Enviromental impact assessment - LCA

Evaluates the environmental impact of a product or production process taking into account its life cycle

Converting the emissions of individual processes into equivalent kg of pollutant (CO_2, DCB, SO_2…)

method standardized by the guidances
- ISO 14040
- ISO 14044

Enviromental impact assessment

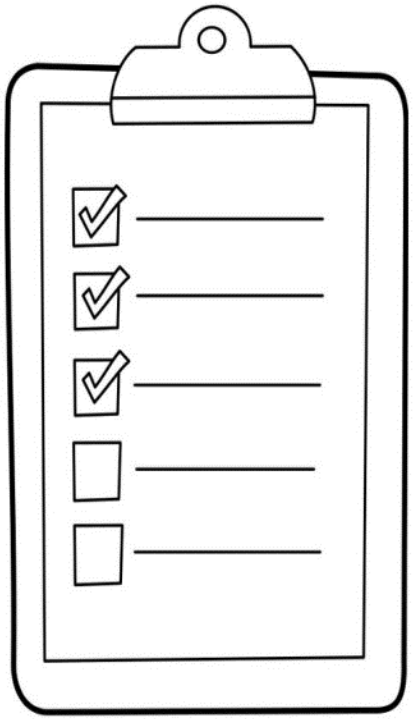
Purpose and objectives definition

Inventory phase (Life Cycle Inventory - LCI)

Software analysis (Life Cycle Impact Assessment - LCIA)

Analysis of the results (Life Cycle Interpretation)

Phase 1: data gathering - LCI



Data are collected through measurements, interviews, publications and scientific articles

- Water use
- Cultivated plants tipology
- Use of fertilizers and pesticides
- Energy consumption
- Types and volume of substrates
- Transportations
  (trains, trucks, etc.)
- Cultural interventions
  (prunings, fertilization, etc.)
- Mechanized process
- Other inputs

IMPORTANT
get a clear picture of the ACTUAL cultivation methods

Phase 2: software analysis - LCIA

More precise the inputs, more reliable the LCA analysis

Sorts the data within specific calculation schemes

Provides a picture of current production processes

thinkstep GaBi

Expresses the results in kg of equivalent pollutants emitted by the entire process

Phase 3: LCA application to the innovations proposed

- Starting from the reference framework obtained in the previous phase
- Introduction of the Inputs connected to the innovations considered in the project
- Possibility of measuring with considerable precision the effect of these innovations on the production chain
- Possibility of evaluating improvement scenarios, providing a measure of environmental performance due to technical innovations

Has the supply chain improved its environmental performance?

Are the innovations introduced more sustainable?

How many pollutants do I emit at the moment?

Phase 4: data comparison and interpretation

organization of data on environmental impact assessments conducted during the project in an easily readable and disclosable format

Data usable for cognitive purposes but also expendable from the point of view of corporate marketing

Green waste and dreged sediments – keynotes and composting protocols

- Introduction
- Production of green waste in nurseries and dredged sediments
- Description of the matrices
  - Preparatory phase
  - Creation of the heap
  - Oxidative phase
  - Stability and maturation phase
- Roll-over and chemical/physical monitoring protocol
- Technical data for the composting site in Tuscany

Protocols for ornamentals grown in container

- Introduction
- Plants and pot size; placing in the nursery
- Growing techniques:
  - Fertilization
  - Irrigation
  - Treatments
  - Etc.
- Timing of the growing phase
- Data collection