

# LIFE CYCLE ASSESSMENT & EPD

*For the Construction Sector*

## Day I

### What is Sustainability?

1. Definition
2. Sustainable development
3. Corporate Sustainability

### Introduction to LCA

1. Life Cycle Thinking
2. LCT Benefits
3. What is an environmental impact assessment and Life Cycle Assessment
4. Why LCA?
5. How does an LCA work?

*Coffee Break*

### LCA Methodology

1. ISO 14040 & EN15804
2. Overall methodology
3. Goal & Scope
  - a. LCA Types
  - b. System boundaries
4. Life Cycle Inventory
5. Life Cycle Impact Assessment
6. Life Cycle Interpretation
7. LCA Strength and Weakness

*Lunch*

### LCA Exercises

1. Case scenario description
2. Goal & Scope
3. Inventory
4. Impact Assessment
5. Interpretation

### LCA Software

1. LCA software benchmark
2. Simapro
3. GaBi
4. OpenLCA
5. OpenLCA installation

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### Day 2

#### LCA in the Construction sector

1. Current Sustainability evaluation methods and certificates for construction projects
2. The LCA role in moving forward towards sustainability.
3. Different LCA applications:
  - a. ESG
  - b. Carbon footprint
  - c. CSRD
  - d. EPD (Ecolabel)
  - e. PEF (Ecolabel?)

#### Environmental Product Declarations

1. EPD directives and Product Category Rules
2. EPD Examples
3. EPD Program Operators
4. EPD reporting and Publication.

*Coffee Break*

#### EPD Case Example

1. Scenario description
2. Model creation
3. Results interpretation and discussion

#### EPD Case 1 (Workshop)

1. Scenario description
2. Model creation
3. Results interpretation and discussion

*Lunch*

#### EPD Case 2 (Workshop)

1. Scenario description
2. Model creation
3. Results interpretation and discussion

#### Conclusions

1. Summary of topics
2. LCA Future
3. Takeaway points
4. Discussion

#### Lecturer Fabian Diaz:

I hold a bachelor's in chemical engineering, studies in Financial and managerial Engineering, a master's in environmental science and currently I am PhD Candidate on Environmental Engineering.

I have experience in the chemical and food industry in Latin America along with 8 years of experience in the energy sector, more specifically in the oil industry. Nowadays I devote most of my time on topics related to sustainability, from performing environmental impact evaluations to full sustainability assessments mainly for energy systems, building sector and food industry and supply chains.

I have also been recently involved in academic activities on Sustainable Agriculture, also as scientific partner with the United Nations Development Program in topics related to sustainability evaluation of infrastructure projects in rural areas in Colombia, and co-supervising Master thesis on Life Cycle Assessment (LCA) to produce Latvian agricultural goods.

You can have a look to my full profile on:

<https://www.linkedin.com/in/fabian-diaz-b4b0aaa5/>