



SWEDISH
LIFE CYCLE
CENTER

2019

SWEDISH LIFE CYCLE CENTER ANNUAL REPORT



Swedish Life Cycle Center Annual report 2019

No. 2020: 1

2019 has been a year filled with engagement, commitment and activities among the Swedish Life Cycle Center partners, but also through a high involvement from the center's external network. Many activities have been possible in through the project Swedish platform for the life cycle perspective, aiming to work as a joint national collaboration for knowledge building and increase the implementation of the life cycle perspective into processes and decision making in industry and other parts of society. The project is financed by the Swedish Energy Agency and Swedish Life Cycle Center partners and will run until May 2020.



Sara Palander, Director of Swedish Life Cycle Center.
Photo by Ulrika Ernström

This year, Sweco and Scania joined the center and are important organizations to strengthening the national collaboration and competence building within the life cycle field, which is important in order to move towards our mission "Credible and applied life cycle thinking globally".

2019 has offered a wide range of activities. To mention some, the center has been given a two day course in Applied Life Cycle Thinking for professionals, a seminar in Almedalen on LCA and Electric Vehicles, arranging webinars on e.g. Environmental footprint process, organized network

conferences, workshops and seminars, managed important research projects and taken action in and been part of the development of the two newly launched ISO standards on Monetary valuation of environmental impacts (ISO 14008 and ISO 14007). We are in this moment gathering researchers and practitioners from 37 organizations in four center research projects, covering a wide span of topics; Methods for modeling of recycling in LCA, Nature capital and value creation, Simplification of environmental scope declarations and Social life cycle assessment from a user perspective.

This annual report will give you an insight in some of the highlighted outcomes from the year. The Board and the Technical secretariat would like to thank all partners, including researchers, practitioners and decision makers, who have been actively involved in the Swedish Life Cycle Center in 2019.

We are looking forward to continued cooperation in 2020 and to act as a focal point for the life cycle perspective in Sweden and deliver results that affect the life cycle related field and act towards a more sustainable society for all of us.

“
*aims for a joint national
collaboration for knowledge
building and to engage
organizations to apply a life cycle
perspective.*”

Best Regards
/Sara Palander
Director, Swedish Life Cycle Center

“The seminar was in many ways a success, where we reached out to a wide audience that showed their interest for electric vehicles and LCA as a tool.”

- Lars Mårtensson, Director Environment and Innovation at Volvo Trucks and panelist at the seminar “How environmentally friendly are electric vehicles? With a Life Cycle perspective we can get the answers”.



Photo of panelists from Almedalen seminar on Electric Vehicles, July 2 2019.

Influencing the national and international agenda

Impressive competence building and collaboration through Swedish Energy Agency (Swedish Platform for Life Cycle Perspective)

The project Swedish platform for the life cycle perspective has been important to strengthen the knowledge building among Swedish organizations within the life cycle field as well as the Swedish collaboration among life cycle experts and practitioners. The project, which is financed jointly by the Swedish Energy Agency and partners in the center will end in May 2020 and are now about to finalize and summarize the project. Overall, the project has contributed to many new important activities and results for both partners in Swedish Life Cycle Center and for new organizations outside the center. The project has contributed to increased communication efforts with new channels and has been an important platform to initiate and develop new research ideas and projects within LCA and LCM. It has also been fundamental to coordinate many of our working- and expert groups as well as seminars and webinars. Furthermore – many of the presented activities in this report have been possible thanks to the project Swedish platform for life cycle perspective.

“

The project has contributed to important values for my organization, such as the provided competence building, the networking opportunities and the common business intelligence.”

– Project participant, December 2019

Research projects gathers professional voices in important arenas

The center has historically participated in a great amount of research projects and contributed to many successful research results within the area of life cycle thinking.

The project Modeling of Recycling, led by Tomas Ekvall at IVL Swedish Environmental Institute and Chalmers University of Technology, is coordinated within the center. The project gathers life cycle professionals from academia, research institutes, industry and government agencies to increase the knowledge on how recycling can be modeled in LCA where 21 organizations are involved. This far, it has led to



Discussions on allocation methods of recycling at the project workshop for Modeling of Recycling, May 28, 2019, in Gothenburg.

increased knowledge among Swedish industrial companies and authorities about how recycling should be modeled, and it contributes to the ongoing debate and the development of the EU Guidelines for environmental impact of products and other international harmonization of the LCA methodology.

The project SCOPES – Simplify Complexity of Environmental Scope declarations, has performed an intensive analysis on reducing complexity of sustainability system analyses. The project has also initiating and prepared for international standardization of system boundary choices for life cycle assessments, such as environmental damage costs, life cycle analyses and environmental performance for infrastructure, industry, circular economy, finance and procurement. It has been led by Raul Carlsson at RISE Research Institutes of Sweden together with the Chalmers University of Technology, the Swedish Institute for Standards, SIS, and in collaboration with the Swedish Life Cycle Center. As a result, the technical committee for Environmental management in the Swedish Institute for Standards, SIS/TK 207 aims at suggesting an international standardization to set some standard scope boundaries for a few key sustainability study types.

Working group discusses hands on methodology issues in LCA

The working group LCA data & methodology aims to act as a forum for discussions and development of data of interest to life cycle practitioners. The group manages hands on discussions related to methodology issues in LCA. During the year the group has arranged online meetings and discussed topics such as The Climate account (Klimatkontot) – an information tool to understand the users own carbon footprint contribution; Climate calculator (Klimatkalkyl) – its development and use and the choice of LCA software – how does it affects the results?

Photos on this spread by Swedish Life Cycle Center.

Joint actions for accessible and transparent life cycle related data

LCA data is used by organizations to measure, follow up and reduce environmental and social impact. For the Swedish Life Cycle Center, it is important to contribute to making LCA data more accessible and transparent globally and with over 20 years of experience in working together to create a common understanding on the environmental impact from consumption and production we know that credible and transparent information is needed. Information is needed both from natural processes and technical processes in the society and information how these processes are interacting. The interest in life cycle assessment is increasing globally and with that an increased need for LCA data. Small steps are taken with the hope that Sweden will be able to contribute to the global need for accessible and transparent life cycle related data. In 2019, actions have been taken towards a common national strategy in collaboration with the Swedish Environmental Protection Agency, where two applications have been submitted and meetings between national agencies have been arranged.

Close collaboration with Swedish authorities for life cycle-based decision making

Since 2016, Swedish Life Cycle Center has a close collaboration with seven Swedish government agencies, in the “government dialogue group” which aims to build up life cycle knowledge and increase the collaboration among agencies and with the center. The group meets on a regular basis to share experiences, to build common knowledge in the life cycle field and to collaborate in important national initiatives. These authorities play an important role in shaping policies and legislation and the Platform-project with its activities has been crucial to contribute to this knowledge building. In 2019 the group has collaborated in several research applications, among other things, to achieve national coordination in the LCA-data field.



Helle Herk-Hansen, Vice President Environment at Vattenfall, is here presenting Vattenfalls' LCA journey started in 1993. In a seminar at the Swedish Energy Agency where Swedish Life Cycle Center was invited to give an introduction to the life cycle perspective. Photo by Swedish Life Cycle Center.

The European Environmental footprint transition phase – increased demand for competence and collaboration

The Environmental footprint expert group aims to follow, understand and influence the Environmental Footprint process and has been an important part of the pilot phase and are now being involved in the transition phase. It is a forum for different stakeholders to exchange information and experience on the methodologies into transition. The group members also inform about various initiatives that link to the methods, which also have a bearing on the rules for quantifying environmental footprint.

Leadership in a global standard for counting the cost of environmental damage

Environmental damage costs society enormous amounts of money – and often leaves future generations to foot the bill. In March 2019, the new ISO standard ISO 14008 – *Monetary valuation of environmental impacts and related environmental aspects* was released.



Bengt Steen, Professor Emeritus at Chalmers University of Technology that led the development of the new ISO standard for monetary valuation. Photo by Hiba Fawaz.

It will help companies value and manage their environmental damage, by providing a clear framework for estimating the cost of their impacts on the environment. Over the past three years, Bengt Steen, Professor Emeritus at Chalmers University of Technology, has led the development of a new ISO standard for monetary valuation through an international working group together with the Swedish Institute for Standards, SIS in collaboration with the Swedish Life Cycle Center and its partners AB Volvo, Essity, Nouryon (formerly Akzo Nobel Specialty Chemicals) and the IVL Swedish Environmental Institute.

The standard is a result of an initiative within the Swedish Life Cycle Center working group Get the prices right that has gathered researchers, practitioners and decision makers from industry and a government agency since 2012 with the ambition to put this area on the business and political agenda. The work has resulted in four research projects

which have contributed to; 1) knowledge building; 2) method development and update of the Environmental Priority Strategy system (EPS); 3) exchange of experiences and dissemination of results through workshops, seminars and educational courses; 4) business implementation; 5) initiation and development of a global harmonization within the ISO system, ISO 14008: Monetary valuation of environmental impacts and related environmental aspects.

Course in Applied life cycle thinking attracts different roles and companies

The course in Applied life cycle thinking was given for the third and fourth time in October and November 2019 in close collaboration with IVL, RISE as well as SIS as new collaboration partners for this year. Course leaders were Karin Sanne (IVL Swedish Environmental Institute), Emma Rex (RISE Research Institutes of Sweden) and Jimmy Yoler (Swedish Institute for Standards, SIS) and as an addition the participants got a guest lecture from our partners companies, this year from Essity and Vattenfall. The course gathered 23 professionals within the sustainability sector. The planning of the next years courses is now in full motion.

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The course provides an understanding of life cycle thinking in general as well as work nationally and in the EU to improve methodology and how this work hooks into other important work such as the global sustainability goals.”

— Course participants, Stockholm, November 2019



Discussions at the Network conference and kick off for stage 9 on February 2019 in Stockholm. Photo by Swedish Life Cycle Center

We reach a wider audience

During the Almedalen week, the Swedish Life Cycle Center invited to a public seminar on the Sustainability Arena July 2th – “How environmentally friendly are electric vehicles? With a Life Cycle perspective we can get the answers”. With the life cycle perspective as a starting point, the panel discussed the future of electric vehicles. Around 100 people were attending to learn more about how life cycle assessment and thinking create the possibilities for a sustainable future vehicle fleet. Panel participants were Anders Nordelöf (Chalmers), Mia Romare (IVL), Lars Mårtensson (Volvo Trucks), Cecilia Wendin (Stena Metall R&D), Annika Ramsköld (Vattenfall), and Joakim Thorneus (The Swedish Public Procurement Authority) and was moderated by Per-Olof Arnäs (Chalmers).



Participants at the course in Applied life cycle thinking, Stockholm, October 2019. Photo by Swedish Life Cycle Center

The topic was further discussed at the network conference Let's meet and Talk LCA! September 26th, where 45 life cycle professionals met and shared their experiences. The center is not only a valuable platform for networking and internal communication among partners in working groups and network conferences but also a great way to spread Life cycle thinking worldwide. For the past two years the center has developed and integrated webinars as a one of our strongest tools to reach out with knowledge to the right target group. Webinars such as “Achieving resource efficiency” with Anne-Marie Tillman (Chalmers) and “Sustainable and Circular Public Procurement” with Michael Martin (KTH), Sven-Olof Ryding (IVL), Sofia Lingegård (KTH), Elvira Molin (IVL/KTH), and “Environmental Footprint” with Michael Galatola (European Commission) has been popular. With our webinars and seminars, we have reach out to at least 300 people only this past year.

Using social media has also been a great success to find common denominators with other actors in the sustainability sector and increase our communicative scope and the external network is growing fast as the interest of life cycle thinking in general.

Research projects

Nature Capital and Value Creation

Project manager: Tomas Rydberg, IVL

Time period: 2018-11-15 – 2020-05-31

Funded by: RE:Source

Participating organizations: IVL Swedish Environmental Research Institute, Chalmers University of Technology, Volvo Cars, Volvo Group, Nouryon, Swedish EPA, Swedish Transport Administration, Nordeconsult Sweden, Sustainability Circle, Svensk Handel, Lanson International, Theorema Scandinavia, Scorett Footwear, Stockholm Fashion District Nacka Strand

Outcomes from the project: Several case studies have been carried out within the project, such as sustainability accounting with EPS, and calculation of socioeconomic infrastructure investment. Scientific presentation (poster) at LCM 2019 in Poznan.

Read more [here](#).

Modeling of Recycling

Project manager: Tomas Ekvall, Chalmers University of Technology / IVL Swedish Environmental Research Institute & coordinated by Jenny Lagergren, Technical Secretariat

Time period: 2018-11-15 – 2020-05-31

Funded by: Swedish Energy Agency (RE:Source)

Participating organizations: Chalmers University of Technology, IVL, KTH, Essity Hygiene and Health, Volvo Group (Buses), Nouryon, Volvo Cars, RISE, Vattenfall, SSAB, Swedish Transport Administration, Outokumpu Stainless, Stena Recycling, Tetra Pak, Jernkontoret, Swerea IVF, Miljögraff, Swedish Energy Agency, Swedish Environmental Protection Agency, SKF, Stora Enso

Outcomes from the project: The project will be evaluated and presented after the projects is being finalized in the end of May 2020.

Read more [here](#).

SCOPES – Simplify Complexity of Environmental Scope declarations

Project manager: Raul Carlsson, RISE

Time period: 2019-03-01 – 2020-01-10

Funded by: Vinnova

Participating organizations: RISE, Chalmers University of Technology, Swedish Institute for Standards, SIS

Outcomes from the project: A draft for a new work item proposal for ISO (NWIP).

Read more [here](#).

Social life cycle assessment – experiences from Swedish users

Project manager: Mathias Lindqvist, Chalmers

Time period: 2019-10-01 – 2020-03-20

Funded by: Adlerbertska forskningsstiftelsen

Participating organizations: Chalmers University of Technology.

Read more [here](#).

Working groups

Academy group

Biodiversity & land use

Government agency group

Get the prices right

LCA data & methodology

LCA & vehicles

Social LCA

Nordic Working Group for LCA, climate and buildings

Expert groups

Data strategy

Environmental footprint

Board 2019

Anna Hedlund Åström, KTH Royal Institute of Technology

Anna Widerberg, Volvo Cars

Elin Eriksson, IVL Swedish Environmental Research Institute

Elisabet Kock, Swedish Environmental Protection Agency

Emma Rex, RISE Research Institutes of Sweden

Emma Ringström, Nouryon

Erik Nellström, Scania

Holger Wallbaum, Chalmers University of Technology (until

April) — Rickard Arvidsson, Chalmers University of Technology (from May)

Karin Eriksson, Volvo Group

Lars-Gunnar Lindfors, Secretary (adj)

Lars Mårtensson, Chairman

Lena Landström, Vattenfall

Martyna Mikusinska, Sweco

Sara Palander, Director Swedish Life Cycle Center

Stefano Marzola, SKF

Susan Iliefski Janols, Essity Hygiene and Health

Susanna Widstrand, Swedish Energy Agency (adj)

Torun Hammar, SLU Swedish University of Agricultural Sciences

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As the Swedish Life Cycle Center is the leading network within LCA in Sweden, we see that joining the center would help us to fulfil our ambition.”

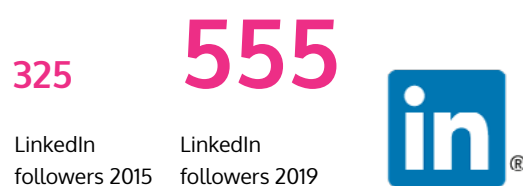
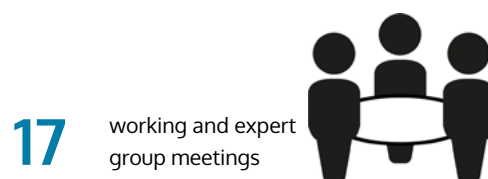
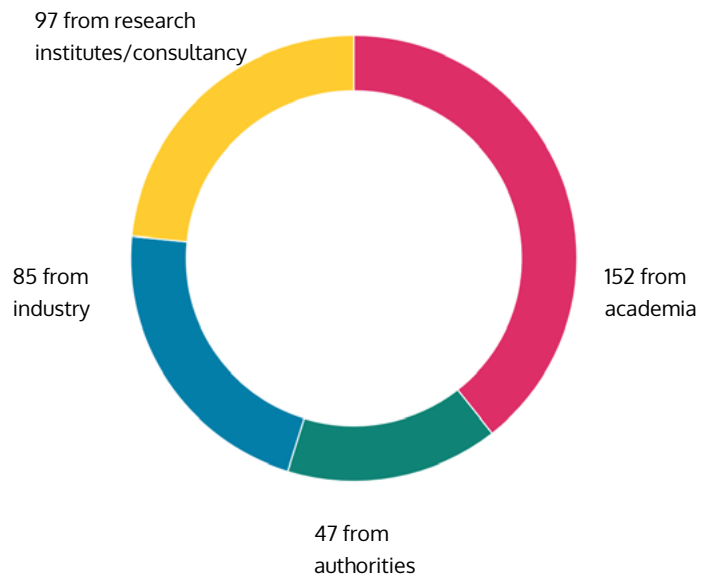
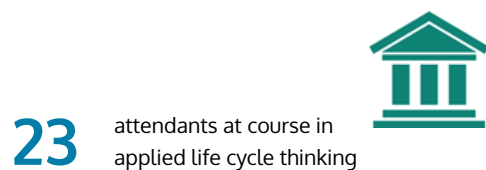
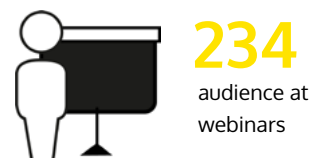
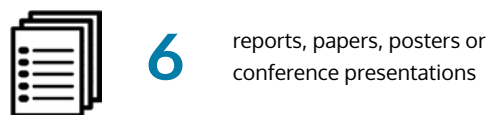
— *Martyna Mikusinska, environmental scientist & board member, Sweco*

Read more about our projects, working and expert groups at:

www.lifecyclecenter.se

The network in numbers

Applied life cycle thinking has always remained in focus and this has gathered experts from the partners, building a critical mass of researchers and practitioners who use the center as their common arena upon which further activities and perspectives are developed over time. Below is a summary of 2019 in numbers:



Activities 2019

Many of the events are arranged within the project Swedish platform for the life cycle perspective (funded by the Swedish Energy Agency) and Swedish Life Cycle Center. A selection of events are presented below.

FEBRUARY 7

Network conference: Shaping the Future - Kickoff for Stage 9, Stockholm.

MARCH 27

Webinar: Environmental footprint transition phase with Michele Galatola, European Commission.

MAY 28

Project meeting: Modeling of Recycling with Tomas Ekvall, IVL.

MAY 28

Seminar: Ny standard för redovisning av miljökostnader – så vägleder ISO 14008 with Bengt Steen, Chalmers and Jimmy Yoler, SIS, Stockholm. In collaboration with SIS and NMC.

JUNE 4

Information meeting: Become a partner in Swedish Life Cycle Center.

JULY 2

Seminar: Hur miljövänliga är elfordon? Med ett livscykelperspektiv får vi svar!, Almedalen.

AUGUST 26

Livscykelperspektivet som underlag för beslutsfattande i näringslivet, with Sara Palander, Swedish Life Cycle Center and Helle Herk-Hansen, Vattenfall. In collaboration with the Swedish Energy Agency, Eskilstuna.

SEPTEMBER 6

Webinar: Sustainable and Circular Public Procurement with Michael Martin, Sven-Olof Ryding, IVL, Sofia Lingegård and Elvira Molin, KTH.

SEPTEMBER 26

Network conference: Let's meet & talk LCA! Gothenburg.

OCTOBER 3-4

Conference: Participation and presentation at Nordic Climate Forum for Construction 2019, in collaboration with Boverket, Malmö.

OCTOBER 7

Seminar: Vill du delta i utvecklingen av LCA och Miljökommunikation? In collaboration with SIS and Essity, Mölndal.

OCTOBER 8-9

Two-day course in Applied life cycle thinking 2019, organized by Swedish Life Cycle Center through a close collaboration with IVL, RISE and SIS, Gothenburg

OCTOBER 25

Information meeting: Become a partner in Swedish Life Cycle Center.

NOVEMBER 12-13

Two-day course in Applied life cycle thinking 2019, organized by Swedish Life Cycle Center through a close collaboration with IVL, RISE and SIS, Stockholm

NOVEMBER 18

Webinar: Environmental and Economic implications of circularity" with Patricia van Loon, Chalmers Industriteknik, Steve Harris, IVL and Derek Diener, RISE.

NOVEMBER 20

Final research seminar Global Harmonization of Scopes with Raul Carlsson, RISE, Bengts Steen, Chalmers, Ana Martha Coutino, RISE and Jimmy Yoler, SIS, Gothenburg.

DECEMBER 5

Webinar: Klimatskatt på mat with Emma Moberg, SLU.

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: 23 years

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

Partners: 14 partners and in collaboration with 7 government agencies

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 in partnership!


The center is financed jointly by partners and Chalmers University of Technology (host for the center). From January 2017, Swedish Life Cycle Center is managing the project Swedish platform for the life cycle perspective, funded by the Swedish Energy Agency.

Contact

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 Swedish Life Cycle Center

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Partners 2019



In collaboration with



Swedish Life Cycle Center

Chalmers University of Technology
Text and layout by Swedish Life Cycle
Center's Technical Secretariat
Design by Creuna