

# Life Cycle Assessment



## About this report

This report is produced by Green Survey. Green Survey is an independent consulting company, that strives to create transparency during green transitions through third part validations of green efforts.

In this report, Green Survey creates a 360° insight into Sprout's sustainability profile to help to **communicate, verify and validate** previous, present, and future efforts.

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# Introduction

Life Cycle Assessment (LCA) is a widely known and well-established methodology for transparent and credible environmental accounting. It's a valuable tool that shows the environmental impact of a product or service throughout its entire life cycle.

An LCA is used to break down different inputs and outputs at each stage of a product's life cycle – from raw material extraction, logistics, manufacturing, use, and finally disposal or reuse – and estimates the potential environmental impacts that they generate. The results of an LCA is expressed in several environmental categories, including impacts in climate change (carbon footprint), water use, acidification, toxicity, ozone layer depletion, or respiratory inorganics (particulate matter).

# Stages of LCA

Typically, an LCA would include all life cycle stages. However, in some cases, the LCA can focus on the most relevant stages depending on the goal and scope of it. The most common terms to express which stages are included in an LCA are:



## 01. Cradle-to-gate

Assessment includes raw materials extraction and supply stage to the manufacturing stage (i.e. up to factory gate) of the product under study. Cradle-to-gate studies are mostly used to assess intermediate products (or materials). The LCA results can be aggregated to calculate the impacts of assemblies and final products.



## 02. Cradle-to-grave

Includes all the life-cycle stages, from raw materials extraction and supply stage up to the end-of-life treatment of the product (i.e. including transport to the consumer, product use, transport to waste treatment location, etc).

# LCA screenings

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Depending on the scope of the study and its intended application – e.g. internal vs external communication, the level of detail of an LCA can differ. Even though, according to the life cycle assessment frameworks and standards ISO 14040/ISO 14044, there is no differentiation among the types of LCA. In practice, LCA's can be divided based on their level of description: ranging from a high-level screening to a full in-depth assessment.

LCA screenings are useful for an organization to evaluate the environmental footprint of its products. Screening is used to identify opportunities for environmental impact reduction within the value chain, and also serves to obtain environmental knowledge about a product and thus support eco-design. LCA screenings are also used for internal communication, and for sharing environmental information with business partners.

**LCA screening studies:** provides a high-level overview of the major impacts or “hot spots” of the different phases of a product life cycle. It provides sufficient environmental insights to identify and understand the main drivers of high impacts within the value chain, as well as the aspects that require deeper examination.

# Different LCA studies

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In-depth LCAs are useful for an organization to externally communicate (B2B, B2C) their environmental impact and to make environmental declarations and claims of their products. Examples of the latter are ISO type III environmental claims such as EPDs. Moreover, in-depth LCAs can also be used to make comparisons between products serving the same functions.

## **In-depth LCA studies:**

This LCA is much more detailed and descriptive than a screening study and aims at having a comprehensive and complete analysis of the product under study. Most of the time this type of LCA complies with ISO 14040/44 standards and may include a 3rd party review and verification.

## **Comparative LCA studies:**

According to the ISO standards, when an in-depth LCA is made with the purpose of making public comparative assertions, and claiming that an organization's product is environmentally better than a competitor's, a comparative LCA is compulsory. Comparative LCAs have additional requirements to guarantee the full comparability of products and must include a critical review by an external review panel.

The standards for producing LCA are the ISO 14040 (which covered principles and frameworks) and ISO 14044 (which covered requirements and guidelines).

In order for an LCA to be verified, the results are reviewed by a neutral third party. This way, the results can be compared to other studies and can be relied on to show an accurate picture of environmental impact. It is these standards, the ISO 14040 and ISO 14044 that ensure this kind of compliance. Since the standards make the LCA results so reliable, businesses confidently factor in the information for setting energy efficiency or emission reduction targets.



# Result of LCA

The results of an LCA can be used in many different ways. For example:

- Highlight 1** To report the environmental impact of your product to your stakeholders by means of a report or a commercial leaflet.
- Highlight 2** To support your marketing department by providing useful environmental information which can strengthen your value proposition.
- Highlight 3** To help your organization to identify the hotspots in the value chain of a product.
- Highlight 4** To help in supporting future improvements in products design.
- Highlight 5** To allow you to make an environmental claim.

# Conclusion and acknowledgements



Overall, it supports and enhances your sustainability strategy by contributing with credible metrics to show how your company is developing and improving your sustainability product portfolio.

**We thank you for your attention.**

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