

CIRCO

Kick-off meeting, MILAN, 12/09/2018

CIRCO: environmental impact and sustainability a Life Cycle Assessment Approach

COFFEE SILVERSKIN

- POLYPHENOLS, FATS AND WAXES
- cosmetics - skin care agents

CELLULOSE
paper for packaging and printing

QUANTIFY THE FINAL PRODUCTS' ENVIRONMENTAL IMPACTS WITH AN INTERNATIONALLY RECOGNIZED TECHNIQUE ASSESSING THE IMPACT OF THE WHOLE PRODUCT LIFE CYCLE



LIFE CYCLE ASSESSMENT: HOLISTIC APPROACH USED TO ASSESS, QUANTIFY AND MEASURE THE ENVIRONMENTAL IMPACT OF MATERIALS AND PRODUCTS DURING THEIR ENTIRE LIFE CYCLE, FROM CRADLE TO GRAVE, CONSIDERING raw materials extraction, transportation, processing, manufacturing, packaging, distribution, use, disposal and recycle

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**ENVIRONMENTAL IMPACT IS MEASURED IN IMPACT CATEGORIES - I.E. TOXICITY;
CARBON EMISSION; EMBODIED ENERGY; WASTE GENERATION; WATER USAGE, ETC.
THROUGH A MEASURE UNIT (CO2 EQUIV., ETC.)**

REFERS TO INTERNATIONAL STANDARDS: ISO 14040, ISO 14044

**THE PRODUCTS OBTAINED ARE THEN COMPARED
AGAINST EQUIVALENTS OBTAINED THROUGH A DIFFERENT SET OF PROCESSES,
PAPER FROM SILVERSKIN – PAPER FROM CHEMICAL WOOD PULP
ANTI-AGE CREAM FROM SILVERSKIN – ANTI-AGE CREAM FROM OTHER
VEGETABLE OILS**

STAKEHOLDERS of the products and processes identified for evaluation

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eurac
research

LCA APPROACH IN SUMMARY:

- LCA CONSIDERS ALL STAGES OF A PRODUCT'S LIFE: EXTRACTION OF RAW MATERIAL; MANUFACTURE; PACKAGE AND TRANSPORT; USE; END OF LIFE
- IN CONNECTION TO INPUTS (WATER, MATERIALS, ENERGY) AND OUTPUTS (EMISSIONS, POLLUTANTS, WASTE) – from Earth to Earth
- IDENTIFIES ECO HOTSPOTS (WHERE ARE THE MAIN CRITICALITIES) AND ALTERNATIVES
- ADDRESSES ORGANIZATIONS, GOVERNORS, POLICY MAKERS, BUSINESSES
- REPRESENTS A ROBUST SCIENTIFIC PROCESS
RECOGNIZED BY THE INTERNATIONAL ORGANIZATION OF STANDARDIZATION
- ASSISTS IN THE PRODUCTS DESIGN PROCESS TO REDUCE IMPACT and way to market
- 4 STEPS: - GOAL and SCOPE DEFINITION, INVENTORY (data collection, inputs/outputs and modelling), IMPACT ASSESSMENT (contribution from all impact categories), INTERPRETATION (based on your values and those of your stakeholders)

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- LIFE CYCLE COST ACCOUNTS FOR THE COSTS OF ALL STAGES OF A PRODUCT, SERVICE, FROM DEVELOPMENT, TO OPERATION, TO PURCHASE AND FINALLY DISPOSAL COMPARING
- WITH COSTS OF COMPETING ALTERNATIVES, USING AS UNIT MONETARY VALUE (€)

Stages of Product Life-Cycle Cost

