CESPE ACADEMY

ENVIRONMENTAL SUSTAINABILITY ASSESSMENT IN PHARMA

From Theory to Practical Applications

Course Programme

General Life Cycle Assessment (LCA) Framework

- **Goal and scope definition**
- **Life cycle inventory (LCI)**
- **Life cycle impact assessment (LCIA)**
- **Interpretation**

Conducting LCA in Pharma Sector

- **LCA tailored to pharmaceuticals**
- **Challenges in**
  - o Data collection
  - o Methodological choices,
  - o Accounting for ecotoxicity, etc
- **Concrete examples**

Practical Case Studies Tailored to Pharma Domain

- **General info on LCA software tools**
- **Introduction to specialized software: OpenLCA**
- **Use and explanation of the different LCI databases**
- **Step by step modelling & practical case studies in OpenLCA software**
- **Analysis, interpretion, an explanation of the results**

Beyond LCA of classical drug products & environmental sustainability assessment

- **Examples of LCA studies of non-classic drug products**
- **Introduction into concepts of Footprint versus Handprint**
- **LCA from system perspective instead of product perspective**

Information

Time and Date: **13:00-17:00 8th September 2026**
9:00-17:00 9th September 2026
9:00-15:00 10th September 2026

Place: **Faculty of Pharmaceutical Sciences**
Ottergemsesteenweg 460, Ghent, Belgium

Contact: CESPE@UGent.be

Course Description

The Sustainable Systems Engineering (STEN) group offers a comprehensive training program in Environmental Sustainability Assessment with a focus on the pharmaceutical industry.

The training is divided into two parts: **theoretical module** covers principles of the life cycle assessment (LCA) methodology to evaluate environmental impacts of pharmaceutical production systems and **practical module** provides hands-on experience with LCA software (OpenLCA). Finally, LCAs for non-classical drug products and methodological advancements in sustainability assessment of pharmaceuticals will be discussed.

Through lectures, case studies, and interactive sessions, participants gain essential knowledge and skills to perform environmental sustainability assessments, with an emphasis on practical applications and critical thinking about sustainability in the pharmaceutical field. Moreover, practical expertise in the LCA process empowers decision-makers to fully comprehend the insights derived from the analysis, enabling them to make more informed and sustainable choices.

Target Audience

Professionals, researchers, and PhD students in pharma, as well as for environmental sciences, engineering, and related fields who wish to enhance their understanding and application of sustainability assessment methodologies in pharma context.

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CESPE
CENTRE OF EXCELLENCE
SUSTAINABLE PHARMACEUTICAL ENGINEERING & MANUFACTURING

STEN
Sustainable Systems Engineering

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