

11.04.2022
12.04.2022
Castello del
Valentino



Prof.
Francesco
Romagnoli

full professor at the
Institute of Energy
Systems and
Environment of the
Riga Technical
University with a
specialization in LCA
and Eco-design



Prof.
Claudio
Rochas

full professor at the Riga
Technical University,
Chairman of the Board
of Ekodoma Ltd. a
Latvian consulting
company for energy
efficiency and
renewable energy
sources

ADDITIONAL INFORMATION

- Bring a personal laptop
Install the demo version of
TRNSYS
(<http://www.trnsys.com/>)
- Install the demo version of
SimaPro
(<https://simapro.com/>)



BUILDING RENOVATION - A life cycle perspective

Prof. Francesco Romagnoli and Prof. Claudio Rochas – Riga
Technical University (Latvia)

Improving energy efficiency and energy savings within deep renovation in buildings is widely recognized as one of the best strategies for reducing energy demand meantime tackling climate change. However, progress has been slow to date due to several market barriers such as the gap between investment costs, energy costs savings, and financing terms/conditions.

The **Energy Performance of Buildings** Directive was amended in 2018 and is currently under review. It includes a number of measures that EU's Member States can use to improve the energy performance of their building stock. Against this background, the entire cycle analysis to sustainable building renovation is of paramount importance, strengthening the reuse-recycle-rethink approach with the potential implementation of a circular economy approach.

This two-day seminar looks into **energy efficiency in buildings and building deep renovation**, analysing technical, economic and financial solutions. However, the seminar goes beyond the simple concept of project appraisal, introducing specific environmental approaches like **Life Cycle Assessment (LCA)**.

This seminar introduces the use of two **software packages: TRNSYS**, used to simulate the **behaviour of transient systems** and **SimaPro**, used to **collect, analyse and monitor the sustainability performance data of products and services**.

11/04/2022 – Theoretical lesson

BUILDING RENOVATION – PROBLEMS AND OPPORTUNITIES	Prof. C. Rochas	Room: 1V 14:30 – 16:00
THEORETICAL BACKGROUND OF LCA: EMPHASIS ON THE BUILDING SECTOR	Prof. F. Romagnoli	Room: Aula Astengo 16:15 – 18:45

12/04/2022 – Application and practical lesson

DYNAMIC SIMULATION OF ENERGY SYSTEMS WITH TRNSYS SOFTWARE	Prof. C. Rochas	Room: Sala Vigliano 9:00 – 11:00
LCA MODELLING WITH SimaPro SOFTWARE	Prof. F. Romagnoli	Room: Sala Vigliano 11:15 – 13:15