Interreg Alpine Space CaSCo
EUROPEAN REGIONAL DEVELOPMENT FUND

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## Training materials

# Module A – The environmental sustainability of products

### *Sub-module A.1 – How to measure the sustainability of products*

*Presentation developed by Environment Park, with the contributions of CaSCo project partners*

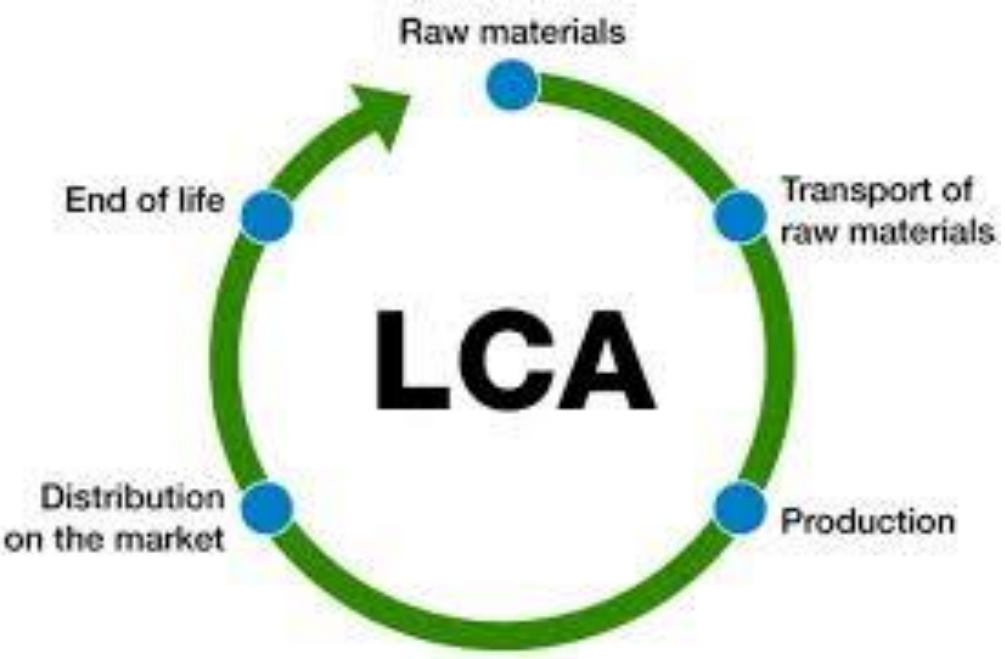
# The 3 pillars and dimensions of sustainability

Contents of the presentation:

- The sustainability and its pillars
- The life cycle thinking approach to sustainability
- How to measure the sustainability of products
- Environmental aspects of products
- Environmental impacts in a life cycle perspective
- The life cycle of construction and wood products

# The 3 pillars and dimensions of sustainability

# The life cycle based approach



# The importance of life cycle thinking approach to sustainability

The assessment of the sustainability of a product should require to adopt an **INTEGRATED LIFE CYCLE BASED APPROACH**.

INTEGRATED APPROACH:. Considering all three pillars of sustainability – environmental, economic and social – allows to maximize the sustainability level of the product, evaluating possible connections and fallouts on the respective three pillars.

LIFE CYCLE BASED APPROACH: The assessment should consider all the whole life cycle that delivers the product or service, bringing out the aspects of (non) sustainability aspects which are hidden or not easily detectable

# Life cycle of construction products

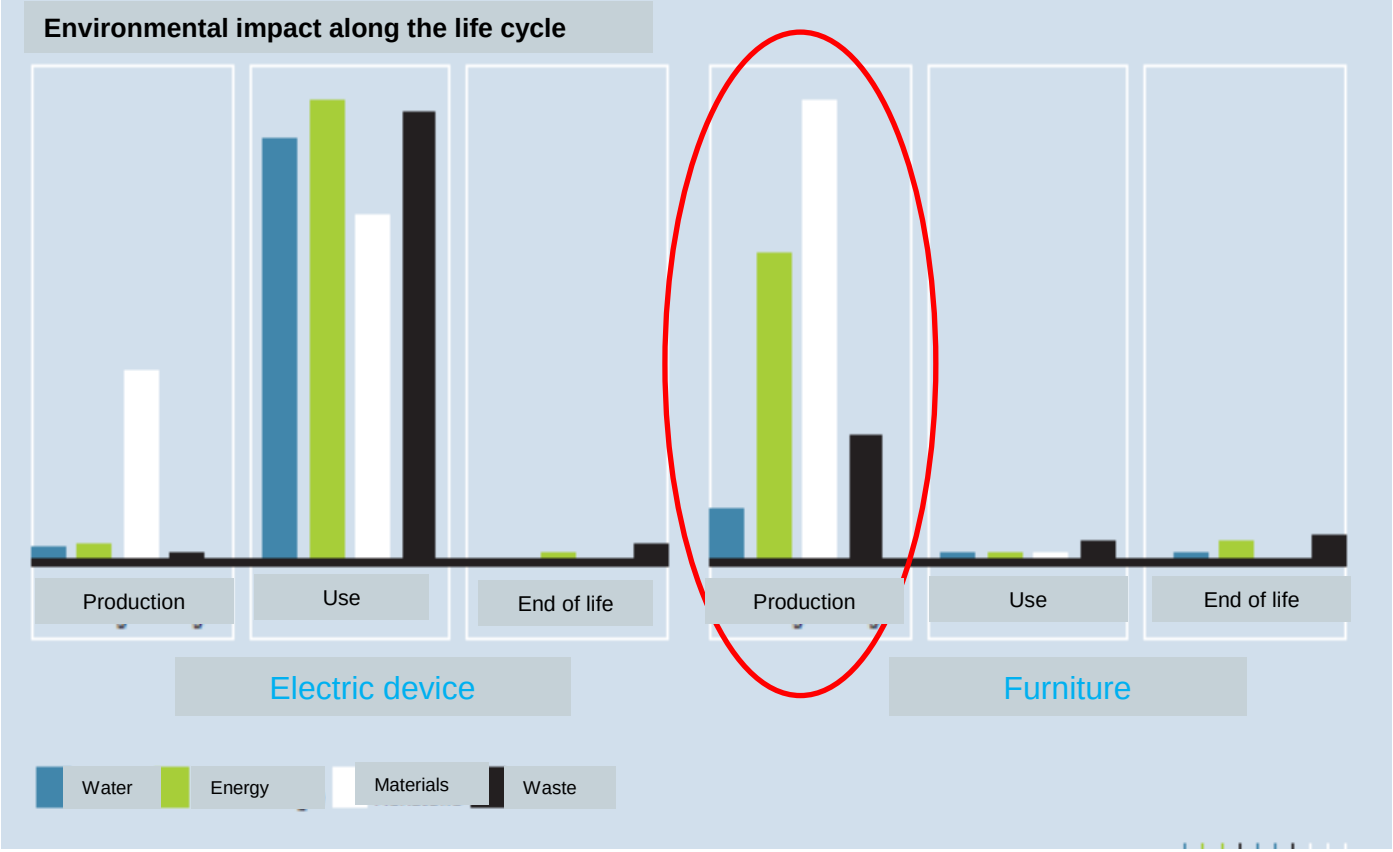
In a life cycle perspective, the environmental impact of a product is not only related to the production phase, but it's the sum of the environmental impacts of all the processes included in the life cycle.

These processes can be classified as follows:

- **UPSTREAM processes**: the upstream stage of the production process involves extracting, production and transport of raw materials
- **CORE processes**: they cover all the manufacturing-related processes (including the out-sourced ones)
- **DOWNSTREAM processes**: downstream processes include all the usage and and after usage (end of life) steps of the life cycle

In general, and in particular for construction materials, the main impact is due to the production phase, as the materials do not consume energy or other rewources during usage phase

# Comparison between life cycle phases




*Picture from the German Federal Environmental Agency*

# Importance of raw materials

## Final considerations

- Our economy depends on energy and raw materials. The **sustainable use of raw maerials** is becoming increasingly important for the environment, people and the economy. At the same time, vital assets such as climate, water, soil and biodiversity must be protected.
- Sustainable procurement and **sustainable building** should increasingly pay attention to how energy-saving, climate-friendly, resource and **environmentally friendly construction products** were produced in the upstream chains.
- **Transports** play an important but highly underestimated role.
- Also **the origin and the composition** of the building products are important.

# Web resources

If you want to know more, the following resources are available:

- European platform on life cycle assessment (http://eplca.jrc.ec.europa.eu/ )
- Life Cycle Initiative (https://www.lifecycleinitiative.org/ )
- Environmental Footprint of Low Carbon Timber (https://www.alpine-space.eu/projects/casco/en/project-results
- Wooden product group profiles (https://www.alpine-space.eu/projects/casco/en/project-results)