



SWEDISH
LIFE CYCLE
CENTER

2022-2024

SUMMARY OF SWEDISH LIFE CYCLE CENTER SELF-ASSESSMENT REPORT

Summary of Swedish Life Cycle Center Self-assessment report Stage 10 2022-2024

Introduction

Swedish Life Cycle Center (from here on referred to as “the Center”) is a center of excellence and a collaboration platform for academia, research institutes, industry, and government agencies – fostering competence building and knowledge exchange in the advance and application of the life cycle field.

The self-assessment report covers the Center’s achievement in relation to the operational plan for stage 10. It focuses on collaboration, utilization and research and describes results and relevance of the Center and its activities during the stage. It also presents results surveys and evaluations done at board meetings to capture all partners input on Stage 10 and the added value from collaborating through the Center.

Organisation

During stage 10 the center’s vision has been: Credible and applied life cycle thinking globally. The mission was as follows: The mission is to work for the integration of the life cycle perspective into processes and decision making in industry, government policy and other parts of society, developing products and services with increased resource efficiency that enhances sustainable consumption and production patterns. This should open possibilities of working towards a more circular economy and meet common sustainability challenges and sustainable development goals. When preparing for Stage 11 the board of the center agreed upon that both the vision and mission needs an update to match the Centers current ambitions.

New vision: Accelerate sustainable transition through science-based life cycle action.

New mission: Our mission is to work for the advancement and integration of life cycle action in all decision-making processes. We enable competence building and sharing among our members and partners, and host a unique, thriving network of companies, academia, research institutes and government agencies. By fostering these connections and advancements, we aim to enhance resource efficiency, promote a circular economy, and foster innovation.

Stage 10 includes 19 partners representing four universities, two research institutes, ten industry partners and one government agency. The center also has a formalized collaboration with thirteen national government agencies and eight small and medium sized companies. The partner

base grew with three more partners, Luleå University of Technology, Asker Healthcare and Tetra Pak AB during Stage 10, and one additional partner, Amiblu Technology AS, will join the center when Stage 11 starts.

The scientific base of the Center comes from the collaboration between partners in cross-sectoral research collaboration and projects. All activities during Stage 10 aim to support and contribute to the vision and are addressed through specific strategic ways of working for achieving the expected outcomes, i.e.:

- developing and securing relevant and scientifically based methods, practices, and tools
- supporting the competence and knowledge building
- influencing national and international initiatives



The new mission for Stage 11 is “Accelerate sustainable transition through science-based life cycle action”.

Photo from Unsplash.

Achievements

Research projects

During Stage 10, 16 applications were initiated and coordinated within the Center, and six of these have been approved. Two of these applications has been large collaborative efforts, one to Vinnova Competence Center call in 2022/2023 and one for the Swedish Energy Agency Call for Innovation clusters in 2024. These applications all have a greater common purpose of collaborating, to make a greater impact, to create spin-off effects and coordinate dialogues and collaborations that would not take place without the Center’s involvement and initiation.

Seeing the massive raise in need for competence within LCA and life cycle thinking the Center has carried out two projects during the stage, *Life cycle competence needs, current and future, in the Swedish industry* and *In-Depth Assessment of*

the Need for Life Cycle Competence in Swedish Industry and Authorities, aimed at better understanding the competences that industry and society will require in order to handle the demand for life cycle information.

Another pair of projects investigating and testing the Product Environmental Footprint (PEF) method have been conducted during the stage, *Environmental footprint in Sweden – increased competence and communication* and *Environmental footprint in Swedish industry – increased understanding and implementation*.

The project *ASSIST - Relay industrial supply chain sustainability data* aimed to better understand companies’ current situation and needs of potential ways forward regarding collecting life cycle data and life cycle inventory data from suppliers.

The project *Twin-Wins: Measuring business model environmental performance* aims to grow the knowledge, capacity, and application of Business Model Life Cycle Assessment. This project will continue during Stage 11.

Working groups and Expert groups

Six working groups and one expert group has been active during the stage. In the Center’s *Academy group* close collaboration between Swedish researchers is key to secure knowledge and capacity building in Sweden. Work within the group has resulted in the *PhD course Advances in life cycle assessment*. The *Dialogue group for Swedish government agencies* has been active during the Stage and the collaboration includes thirteen government agencies, with over 40 people from involved in the Center’s activities. The center’s *Expert group on Environmental footprint* has been crucial to both projects on PEF (mentioned above) and for following and influencing the Environmental footprint development within EU.

During the Stage, three new working groups started:

- *Recent and current standardization in LCA* that aimed at updating and discussing the latest development within standardization.
- *Biodiversity and LCA* that aims at sharing insights regarding ongoing activities on addressing biodiversity pressures from agriculture, forestry, and marine activities and initiate new collaborations.
- *Circularity and LCA* that aims at finding research and knowledge gaps in LCA in circularity field, finding possibilities of start pilots or projects. Foster knowledge exchange among organizations, facilitating the dissemination of insights and facilitating contributions to the development of guidelines, standards, and policies.

Other achievements

During this stage, a *Research Strategy* for the Center was developed. One of the most important actions identified for the technical secretariat to support research was to pursue the goal of bringing a scientifically important LCA/LCM

conference to Sweden within the next 3 years, with the Swedish Life Cycle Center as host. In spring 2022 an opportunity to fulfill this aim was presented when the Center was asked to arrange the *SETAC Europe 26th LCA Symposium* together with the organization SETAC. 21-23 October 2024 the Symposium was arranged in Gothenburg, at Chalmers, and it became the biggest SETAC LCA symposium so far with 520 participants from 39 countries. Over 400 presentations were made during the conference. Having arranged the SETAC Europe 26th LCA Symposium during the Stage greatly increased the visibility of the center both nationally and internationally.



The SETAC Europe 26th LCA Symposium gathered 520 participants from 39 countries.

Photo by Henrik Sandsjö.

During the Stage the Center has had the opportunity to run the project *Innovation cluster for the life cycle perspective* with funding from the Swedish Energy Agency and partners in the center. Several of the afore-mentioned research applications and working groups have been coordinated within the project. Three additional important deliveries from the projects are:

- *Webinar series for municipalities* – A series of webinars with focus on how a municipality can apply a life cycle perspective in different parts of its organization
- *Life Cycle Talks* – a concept for spreading new research and the application of the life cycle perspective
- Training material – A set of training materials that can either be implemented in an e-learning platform or be used as lecture material when giving a lecture on life cycle thinking and LCA on a basic level. The material will be released for all in 2025.

The Center’s networking activities have been invaluable crossroads for interaction between researchers, decision-makers and practitioners. During stage 10, these include 50 events such as network conferences, workshops, seminars and webinars as well as contributions to national and international conferences. The Center monitors the development of research, policies and application of the life cycle perspective and news outcomes mirror the Center’s activities as well as put spotlight on the global sustainability agenda.

Projects and activities mentioned above have impacted the international agenda. Swedish representatives have been

active in the EU Environmental footprint development through e.g. taking part in the Environmental footprint technical advisory board and in the development of new standards and in the process on updating the LCA standards within the ISO framework. In addition to the above-mentioned achievements, the Center also acts as a national body for life cycle related issues and give support and input to government and funding agencies.

Added value of being a partner

The Swedish Life Cycle Center is a recognized leader in the life cycle field, known for its multidisciplinary methodology and collaboration between academia, research institutes, industry, and government agencies.

The Board conducts a yearly self-assessment, asking all partners to evaluate the added value of the partnership, highlight valuable results, and suggest areas for improvement. Surveys conducted in May and November 2024 provided insights into the value of Stage 10, its contributions to partners, and its societal impact. Summarizing these surveys and yearly follow-ups, it is evident that the Center plays a crucial role in disseminating research insights and serves as a platform for mutual learning and shared practices. The Center is vital in identifying challenges and advancing solutions through joint projects and collaborations, such as the EU Environmental Footprint initiative. The development of the research agenda is also noted as an important milestone.

Partners highly value the initiation and pursuit of joint projects with competent partner constellations. They emphasize the Center's efforts in following up on interests and new development areas, such as Circularity and LCA, allowing collective influence on the focus and agenda. The Center's strengths include high-level collaboration, strategic discussions, and joint projects addressing common challenges. It acts as a bridge between academia and industry/public authorities, making life cycle thinking and research applicable. Partners appreciate the Center's role in research utilization, knowledge exchange, and mutual learning. University partners highlight the importance of university collaboration and the Academy Group, including the PhD course, which strengthens networking among new PhDs.

The Center is a network of unique contacts and dedicated partners who advance life cycle thinking and support method and tool development. The large partner base is crucial for understanding and implementing available tools in large organizations. The addition of new partners during the stage, with their life cycle experience and sustainability commitments, has been positively received. Partners appreciate the Center's network activities and opportunities to stay updated on developments, access ongoing projects, and participate in expert and working groups. LCA practitioners benefit from the opportunity to meet and discuss issues with others.

The commitment from the Swedish Energy Agency through the project Innovation cluster has enabled other agencies to get involved, fostering a momentum for developing competence and ensuring systems perspectives. These projects have engaged more people and organizations, opening collaboration beyond the main agreement.

Conclusion

The self-assessment report describes values and relevance of the Center and its important impact on advancing and application of life cycle thinking. The development of the Center and its activities have been appreciated by all actors and are needed to respond to an increased interest in life cycle thinking, life cycle based information and in development of life cycle based policies and legislation.



A neutral platform

The partners of Swedish Life Cycle Center are its 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). 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

Partners 2024



CHALMERS



In collaboration with

The Center hosts a dialogue group with government agencies in Sweden and engages small and medium-sized companies through a letter of collaboration. Additionally, it enters into collaborative partnerships with other life cycle organizations at a global level.

Swedish Life Cycle Center

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