Training Course

Comprehensive Sustainability Assessments for Materials, Products, and Processes

Acquire practical competencies for the systematic assessment of environmental, economic, and social sustainability dimensions

20 Apr - 21 May 2026

online

Training Chairs

Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

Julia Gebefügi
ABCircular GmbH

DGM-Inventum

Training Course

Comprehensive Sustainability Assessments for Materials, Products, and Processes

Acquire practical competencies for the systematic assessment of environmental, economic, and social sustainability dimensions

being planned

This training course enables participants to build and apply a life cycle perspective for materials, products, and processes, and to translate sustainability results into robust decisions in R&D, production, purchasing, product design, and strategy. Across flexible five interactive modules, participants learn how to structure and conduct environmental life cycle assessments in line with ISO 14040, model case studies in openLCA, and interpret results for design and process improvement. The course extends the perspective with economic assessment methods such as life cycle costing and material flow cost accounting, and with social and stakeholder-focused assessments aligned with SDGs and established social assessment approaches. In addition, participants are introduced to chemical risk assessment and eco-design as practical entry points toward the EU Safe and Sustainable by Design framework, and they practice qualitative multicriteria assessments to compare solution pathways. In this module, partcipants will gain insights into the current regulatory environment in the EU, including sustainability reporting requirements and due diligence expectations.

Training course modules:

- Module I: Environmental Life Cycle Assessment (E-LCA).
- Module II: Economic Assessment with Material Flow Cost Accounting (MFCA).
- Module III: Social Life Cycle Assessment (S-LCA).
- Module IV: Safe and Sustainable by Design (SSbD), Eco-Design, Chemical Risk Assessment, and Multicriteria Sustainability Hotspot Analysis.
- Module V: Regulatory Frameworks.

Each module can be booked individually or combined as a package. When booked together, participants benefit from coordinated learning across methods and a reduced package price.

Training Chairs

Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

Julia Gebefügi
ABCircular GmbH

Lecturers

Maja Jelic (M.Sc.)
ABCircular GmbH

Marta Revello (M.Eng.)
ABCircular GmbH

Khadija Sarquah (M.Sc.)
SRH Berlin University Applied Science

Target group

The training course is suited for:

- Scientists and engineers working in research and development and industrial production.
- Managers and salespeople with a basic technical understanding who work in this or a related field and want to benefit from materials-oriented further training.
- People with a basic technical understanding who are interested in further training in this or a related field and would like to benefit from a materials perspective.
- People with a basic technical understanding who work in the field / the fields of environmental affairs, consultancy, circular economy, product design or in related fields and would like to benefit from materials-oriented further training.

Goals

Understanding and applying sustainability and life cycle assessment is essential for companies aiming to reduce their environmental footprint, improve social responsibility, and ensure the sustainability of materials and processes.
Here are the key reasons why this course will benefit your company:

- **Environmental Life Cycle Assessment (E-LCA)**: Learn to conduct thorough environmental impact assessments, helping your company minimize product and process footprints.
- **Economic Assessment with Material Flow Cost Accounting (MFCA)**: Understand and apply MFCA to identify cost-saving opportunities and manage resource use more efficiently.
- **Social Life Cycle Assessment (S-LCA)**: Evaluate the social impacts of products and processes and demonstrate your company's commitment to social responsibility.
- **Safe and Sustainable by Design (SSbD) & Eco-Design**: Learn how SSbD and eco-design principles integrate chemical risk assessments to ensure your products are sustainable, safe, and circular from the outset.
- **Chemical Risk Assessment**: Identify chemical hazards and integrate risk management strategies to design safer and more environmentally friendly products and processes.
- **Multicriteria Sustainability Hotspot Analysis**: Use a holistic approach to assess and prioritize sustainability hotspots, improving decision-making across environmental, social, and economic factors.
- **Regulatory Frameworks**: Stay updated on key EU regulations, including sustainability reporting and due diligence, to ensure compliance and stay ahead of regulatory changes.
- **Discuss your specific practical application/problem with experts.**

Choose between 5 flexibly bookable modules according to your needs and use this opportunity to advance your company's sustainability ecosystem and gain a competitive advantage!

Organizational matters

Overview

20 Apr 2026 (Mon)
09:00 General Introduction
09:15 – Module I – Introduction “Life Cycle Perspective”
10:15 – Module I – Introduction environemtal life cycle assessment and OpenLCA
11:30 – Module I – Introduction of case study from environemtal perspective and E-LCA activities

21 Apr 2026 (Tue)
09:00 – Module I – Software and activities e-LCA case study modelling

22 Apr 2026 (Wed)
09:00 – Module I – Activity Q&A

23 Apr 2026 (Thu)
09:00 – Module I – E-LCA case study, results and discussions

27 Apr 2026 (Mon)
09:00 – Module II – General introduction
10:15 – Module II – Introduction economic assessment and MFCA tables

28 Apr 2026 (Tue)
09:00 – Module II – MFCA activities and usage of MFCA tables for study cases

29 Apr 2026 (Wed)
09:00 – Module II – Introduction LCC and activities

30 Apr 2026 (Thu)
09:00 – Module II – Q&A Activities result presentation MFCA case study

04 May 2026 (Mon)
09:00 – Module III – General introduction
10:15 – Module III – Introduction social LCA, introduction G-LCA, group work PSIA

05 May 2026 (Tue)
09:00 – Module III – Social-LCA case study assessment

06 May 2026 (Wed)
09:00 – Module III – Social LCA & G-LCA activities

07 May 2026 (Thu)
09:00 – Module III – Activities result presentation / Q&A

11 May 2026 (Mon)
09:00 – Module IV – General holistic sustainability assessment introduction
10:30 – Module IV – Eco-Design, CRA
11:30 – Module IV – Safe and sustainable by design, activity

12 May 2026 (Tue)
09:00 – Module IV – Multicriteria sustainability assessment by using C-MET-ESG analysis tables

13 May 2026 (Wed)
09:00 – Module IV – Multicriteria sustainability assessment activity

18 May 2026 (Mon)
09:00 – Module IV – Activities result presentation / Q&A

19 May 2026 (Tue)
09:00 – Module V – General introduction
10:15 – Module V – Introduction sustainability reporting

20 May 2026 (Wed)
09:00 – Module V – Deep dive omnibus initiatives and activity

21 May 2026 (Thu)
09:00 – Module V – Introduction to CCF and PCF and activities

Program

20 Apr 2026 (Mon)

09:00 Lecture

General Introduction

The lecturers introduce the whole training course structure, the learning objectives, and the way participants will work across theory, guided exercises, and case-based discussions. Participants receive a clear overview of the tools, datasets, and exercises used throughout the module sequence.

Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

09:15 Lecture

– Module I – Introduction "Life Cycle Perspective"

In this introduction participants develop a life cycle perspective and learn how choices in sourcing, processing, use, and end-of-life shift environmental, social, and economic consequences. The module introduces sustainable development concepts and uses two contrasting case studies, an assessed project for recycling of tantalum and chocolate production, to demonstrate how system boundaries, allocation choices, and improvement measures influence conclusions in practice.

Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

10:15 Lecture

– Module I – Introduction environemtal life cycle assessment and OpenLCA

Participants receive a structured introduction to environmental life cycle assessment in accordance with ISO 14040 and learn the core steps from goal and scope definition to interpretation. The session familiarises participants with OpenLCA software, core functions. typical workflows, and relevant databases and datasets and how to select appropriate background data and document assumptions for reproducibility.

Khadija Sarquah
SRH Berlin University Applied Science

11:30 Lecture

– Module I – Introduction of case study from environemtal perspective and E-LCA activities

The session presents the environmental LCA case study and practice. Participants practice life cycle mapping, goal and scope definition and system boundary setting using the case study. The session further covers setting impact categories and indicators for the system under study, establishing a robust basis for later modeling and impact assessment.

Khadija Sarquah
SRH Berlin University Applied Science

21 Apr 2026 (Tue)

09:00 Lecture

– Module I – Software and activities e-LCA case study modelling

The session focus is on building a consistent model and preparing the model for transparent interpretation and communication of results. Using a case study, participants learn how to identify process flows to guide building inventory data (inputs and outputs). Participants are taken through creating and modelling "flows" and "process" into "product system", as well as calculating impacts and interpretation. Further, the session covers sensitivity analysis and comparison using "projects". Participants are given exercises for self-practice and feedback.

Khadija Sarquah
SRH Berlin University Applied Science

22 Apr 2026 (Wed)

09:00 Lecture

– Module I – Activity Q&A

Participants work through optional deepening exercises based on the chocolate production case to strengthen confidence in inventory creation and modelling decisions. The session reserves time for targeted questions, typical pitfalls, and practical advice on how environmental LCA outputs can be used in R&D and operational contexts.

Participation in this module on this day is voluntary.

Khadija Sarquah
SRH Berlin University Applied Science

23 Apr 2026 (Thu)

09:00 Lecture

– Module I – E-LCA case study, results and discussions

The session discusses the basics of End-of-Life (EoL) modelling and multifunctionality. Participants review the case results and practice explaining findings with appropriate limitations and uncertainty awareness. A moderated discussion links the assessment output to concrete decision situations, and participants receive time for questions tailored to their own application contexts. Information and resources for further LCA practices are made available to participants.

Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

Khadija Sarquah
SRH Berlin University Applied Science

27 Apr 2026 (Mon)

09:00 Lecture

– Module II – General introduction

In this introduction participants develop a life cycle perspective and learn how choices in sourcing, processing, use, and end-of-life shift environmental, social, and economic consequences. The module introduces sustainable development concepts and uses two contrasting case studies, an assessed project for recycling of tantalum and chocolate production, to demonstrate how system boundaries, allocation choices, and improvement measures influence conclusions in practice.

Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

10:15 Lecture

– Module II – Introduction economic assessment and MFCA tables

The session presents an overview of resource-efficiency assessment approaches, introducing the economic logic and application of Material Flow Cost Accounting in line with ISO 14051. The session explains the step-by-step procedure to identify material and energy losses, demonstrates its application in a completed project, and introduces the study cases used during the workshop. Participants will gain a practical understanding of life cycle costing and related economic approaches, enabling them to compare alternatives consistently, identify cost drivers along the value chain, and connect results to operational improvement measures.

Marta Revello
ABCircular GmbH

28 Apr 2026 (Tue)

09:00 Lecture

– Module II – MFCA activities and usage of MFCA tables for study cases

In this practical session, participants apply Material Flow Cost Accounting (ISO 14051) by completing structured MFCA tables for the study cases. Rather than introducing the methodology, the focus is on performing the calculations, interpreting results, and gaining confidence in the workflow.


Marta Revello
ABCircular GmbH

29 Apr 2026 (Wed)

09:00 Lecture

– Module II – Introduction LCC and activities

Using the use cases for the workshop, participants build an economic inventory by identifying inputs and outputs in monetary units and aligning them with the life cycle structure. The session emphasizes consistent assumptions, comparability across options, and the translation of cost findings into actionable conclusions for design and process choices.


Marta Revello
ABCircular GmbH

30 Apr 2026 (Thu)

09:00 Lecture

– Module II – Q&A Activities result presentation MFCA case study

Participants present and discuss results from the economic exercises and clarify methodological questions, typical data challenges, and interpretation pitfalls. The discussion focuses on how MFCA and LCC outputs can be used to justify process changes, prioritize improvement measures, and support cross-functional decisions.


Prof. Dr. Gesa Beck
SRH Berlin University Applied Science


Marta Revello
ABCircular GmbH

04 May 2026 (Mon)

09:00 Lecture

– Module III – General introduction

In this introduction participants develop a life cycle perspective and learn how choices in sourcing, processing, use, and end-of-life shift environmental, social, and economic consequences. The module introduces sustainable development concepts and uses two contrasting case studies, an assessed project for recycling of tantalum and chocolate production, to demonstrate how system boundaries, allocation choices, and improvement measures influence conclusions in practice.


Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

10:15 Lecture

– Module III – Introduction social LCA, introduction G-LCA, group work PSIA

Participants learn to conduct Social Life Cycle Assessments based on the Product Social Impact Assessment (PSIA) method. A use case (tantalum recycling) is applied to demonstrate how SDG mapping along the life cycle can support decision-making for emerging technologies. Furthermore, participants learn how to define stakeholders and identify them for each life cycle stage, i.e., material sourcing, processing, production, use, and end-of-life. They also learn how to identify social hotspots, select indicators, analyse and present assessment results. The session introduces how gender-related perspectives can be scoped and documented within a social assessment.


Khadija Sarquah
SRH Berlin University Applied Science

05 May 2026 (Tue)

09:00 Lecture

– Module III – Social-LCA case study assessment

In this session the second use case—chocolate production—will be assess alongside participants to analyse social impacts for different stakeholder groups along the life cycle. This interactive lecture focuses on structured reasoning, documentation of assumptions, and the translation of qualitative findings into clear recommendations for further process and production improvements that align with the Safe and Sustainable by Design framework.


Khadija Sarquah
SRH Berlin University Applied Science


Maja Jelic
ABCircular GmbH

06 May 2026 (Wed)

09:00 Lecture

– Module III – Social LCA & G-LCA activities

Participants will undertake practical exercises to apply and deepen their knowledge of Social LCA and Gender LCA.


Maja Jelic
ABCircular GmbH


Khadija Sarquah
SRH Berlin University Applied Science

07 May 2026 (Thu)

09:00 Lecture

– Module III – Activities result presentation / Q&A

Participants discuss and compare the outcomes of the assessment exercises, reflect on uncertainty and data limitations, and practice formulating clear conclusions for stakeholders. The session includes time for questions, such as method selection, defining system boundaries, and integration with other sustainability dimensions, among others.


Khadija Sarquah
SRH Berlin University Applied Science


Prof. Dr. Gesa Beck
SRH Berlin University Applied Science


Maja Jelic
ABCircular GmbH

11 May 2026 (Mon)

09:00 Lecture

– Module IV – General holistic sustainability assessment introduction

In this introduction, participants develop a life cycle perspective and learn how choices in sourcing, processing, use, and end-of-life shift environmental, social, and economic consequences. The module introduces sustainable development concepts and uses two contrasting case studies, an assessed project for recycling of tantalum and chocolate production, to demonstrate how system boundaries, allocation choices, and improvement measures influence conclusions in practice.


Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

10:30 Lecture

– Module IV – Eco-Design, CRA

Furthermore, participants are introduced to the role of critical raw materials in sustainability decisions and how criticality considerations can change preferred solution pathways. The module provides a practical entry into chemical risk assessment through use cases and guided exercises, focusing on hazard identification and evaluation as a foundation for safer design choices. Participants also apply eco-design principles in a short analysis of the chocolate production case to identify improvement options for environmental performance and circularity.


Marta Revello
ABCircular GmbH

11:30 Lecture

– Module IV – Safe and sustainable by design, activity

The session links the previous discussed elements to the EU Safe and Sustainable by Design (SSbD) framework, consisting of two phases: a (re)-design phase using eco-design tools such as Process Trees and Hotspot Tables to identify priority issues, followed by a detailed assessment phase applying environmental, economic and social aspects, adding a deeper chemical risk assessment to verify safety and sustainability. Hands-on exercises provide practical experience in chemical risk assessment and hotspot identification.


Marta Revello
ABCircular GmbH

12 May 2026 (Tue)

09:00 Lecture

– Module IV – Multicriteria sustainability assessment by using C-MET-ESG analysis tables

Participants learn the C-MET-ESG framework as a qualitative multicriteria method for comparing alternatives when quantitative data are incomplete or decisions require a broader perspective. Using a predefined case study, participants apply the matrix to score sustainability aspects across the process chain and practice interpretation across criticality, materials, energy, toxicity, environmental, and social categories.


Marta Revello
ABCircular GmbH

13 May 2026 (Wed)

09:00 Lecture

– Module IV – Multicriteria sustainability assessment activity

Participants work with three variations of the study cases to compare alternative solutions for a process and analyze how changes affect outputs and trade-offs across sustainability categories. The activity trains structured comparison and consistent scoring logic.


Marta Revello
ABCircular GmbH

18 May 2026 (Mon)

09:00 Lecture

– Module IV – Activities result presentation / Q&A

Participants present their comparative assessments, discuss trade-offs and decision criteria, and refine interpretation and communication of qualitative outcomes. Time is reserved for questions on how to combine multicriteria assessment with LCA, economic evaluation, and SSbD-oriented design work.


Prof. Dr. Gesa Beck
SRH Berlin University Applied Science


Marta Revello
ABCircular GmbH

19 May 2026 (Tue)

09:00 Lecture

– Module V – General introduction

In this introduction participants develop a life cycle perspective and learn how choices in sourcing, processing, use, and end-of-life shift environmental, social, and economic consequences. The module introduces sustainable development concepts and uses two contrasting case studies, an assessed project for recycling of tantalum and chocolate production, to demonstrate how system boundaries, allocation choices, and improvement measures influence conclusions in practice.


Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

10:15 Lecture

– Module V – Introduction sustainability reporting

This session provides an overview of sustainability reporting, with a focus on key EU regulatory requirements such as CSRD, ESRS, and the EU Taxonomy. It also introduces the Corporate Sustainability Due Diligence Directive (CSDDD) and outlines new EU regulations addressing sustainability and due diligence in supply chains. The session serves as a foundation for more detailed discussions in subsequent modules.


Julia Gebefügi
ABCircular GmbH

20 May 2026 (Wed)

09:00 Lecture

– Module V – Deep dive omnibus initiatives and activity

This session provides a deep dive into EU regulations under the Omnibus Initiative, allowing participants to explore the topic through practical activities. Participants will present their results and engage in discussions to reflect on their findings. Time is also allocated for questions and answers to clarify concepts and share insights.


Julia Gebefügi
ABCircular GmbH

21 May 2026 (Thu)

09:00 Lecture

– Module V – Introduction to CCF and PCF and activities

Participants receive a structured introduction to corporate carbon footprinting and product carbon footprint calculations and practice key steps through guided activities. Participants will engage in practical activities to apply these concepts. Time is also allocated for presenting results and a Q&A discussion to clarify insights and address questions.


Prof. Dr. Gesa Beck
SRH Berlin University Applied Science


Julia Gebefügi
ABCircular GmbH

Prof. Dr. Gesa Beck
SRH Berlin University Applied Science

Gesa Beck is the managing director and founder of ABCircular GmbH. She is a professor of environmental process engineering and has more than 25 years of experience in recycling technologies, sustainability assessments, green chemistry and renewable energies.

She was Head of the Fraunhofer Application Center "Resource Efficiency" and is currently Head of the Institute for Applied Resource Strategies and Vice President for Sustainable Development at SRH Berlin.

She was/is a reviewer for the EU, DFG, DBU and Volkswagen Foundation, for several international journals, guest editor at Elsevier and MDPI and member of scientific committees of international conferences (e.g. EUROMAT 2023). In addition, she has been project leader of more than 50 research and development projects.

Julia Gebefügi
ABCircular GmbH

Julia Gebefügi (M.A.) has a degree in humanities and social sciences. She is a certified sustainability manager.

Maja Jelic (M.Sc.)
ABCircular GmbH

Maja Jelic (M.Sc.) is the Head of Research and Development at ABCircular GmbH. She has experience in the social assessment of processes and life cycles of products, especially in occupational safety (e.g. chemical risk assessment) as well as in chemical process design and material characterization. She teaches and researches in environmental processes and sustainability topics.

Marta Revello (M.Eng.)
ABCircular GmbH

Marta Revello (M.Eng.) is a research and development engineer and an expert in electrochemical recycling processes. She teaches and conducts research in the field of lithium-ion battery recycling.

Khadija Sarquah (M.Sc.)
SRH Berlin University Applied Science

Khadija Sarquah (M.Sc.) is an expert in life cycle assessment. She teaches and researches in the areas of sustainability assessment, renewable energy, rural energy access, waste recycling and material characterization.

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