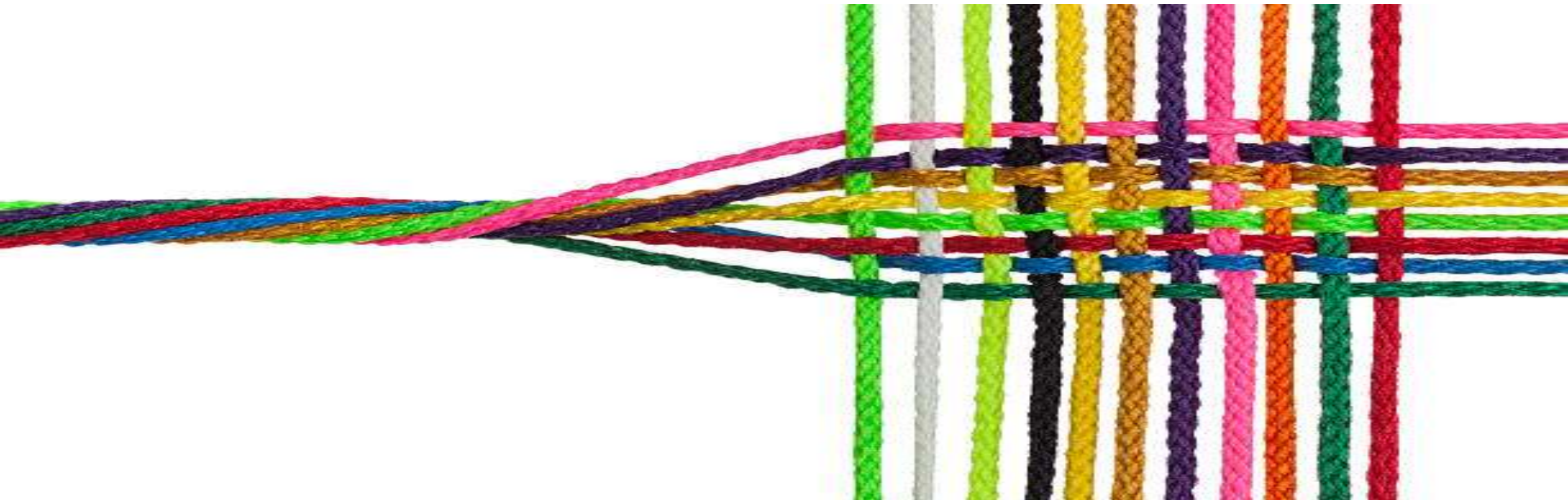
Based on the article: Valdivia S, Backes J.G., Traverso M., Sonnemann G., Cucurachi S., Guinée J.B., Schaubroeck T., Finkbeiner M., Leroy-Parmentier N., Ugaya C., Peña C., Zamagni A., Inaba A., Amaral M., Berger M., Dvarioniene J., Vakhitova T., Benoit-Norris C., Prox M., Foolmaun R., Goedkoop M. (2021) Principles for the application of life cycle sustainability assessment. International Journal of Life Cycle Assessment, available [here](#)



# 1.

## Understanding

Understanding of the areas of protection and impact pathways including the cause-effect mechanisms connecting inventory results to mid and end points of an area of protection .





## 2.

# Alignment

LCSA shall consider the phases of goal and scope, inventory analysis, impact assessment, and interpretation, in accordance with the phases of ISO 14040, 2021 standard.

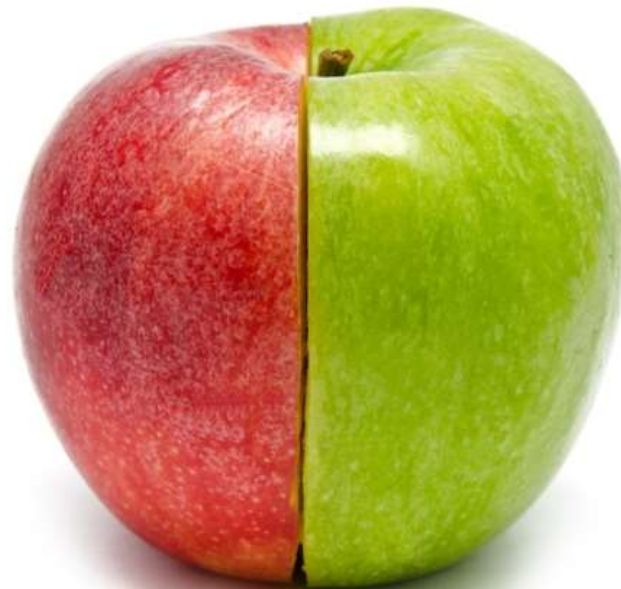




3.

## Completeness

LCA, LCC, and SLCA have to be complete as well and cover all product life cycle stages or the entire value chains within the specified boundaries with a clear justification of any exclusions.





## 4.

# Perspectives of key stakeholders

Studies shall not exclude specific societal groups. LCSEA data collected shall serve the decision-making purposes of all identified stakeholders and users in terms of geographical reach and details and indicators covered.





## 5.

# Product utility

Consideration of the product utility beyond the functional unit. This principle ensures a proper understanding of the product concerned through the definition of its core characteristics.





6.

## System boundaries

The importance that relevant and significant unit processes that have impacts on one or more pillars of sustainability are within the system boundaries and are not excluded from the assessment.





## 7.

# Consistency

Consistency of the use or selection of system boundaries, methods, impact categories, models, data, and assumptions to allow for meaningful comparisons of the datasets produced over time.







8.

## Transparency

Open, comprehensive, understandable presentation of methods, data sources, assumptions, cause-effect chains, criteria for selection, implementation, interpretation and limitations, allows others to understand the assessment and reproduce it.





## 9.

# Explicit communication

Decisions based on LCSA results are more consciously made, rationally defensible, and balanced from the three pillars perspective. Trade-offs shall also respect local values, ethics, culture, professional stand.





## 10. Caution

Caution when compensating negative and positive impacts within a pillar or among the three pillars. This principle prevents misinterpretation or misuse of the results in decision-making. Hence, at least, present negative and positive impacts separately, and report weighting principles transparently, if applied.





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