



SWEDISH  
LIFE CYCLE  
CENTER

# 2021

SWEDISH LIFE CYCLE CENTER ANNUAL REPORT



# Swedish Life Cycle Center Annual report 2021

No 2022:1

## 25 years of collaboration within the life cycle field

**The Swedish Life Cycle Center has since 1996 brought together Swedish life cycle competence and front-running organizations. It has been instrumental in developing and adopting life cycle approaches in the Swedish society, whilst making important contributions to international initiatives. And in 2022 we will continue our 25-year long journey of collaboration and mutual learning with over 500 professionals among our partner network.**

**The life cycle perspective is being integrated in all levels in the society, from customer demands to new business models and in legislations. The need and demand for both life cycle information and life cycle competence continue to increase. So after 25 years, the Swedish Life Cycle Center and the life cycle community have an important role to play. A journey that you will be important part of.**

During 2021, the Swedish Life Cycle Center has gathered its expertise with the ambition of further strengthening life cycle science in Sweden by developing a joint application to the Swedish Energy Agency for a new Center of Excellence within the life cycle field. This joint effort has led to new collaborations and dialogues. Among others, this led to new collaborations with Electrolux and Polestar, which became new partners during the year. Both Electrolux and Polestar have experience of applying life cycle approaches in their business and are now joining the Center in our work towards the vision “Credible and applied life cycle thinking globally” and to drive the life cycle field forward.

This year a Scientific director has joined the Swedish Life Cycle Center with the aim of increasing the scientific quality of the Center. Formerly run by the Scientific Advisory Group, this role complements the center's Director, who is responsible for its operations and for running a Technical secretariat that manages the Center's activities.

In 2021 we had the opportunity to dive deeper into the field of Environmental Footprint, an initiative of the European Commission, and the methodology aspects within the Product Environmental Footprint (PEF) method. This initiative has been important to better understand and develop the method as PEF is expected to be used for legislation and in several new policies at an EU level. The field has attracted a large number of participants from companies, authorities, industry associations, universities and research institutes. From Sweden, Europe and outside Europe.



Sara Palander, Director, Swedish Life Cycle Center.

Photo by Daniel Karlsson.

“Innovation cluster for the life cycle perspective” provides a meeting place where industry, academia, authorities and other parts of society come together to create opportunities for an increased understanding and use of the life cycle perspective. The innovation cluster has made it possible to develop new forms of collaboration for SMEs and to strengthen our relationships with other life cycle networks in other parts of the world. In 2021, this project enabled us to promote our working groups, expert groups, network conference and strategic intelligence meetings for an increased understanding and use of the life cycle perspective. The project is financed by the Swedish Energy Agency and Swedish Life Cycle Center's partners and will run until May 2024.

We look forward to continuing this collaboration during 2022 as well as entering a new stage of the center, stage 10, with start on January 1 and end on December 31, 2024. Furthermore, we are eager to pool our efforts to collaborate, work together and strive for more Life Cycle Action! A new explanation for the acronym LCA, according to Anne-Marie Tillman in the interview with her about her work with LCA and for the Swedish Life Cycle Center during these 25 years.

Best Regards  
/Sara Palander  
Director, Swedish Life Cycle Center

“

The importance of collaboration and the value of the network that we have built during the project is definitely one of the biggest benefits of our participation in the project.”

– Project participant Environmental Footprint in Sweden, 2021



# Center projects gathers professional voices in important arenas

**Swedish Life Cycle Center has historically participated in a great amount of research projects and contributed to many successful research results within the field of life cycle management and life cycle assessment.**

In 2021 the Center was involved in the following projects: “Impacts on producers and customers of conflicting rules for LCA”; “ASSIST – Relay industrial supply chain sustainability data”; “Environmental Footprint in Sweden – increased competence and communication”; “Coordination of LCA-data for increased traceability and recycling of plastics and Incentives for energy recovery in LCA for plastics”. The Center’s competence and resource base are its partners – a network of life cycle professionals. A significant part of the research in the life cycle field is conducted through partners, which is not highlighted in this report.

ICON - impacts on producers and costumers of conflicting rules for LCA

The project “[Impacts on producers and customers of conflicting rules for LCA](#)” (ICON) that started in July 2020 presented its results in the end of 2021. The project’s aim was to investigate how fuel producers are affected by conflicting rules for life cycle assessment (LCA). Within the project eight renewable fuels were part as case studies, in which three different frameworks were tested: The EU Renewable Energy Directive (RED), the EU framework for Product Environmental Footprints (PEF) and the frameworks of Environmental Product Declarations (EPD). All three frameworks have different requirements and different methodological aspects that can lead to diverging results and conflicting recommendations. Key findings from the project were that when it comes to modelling of waste management, land use, co-products and electricity supply the different frameworks can give diverging results. Another important finding was that both Product Environmental Footprint and Environmental Product Declarations were open for interpretation which can lead to diverging and not consistent results depending on choices made during calculation.



Sofia Poulíkidou, researcher, IVL.  
Photo by Technical secretariat.

**Environmental Footprint in Sweden – lessons learned**

The interest for the Environmental Footprint initiative, an initiative of the European Commission, among Swedish actors are increasing. There is a need to better understand the methods, Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF), and how the legislative proposals related to these methods will affect Swedish industry. Sweden’s long experience of developing and working with life cycle assessment is also needed to further develop these methods.



PEF case study on a paper product.  
Photo by Stora Enso Nymölla Mill.

The project “[Environmental footprint in Sweden - increased competence and communication](#)”, has been carried out within the Swedish Life Cycle Center with funding from Vinnova, Sweden’s Innovation Agency, to fulfil parts of these needs.

The project has led to increased coordination of Swedish LCA expertise with the aim of understanding and impacting the European Commission’s process of developing the methods PEF and OEF.



PEF case study on a steel product.  
Photo by SSAB.

Furthermore, Swedish actors have gained a better understanding of the PEF method and its methodology development, as well as a deeper insight in and understanding of the policy work with legislative proposals.

The project has engaged a large group of stakeholders in various activities such as case studies, reading circles, public consultations, method workshops and information webinars. Stakeholders from business have gained insight into method applications and interpretation of results. And authorities have been given a better arena for collaboration on the policy development that takes shape around environmental footprints.

“*The project has illustrated examples, of and insights in, methodological questions regarding the application of PEF.*”

– Webinar participant, 2021

**Incentives for recycling and incineration in Product Environmental Footprint**

The project “[Incentives for recycling and incineration in Product Environmental Footprint](#)” was carried out to investigate the risk that Product Environmental Footprint of plastics give incentives to send plastic waste to incineration instead of recycling, even when recycling is the best option from an environmental point of view. Furthermore, the project also aimed to increase the knowledge about the extent to which correct incentives can be obtained through a deeper understanding of how to model energy recovery. Results were presented at the European Commission Environmental Footprint Technical Advisory Board meeting in May 2021 and published in the [Journal Waste Management](#).

**Strengthening the life cycle related science**

Interest in the life cycle field continues to increase, not only among industry but also in the service sector, the public sector and the life cycle perspective is increasingly applied in legislation and policy work. Life cycle-based information is being requested in society and new skills are needed to answer our global sustainability challenges. In 2021, the Swedish Life Cycle Center has coordinated a joint action towards a common research agenda in line with the Swedish Energy Agency call on Sustainable Energy System. Unfortunately, the application did not proceed by the Agency, but the work has contributed to the added value of new collaborations and dialogues.

**Strengthening the scientific quality of the Center**

Gregory Peters started his position as a Scientific director at the Swedish Life Cycle Center on September 1, 2021.

Gregory, who is a professor in Environmental Systems Analysis at the Technology Management and Economics at Chalmers, will contribute to strengthening the scientific quality of the Center and is, in close dialogue with the Center’s director Sara Palander, responsible for ensuring that the Swedish Life Cycle Center conducts excellent research that contributes to the life cycle field. The Scientific director is affiliated to the Swedish Life Cycle Center at 10% full time and the position is for 2 years.



Gregory Peters, Scientific director, Swedish Life Cycle Center.  
Photo by Daniel Karlsson.

“*I think that adding a Scientific director will help generate stronger research funding applications. There is a lot of academic talent connected with the Center so I think there is plenty of potential for this – prioritizing will be the hard part!*”

– Gregory Peters, Scientific director,  
Swedish Life Cycle Center

Center of Excellence

In accordance with policy and guidelines for centers at Chalmers University of Technology, an external review of the Swedish Life Cycle Center stage 9 (2019-01-01 - 2021-12-31) was/has been? conducted by host department (Technology Management and Economics) and host Area of Advance (Production). This evaluation focuses on collaboration, utilization and research.

“ I personally do not know any similar organisation globally that has the same ambition and efficiency/effectiveness in the wide area of lifecycle science and applications. This makes your center unique in the (LCA/ sustainability) world.”

- External reviewer of the Center, 2021

The external reviewers expressed the value of Swedish Life Cycle Center within Swedish organizations and its contribution to the international development of the life cycle field. They also discussed the great impact potential that the Center has outside of Sweden and how to bring life cycle thinking and applications “to the next level” in practice.

Finally, the external reviewers concluded that the goals for stage 9 were achieved and recommended a continuation of the Center.

New generation of PhD students

The PhD-course Advances in Life Cycle Assessment (5 HEC) was given during April and May this year. A total of 21 students from seven different universities across Scandinavia participated. The course is a collaboration between the partner universities in the Swedish Life Cycle Center; Chalmers University of Technology, KTH Royal Institute of Technology and Swedish University of Agricultural Sciences. The course objective is to give a broad view of life cycle assessment (LCA) methodology and application. Which includes knowledge on state-of-the-art research in selected areas, disseminate the expertise and experiences of senior LCA researchers to a new generation of PhD students. The course also helped to create an informal network of young LCA researchers where they could share knowledge and support each other throughout their careers.

Training in Applied Life Cycle Thinking

During the autumn the popular two-days course in Applied Life Cycle Thinking was arranged. For the second time the course was held online using digital tools for both lectures and group work. Which, together with the fact that the course was given in English for the first time, opened up for participants from all over the world. 18 participants from both Sweden and abroad attended the course.

The aim of the course was for the participants to get a deeper understanding on how to apply life cycle thinking within their respective organization, through real cases and proven methods. The participants all came from different backgrounds and worked, for example, as strategists, environmental coordinators, environmental managers, purchasers and investigators in the public sector. The course consisted of presentations, many practical examples, several group exercises and a lot of dialogue between course participants and teachers. It also provided opportunity for networking between the participants.

“ The two-day training in Applied Life Cycle Thinking provided increased understanding of the challenges different actors are facing when operationalizing sustainability work, in addition to the knowledge and tools on how to implement the life cycle perspective in my organization.”

- Participant in training, 2021

Arena for networking

On Wednesday 20th October 2021, the second online network conference was organized. The title of the conference was “Let’s meet & talk LCA” and the day focused on inspiration and knowledge sharing on how to organize life cycle work within companies and other types of organizations.

Over 50 life cycle professionals were gathered to get inspired and to share their experiences and challenges as well as success stories. Henrikke Baumann, professor at Chalmers University of Technology opened the day with her presentation “Life cycle work – challenges and possibilities”.

More inspiration was then offered from three different organizations; Electrolux, new partner to the Center, Boverket (Swedish National Board of Housing, Building and Planning) and Vattenfall. The organizations all shared how they have and currently are organizing their work within the life cycle field. Two sessions of dialogue and group discussions followed after the presentations, where the conference attendees could share their experiences, challenges, and success stories. The day ended with a networking event.

“ The partnership has complemented our existing industry-collaborations in a very good way, since it is much more cross-industry and academia oriented. It is a valuable platform for benchmarking important issues.”

- Industrial partner, 2021

Strong contribution to the International Conference on Life Cycle Management 2021

The 10th International Conference on Life Cycle Management took place during 5th – 8th September 2021 with the vision “Building a Sustainable Future Based on Innovation and Digitalization”. The conference was organized as a virtual conference by the Fraunhofer Institute for Building Physics IBP, Department Life Cycle Engineering (GaBi). It was an impressive arrangement with plenty of opportunities to interact and take part in discussions and dialogues. Partners in Swedish Life Cycle Center were seen as chairs and presenters or taking part in the interactive parts of the conference. Following presentations were presented by the Center:

**Poster:** Impacts on fuel producers and customers of conflicting rules for LCA.

**Authors:** Sofia Poulidikou (IVL), Tomas Rydberg (IVL), Anna Wikström (Swedish Life Cycle Center), Tomas Ekvall (Chalmers), Pavinee Nojpanya (Chalmers), Carolina Jogner (Chalmers), Anna Ekman Nilsson (RISE), Jennifer Davis (RISE), Johan Nilsson (IVL), Miguel Brandão (KTH).

**Oral:** Making an impact through joint efforts – Values, outcomes and lessons from 25 years of collaboration.

**Authors:** Sara Palander, Maria Rydberg & Anna Wikström (Swedish Life Cycle Center).

**Oral:** Government collaboration for increased application of life cycle thinking in society (Abstract to LCM 2021).

**Authors:** Anna Wikström (Swedish Life Cycle Center), Sara Palander (Swedish Life Cycle Center), Maria Rydberg (Swedish Life Cycle Center), Susanna Toller (Trafikverket), Björn Spak (Swedish EPA), Kristina Einarsson (Boverket), Joakim Thornéus (Upphandlingsmyndigheten).



Björn Spak, Swedish Environmental Protection Agency, presenting at LCM 2021.

Photo by: Technical secretariat.

**Oral:** Learnings of national application of Environmental Foot-print in Companies and Organizations.

**Authors:** Sara Palander (Swedish Life Cycle Center), Björn Spak (Swedish EPA), Karin Sanne (IVL), Katarina Lorentzon (RISE), Torun Hammar (RISE), Maria Rydberg (Swedish Life Cycle Center), Anna Wikström (Swedish Life Cycle Center).



Anna Wikström & Maria Rydberg presenting and moderating at LCM 2021.

Photo by: Technical secretariat.

**Poster:** The risk of Product Environmental Footprints incorrectly recommending energy recovery.

**Authors:** Tomas Ekvall (Chalmers and TERRA), Marie Gottfridsson (IVL), Johan Nilsson (IVL), Maja Nellström (IVL), Maria Rydberg (Swedish Life Cycle Center), Tomas Rydberg (IVL).

Working- and expert groups provides a knowledge-based arena

Swedish Life Cycle Center’s working- and expert groups are an important part of the Center. They give input into ongoing processes within the European Commission and the Nordic countries. They provide opportunities to work together on common issues as well as share their knowledge. The groups are also a meeting place for mutual learning and to meet other life cycle colleagues. Active groups this year have been: The Nordic working group for LCA climate and buildings, Expert group Environmental footprint, Authorities network, Academy group and Data and methodology.



# Research projects

Impacts on producers and customers of conflicting rules for LCA (ICON)

**Project manager:** Sofia Poulikidou and Tomas Rydberg / IVL Swedish Environmental Research Institute & coordinated by Anna Wikström, Technical secretariat, Swedish Life Cycle Center.

**Time period:** 2020-06-15 - 2021-12-31.

**Funded by:** Swedish Energy Agency (within the collaborative research program Renewable transportation fuels and systems).

**Participating organizations:** IVL Swedish Environmental Research Institute, Chalmers University of Technology, KTH, Royal Institute of Technology, RISE Research Institutes of Sweden AB, Scania CV AB, Volvo Technology, BASF AB, CIT Industriell Energi AB, FordonsGas Sverige AB, Lantmännen Aspen AB, Nätverket För Transporter & Miljön, Preem AB, Scandinavian Enviro Systems AB, SEKAB Biofuel Industries AB, SPBI Service AB, St1 Sverige AB, TERRA AB

**Outcomes from the project:** Eight case studies, a recorded result webinar that has been made available [here](#), poster presentation at the online conference LCM 2021 (5-8 September 2021), oral presentation at f3 Swedish Knowledge Centre for Renewable Transportation Fuels program conference. A project report will be published in the beginning of 2022 (Report no. 2022:5 in Swedish Life Cycle Center publication series).

**Read more** [here](#).

ASSIST – Relay industrial supply chain sustainability data

**Project manager:** Raul Carlsson, RISE Research Institutes of Sweden.

**Time period:** 2021-11-01 - 2022-07-31.

**Funded by:** Vinnova.

**Participating organizations:** Chalmers University of Technology, IVL Swedish Environmental Research Institute, KTH Royal Institute of Technology, Scania, SKF, Vattenfall, Volvo Buses, Volvo Cars.

**Outcomes from the project:** The project will be evaluated and presented after the project is being finalized in July 2022.

**Read more** [here](#).

Environmental footprint in Sweden - increased competence and communication

**Project manager:** Sara Palander, Swedish Life Cycle Center.

**Time period:** 2020-11-01 - 2021-12-31.

**Funded by:** Vinnova.

**Participating organizations:** IVL Swedish Environmental Research Institute, RISE Research Institutes of Technology, Chalmers University of Technology, Swedish Environmental Protection Agency, KTH Royal Institute of Technology, SSAB, Stora Enso and all partners in the Swedish Life Cycle Center Environmental footprint expert group.

**Outcomes from the project:** The project has resulted in an increased understanding of the Environmental Footprint in Swedish industry and the public sector. Stakeholders have gained insight into both the Product Environmental Footprint methodology, and the policy and legislative processes around Environmental Footprints. Furthermore, a broadened representation in the European Commission's Environmental Footprint Technical Advisory Board (TAB) and a better understanding on how to perform a PEF study through examples from a steel product and a paper product. The project deliverables are: 7 Youtube videos, 3 workshops, 2 reports: Environmental Footprint - an introduction to the initiative of the European Commission (2021:4 in Swedish Life Cycle Center's publication series) & Lessons learned of working with Product Environmental Footprint (2022:3), 1 Powerpoint presentation with speaker notes: Environmental Footprint – an introduction to the initiative of the European Commission (2022:4), 1 newsletter, 1 oral presentation at LCM 2021 (5-8 September 2021).

**Read more** [here](#).

Coordination of LCA-data for increased traceability and recycling of plastics

**Project manager:** Tatjana Karpenja, RISE Innventia AB and coordinated by Anna Wikström, Swedish Life Cycle Center.

**Time period:** 2020-10-29 - 2021-01-31.

**Funded by:** Swedish Environmental Protection Agency.  
**Participating organizations:** RISE Innventia AB, RISE Research Institutes of Technology, Chalmers University of Technology, IVL Swedish Environmental Research Institute.

**Outcomes from the project:** Round table discussions: “Resource-efficient recycling of LDPE-film” (December 1) and “Best practices of traceability in value chains for sharing material and environmental data” (December 16), Report “Samordning av livscykeldata för ökad spårbarhet & plaståtervinning (Report number 2021:03 in Swedish Life Cycle Center's publication series), Final seminar with Swedish Environmental Protection Agency (Feb 2021).

**Read more** [here](#).

Incentives for energy recovery in LCA for plastics

**Project manager:** Maria Rydberg, Swedish Life Cycle Center and Tomas Ekvall, Chalmers University of Technology/ TERRA AB.

**Time period:** 2020-11-01 - 2021-01-31.

**Funded by:** Swedish Environmental Protection Agency.  
**Participating organizations:** TERRA AB, Chalmers University of Technology, IVL Swedish Environmental Research Institute.

**Outcomes from the project:** Report “Incentives for recycling and incineration in LCA: Polymers in Product Environmental Footprints” report number 2021:02 in Swedish Life Cycle Center's publication series. Results were presented in a webinar and a recording of the webinar has been made

available [here](#). Oral presentation at the virtual conference SETAC Europe 31st annual meeting. Poster presentation at the online conference LCM 2021 (5-8 September 2021). Journal article in Waste management. Presentation at European Commission Environmental Footprint Technical Advisory Board meeting in May, 2021.

**Read more** [here](#).

## Publications

Ekvall T., Gottfridsson M., Nilsson J., Nellström M., Rydberg M., Rydberg, T. (2021). Factor B in the Circular Footprint Formula. Oral presentation. SETAC Europe 2021 - SETAC Europe 31st Annual Meeting, Seville/virtual.

Ekvall T., Gottfridsson M., Nilsson J., Nellström M., Rydberg M., Rydberg T. (2021). Incentives for recycling and incineration in LCA: Polymers in Product Environmental Footprints. Project report: 2021:02. Swedish Life Cycle Center.

Ekvall T., Gottfridsson M., Nilsson J., Nellström M., Rydberg M., Rydberg, T. (2021). Modelling incineration for more accurate comparisons to recycling in PEF and LCA. Journal Article in Waste Management Volume 136, December 2021, Pages 153-161.

Ekvall T., Gottfridsson M., Nilsson J., Nellström M., Rydberg M., Rydberg T. (2021). The risk of Product Environmental Footprints incorrectly recommending energy recovery. Poster presentation. 10th International Conference on Life Cycle Management (LCM), September 2021, Stuttgart/virtual.

Karpenja T., Enebro J., Dahllöf L., Löfgren C., Lorentzon A., Wikström A. (2021). Samordning av livscykeldata för ökad spårbarhet & plaståtervinning. Project report 2020:03. Swedish Life Cycle Center.

Palander S., Spak B., Sanne K., Lorentzon K., Hammar T. (2021). Environmental Footprint – An introduction to the initiative of the European Commission. Project report 2021:04. Swedish Life Cycle Center.

Palander S., Spak B., Sanne K., Lorentzon K., Hammar T., Wikström A., Rydberg M. (2021). Learnings of national application of Environmental Footprint in Companies and Organizations. Oral presentation. 10th International Conference on Life Cycle Management (LCM), September 2021, Stuttgart/virtual.

Palander S., Wikström A., Rydberg M. (2021). Making an impact through joint efforts – Values, outcomes and lessons from 25 years of collaboration. Oral presentation. 10th International Conference on Life Cycle Management (LCM), September 2021, Stuttgart/virtual.

Poulikidou S., Rydberg T., Wikström A., Ekvall T., Nojpanya P., Jogner C., Ekman Nilsson A., Davis J., Nilsson J., Brandão M. (2021). Impacts on fuel producers and customers of conflicting rules for LCA. Poster presentation. 10th International Conference on Life Cycle Management (LCM), September 2021, Stuttgart/virtual.

Rydberg T., Steen B. (2021). Slutrapport för projekt Naturkapital och värdeskapande/ Natural capital and value creation. Project report 2020:09. Swedish Life Cycle Center.

Wikström A., Toller S., Spak B., Einarsson K., Thornéus J., Palander S., Rydberg M. (2021) Government collaboration for increased application of life cycle thinking in society. Oral presentation. 10th International Conference on Life Cycle Management (LCM), September 2021, Stuttgart/virtual.

## Working groups

Academy group  
Environmental footprint  
LCA data & methodology  
Nordic Working Group for LCA, climate and buildings  
Dialogue forum for government agencies

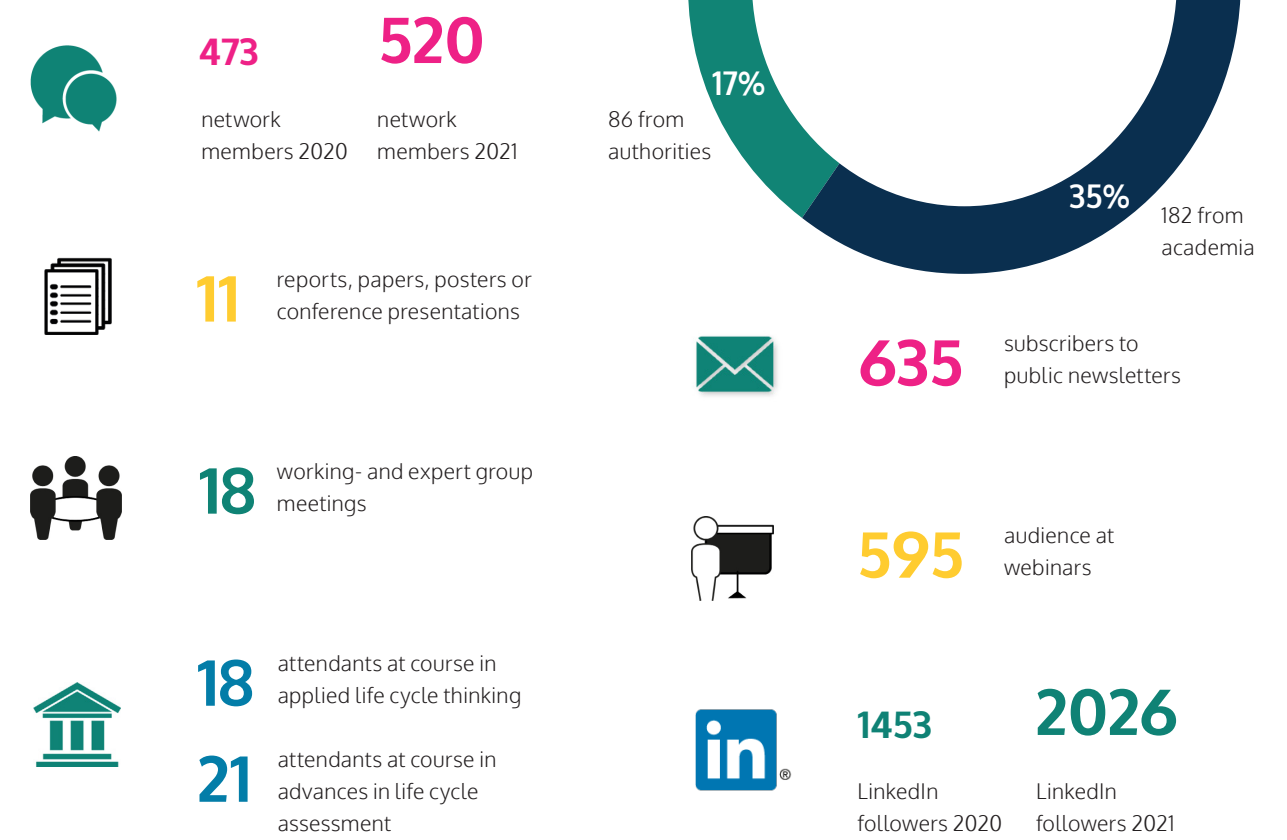
## Board 2021

Lars Mårtensson, Chair of the Swedish Life Cycle Center Board  
Anna Hedlund Åström, KTH Royal Institute of Technology  
Anna Widerberg/Linnea Petersson, Volvo Cars  
Cecilia Sundberg, SLU Swedish University of Agricultural Sciences  
Elin Eriksson, IVL Swedish Environmental Research Institute  
Eva Ahlner, Swedish Environmental Protection Agency  
Emma Rex, RISE Research Institutes of Sweden  
Erik Nellström, Scania  
Frida Røyne, Polestar Performance  
Gianluca Brotto, Electrolux  
Gregory Peters, Scientific director (ADJ)  
Jenny Köhler, Swedish Energy Agency (ADJ)  
Karin Strömberg, Volvo Group  
Lars-Gunnar Lindfors, Secretary (ADJ)  
Lena Landström, Vattenfall  
Martyna Mikusinska, Sweco Environment  
Mats Berglund, SKF  
Rickard Arvidsson, Chalmers University of Technology  
Sara Palander, Director Swedish Life Cycle Center (ADJ)  
Susan Iliefski Janols, Essity Hygiene and Health  
Tobias Borén, Nouryon

Read more about our projects, publications, working and expert groups at: [www.lifecyclecenter.se](http://www.lifecyclecenter.se)

# The network in numbers

Applied life cycle thinking has always remained in focus and this has gathered experts from our partners, building a critical mass of researchers, practitioners and decision makers who use the Center as their common arena upon which further activities and perspectives are developed over time. Below is a summary of 2021 in numbers:



### Short facts about Swedish Life Cycle Center

**Organization type:** A Center of Excellence

**Location:** Hosted by Chalmers University of Technology, Gothenburg

**Vision:** Credible & applied life cycle thinking globally

**Age:** 25 years

**The center in 3 words:** Collaboration, knowledge building, life cycle thinking

# Activities 2021

Many of the events during 2021 was arranged within the project “Innovation cluster for the life cycle perspective”, with funding from the Swedish Energy Agency and Swedish Life Cycle Center partners.

A selection of events are presented below. Working group meetings, expert group meetings, project meetings and consultations are not presented.

- JANUARY 21**  
Webinar: Incentives for energy recovery in LCA for plastics, with Tomas Ekvall, Chalmers University of Technology, Maja Nellström and Marie Gottfridsson, IVL.

**JANUARY 20**  
Strategic business intelligence gathering: Environmental Outlook with Tomas Olsson, Vattenfall.

**MARCH 10**  
Webinar: Applying life cycle thinking when assessing climate impact of the Swedish transport system, with Carolina Liljenström, KTH, Susanna Toller, Swedish Transport Administration and Anna Björklund, KTH.

**MARCH 24**  
Strategic business intelligence gathering: How LCA-work is organized within companies.

**MARCH 30**  
Webinar & workshop: Requirements and expectations for making product’s environmental footprint visible. Held within the project Environmental Footprint in Sweden - increased competence and communication.

**APRIL 10**  
Information meeting: About Swedish Life Cycle Center & collaboration opportunities, with Technical secretariat of the Center, together with partners Susan Iliefski Janols, Vice President Product Sustainability & Services, Essity and Björn Spak, Swedish Environmental Protection Agency.

**APRIL 19 – MAY 21**  
PhD course: Advances in life cycle assessment, 5 HEC.

**APRIL 28**  
Information meeting: About Swedish Life Cycle Center, collaboration opportunities & the ongoing application to Centers of Excellence.

**JUNE 3**  
Webinar & workshop: Reference and limit values for the carbon footprints of buildings - a Nordic perspective, together with the Nordic dialogue forum for LCA, climate and buildings.

- SEPTEMBER 23**  
Webinar: The research behind WWF’s plant-based consumer guide, with Hanna Karlsson Potter, SLU.

**SEPTEMBER 27**  
Conference: Nordic Climate Forum for Construction 2021. In collaboration with Nordic Co-operation and Húsnæðis- og mannvirkjastofnun (The Icelandic Housing and Construction Authority).

**OCTOBER 7**  
Information meeting: About Swedish Life Cycle Center and partnership in the Center, together with Lena Landström, Senior Environmental Adviser, Vattenfall and Axel Edh, Sustainability Director, Essity.

**OCTOBER 20**  
Network conference: Let’s meet & talk LCA. Theme: Organization of life cycle work within companies and government agencies.

**OCTOBER 26**  
Dialogue meeting with EPD International. Latest developments. Presenter: Sebastiaan Stiller, EPD International.

**OCTOBER 27-28**  
Two-day course in Applied life cycle thinking, organized by Swedish Life Cycle Center in close collaboration with RISE Research Institutes of Sweden and Greendesk AB. Course leaders: Emma Rex, Torun Hammar and Kristian Jelse. Guest speaker: Erik Nellström, Scania and Björn Spak, Swedish EPA.

**NOVEMBER 16**  
Strategic business intelligence gathering: Life cycle assessment in ISO - the Swedish work in SIS, together with Jimmy Yoter, SIS, Tomas Ekvall, Chalmers & TERRA and Ellen Riise, Essity.

**NOVEMBER 24**  
Product environmental footprint seminar on biodiversity & LANCA (Land Use Indicator Value Calculation in Life Cycle Assessment) within the project Environmental Footprint in Sweden, together with IVL, RISE, Fraunhofer.

**NOVEMBER 30**  
Final research seminar within the project Environmental Footprint in Sweden, “EU Environmental Footprint - industrial experiences & updates on the policy process”. Speakers from SSAB, Stora Enso, IVL, RISE, Swedish EPA, the project ICON and the European Commission.

**DECEMBER 14**  
Final research seminar & webinar within the research project Impact on producers and customers of conflicting rules for LCA, together with Sofia Poulikidou, IVL and Tomas Ekvall, TERRA.


### A neutral platform

The partners of Swedish Life Cycle Center is the foundation. Partners contribute to activities, start cross-sector research projects, hold a seat in the Board and form the agenda of the center. Contact us if you are curious about partnership!


The center is financed jointly by partners and Chalmers University of Technology (host for the center). From June 2020 Swedish Life Cycle Center is managing the project Innovation cluster for the life cycle perspective, funded by the Swedish Energy Agency and Swedish Life Cycle Center partners.

### Contact

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 Swedish Life Cycle Center

 @Lifecyclecenter

### Partners 2021

CHALMERS

 Electrolux

 essity

 ivl  
SVEDESKA  
MILJÖINSTITUTET

 KTH

 NATUR  
VÄRDE  
VERKET

Nouryon

Polestar

RI  
SE

 SCANIA

SKF

 SLU

SWECO 

 VATTENFALL

VOLVO



### In collaboration with

Boverket

 Jordbruks  
verket  
Swedish Board  
of Agriculture

 Konsument  
verket · KO

 Swedish  
Energy Agency

 TRAFIKVERKET

 Upphandlings  
myndigheten

 SWEDISH  
GEOTECHNICAL  
INSTITUTE

 Tillväxtanalys  
ANALYS AV  
UTVECKLINGAR  
OCH FÖRUTSÄTTNINGAR

### Swedish Life Cycle Center

Chalmers University of Technology  
Text and layout by Swedish Life Cycle  
Center's Technical secretariat.