



Course Environmental Sustainability

Seminar: "LCA modelling on bioenergy systems: overview and practical exercises using SIMAPRO software"

Bicocca University
Milan, 22-23 April 2020

Invited Lecturer: Assoc. Prof. Francesco Romagnoli, Riga Technical University, Institute of Energy Systems and Environment (Latvia)

Aim and objectives of the seminar

The aim of the seminar is to introduce the main aspects of the LCA approach within the modelling of bioenergy transformation pathways. The seminar will explore the basic concepts of the LCA according to the ISO STANDARDS 14044 and their applications in SIMAPRO software modelling.

The main learning outcomes are:

1. Understanding of the main life cycle thinking concepts and key aspects on the environmental impacts within different bioenergy systems;
2. Getting acquainted with Life Cycle Assessment towards the main methodological steps according to the ISO STANDARDS 14044;
3. Use of SIMAPRO software within specific bioenergy pathways;
4. Practical tasks for students modeling with SIMAPRO software (using the DEMO version).

More in specific the seminar will be organized as following:

First day seminar: 22nd April – 14:00 – 17:30 (CEST), 15 minutes break

LCA: main concepts and case studies

- Life Cycle Thinking general aspects
- What is LCA
- ISO STANDARDS 14044-2006
- Goal and Scope and examples in the bioenergy sector
- Life Cycle Inventory (LCI) analysis and examples in the bioenergy sector
- Life Cycle Impact Assessment (LCIA) and examples in the bioenergy sector
- Interpretation
- Case studies
- Take home message

Second day seminar: 23rd April – 14:00 – 17:30 (CEST), 15 minutes break

LCA modelling with SIMAPRO software

- Introduction about SIMAPRO software (F. Romagnoli)
- Installation of the software (F. Romagnoli)
- Presentation of a simple practical case study
- Practical work for each single student: SIMAPRO and/or allocation exercise (student's practical task)

Seminar specifications:

- Personal laptop availability
- Language: English
- Power point presentation will be given in advance to students
- A template for the evaluation of the quality of the seminar will be provided to students

Ph.D, students interested may contact professor Elena Collina before 20 April 2020