



## MANAGING THE LCIA (IMPACT ASSESSMENT) PHASE OF LCA

This course gives an overview of the life cycle impact assessment (LCIA) phase of LCA studies. The general framework, definitions and concepts will be presented from those of the ISO standards to the present state-of-the art. Practical exercises will focus on how to make appropriate choices when performing the LCIA phase in a study (choice of impact categories, characterisation models, when to apply normalization and/or weighting, relating to stakeholders) and on the differences between current LCIA methods.

### The course

#### *COURSE OUTLINE*

- Description of the different mandatory and optional LCIA elements according to ISO 14040/14044 and other impact assessment frameworks.
- Definitions and concepts of LCIA, such as stressors, actual versus potential impacts, impact categories and pathways, environmental mechanisms, classification, fate, exposure, incidence, duration, linearity, steady-state vs. dynamic, marginal cause-effect modelling, thresholds, tipping points, severity, category indicators, midpoint and endpoint characterisation, areas of protection, normalisation, ranking, weighting.
- Selection of impact categories. Stakeholder views on environmental impact categories.
- Example of the impact pathway modelling of a common impact category: Describing the problem and the target, the borderline to inventory, how to handle incomplete inventory data. Correct application of characterisation factors.
- Simplifying LCIA: What characterises an adequate level of modelling?
- The role of normalisation in LCA studies. Methods for weighting: Distance-to-target versus preference-based methods. Advantages and limitations.
- Combinations of impact categories and ready-made LCIA methods: An overview of the most commonly used and most recent LCIA method packages: CML, EcoIndicator, Impact2002+/ImpactWorld+, Stepwise, ReCiPe, LIME, TRACI. Consistency in and between methods, illustrated with case examples.
- Interpretation and presentation of LCIA results, transparency, dealing with stakeholder interests.
- Exercise: Choosing and justifying the choice of an impact assessment method (impact categories, characterisation models, need for normalization and weighting) for a specific application context, applying it to an LCI result, calculating the LCIA result, interpretation and presentation of the result to a group of stakeholders.

**FORM AND ACADEMIC RECOGNITION**

Form: 2.5 days = 12 hours interactive lectures. 8 hours exercises.

Academic recognition: 1.5 ECTS-point including mandatory pre-course reading from a literature list provided.

**LEARNING OUTCOMES**

Knowledge of frameworks, definitions and contexts for LCIA. Understanding of impact assessment models, including normalisation and weighting and their limitations. Ability to choose and justifying the choice of an impact assessment method in a specific application context, simplifying it as appropriately, calculating an LCIA result and presenting it to a group of stakeholders.

## The practicalities

**WHEN AND WHERE?**

Monday, November 4<sup>th</sup> to Wednesday, November 6<sup>st</sup>, 2019  
Spain, Barcelona, International Life Cycle Academy (ESCI-UPF),  
Passeig Pujades 1 (entry from Passeig Picasso 8)

**PARTICIPANT PREREQUISITES**

Master degree or equivalent. Basic understanding of life cycle assessment. Basic environmental or social science/engineering foundation. Knowledge of Brightway2 Open Source software (equivalent to our Brightway2 course the week before). Must bring own laptop computer, with Brightway2 installed.

**TEACHING STAFF**

Dr. Ralph Rosenbaum, Industrial Chair ELSA-PACT Montpellier, France  
Prof. Bo Weidema, Aalborg University, Denmark  
Prof. Manuele Margni, CIRAIG, Canada  
Michael Hauschild, Technical University of Denmark (DTU), Denmark

**PRICE AND COURSE CONDITIONS**

3000 Euro for professionals  
1500 Euro for university personnel and  
750 Euro for students

Second registrations from the same institution are offered a 50% discount on this course.

Prices do not include travel, accommodation and meals.

Accommodation recommendations will be sent once course is confirmed.

**CONTACT AND REGISTRATION:**

Registration deadline 30. September - please get in touch as soon as possible to ensure the course is confirmed and to secure your place.

Contact person: Inger Weidema, E-mail: [inger@ilca.es](mailto:inger@ilca.es)