

Welcome to the Annual Report for 2014!

This annual review gathers relevant events and news within the life cycle field, that have taken place within and outside the Swedish Life Cycle Center (henceforth SLC) in 2014. This has been a year in which we have strengthened our position as a Swedish national competence center. SLC has also increased the collaboration with other competence centers, networks etc. in Sweden as well as with other ongoing international initiatives, in order to influence the development towards sustainability.

After having successfully organized and hosted the 6th International conference on Life Cycle Management, (LCM 2013, one of the largest conferences within life cycle management field) we have, during 2014, made a concerted effort to develop our core activities and to establish our ways of working. SLC is growing and three new organizations have become partners. A new operational handbook has been developed that describes the distribution of work, responsibilities and expectations for SLC Technical Secretariat and Partners (Board and other involved participants). Priorities for 2015 will be to improve our focus areas and prioritize among different working areas within the life cycle field. Another task during 2015 will be to develop the SLC webpage to become a better hub for information, with regard to methods, publications and tools to reflect our working areas.

2015 will be the last year of Stage 7 and an important task will be to start the preparation of Stage 8. This work will be lead by the Technical Secretariat in dialogue with the Board. The Board is represented by all partner organizations.

The Board and the Technical Secretariat would like to thank all partners and participants who have been involved in SLC during 2014. Your contributions have greatly contributed to the life cycle field in the pursuit of sustainability. We look forward to continued cooperation in 2015, filled with new activities. If you would like to take part in SLC or contribute in our activities, please feel free to contact the Technical Secretariat.



Sara Palander, Director of the Swedish Life Cycle Center

aims for credible &
applied life cycle
thinking globally

About the Swedish Life Cycle Center

The Swedish Life Cycle Center (SLC) (founded in 1996 and formerly called CPM) is a center of excellence for the advance of life cycle thinking in industry and other parts of society through research, implementation, communication and exchange of experience on life cycle management. The mission is to improve the environmental performance of products and services, as a natural part of sustainable development. SLC has been instrumental for the development and adoption of the life cycle perspective in Swedish companies and has made important contributions to international standardization in the life cycle field.

The work within SLC is characterized by close and continuous interaction between academia, applied research institutes, industry and authorities. Current partners are Chalmers University of Technology (host of the Center), KTH Royal Institute of Technology, SLU Swedish University of Agricultural Sciences - Department of Energy and Technology, The Swedish Environmental Protection Agency, ABB, AkzoNobel, NCC Construction, SCA, SKF, Vattenfall, Volvo Car Group, Volvo Group, IVL Swedish Environmental Research Institute and SP Technical Research Institute of Sweden.



HIGHLIGHTED NEWS FROM 2014

Three new partners in 2014

In 2014, three new partners joined SLC, namely the Swedish University of Agricultural Sciences (SLU) - Dept. of Energy and Technology, NCC Construction and Volvo Car Group. For SLC, this means greater collaboration opportunities, greater opportunities to influence the international agenda and exchange knowledge and experience among researchers and professionals within the life cycle field.

Continued high interest in economic valuation

The interest in the economic valuation of environmental impact continues to grow in popularity in contexts outside traditional economics. SLC, which was an early pioneer in the field, with the development of the tool and method Environmental Priority Strategies (EPS, developed by Bengt Steen et al.) has two ongoing projects within the field of monetarization and externalities. During the fall, 17 people from industry, universities and research institutes attended a two-day training in EPS, lead by Bengt Steen (Chalmers). The ambition was to educate both researchers and practitioners to better understand how and why EPS was developed and to get an understanding of the numbers behind EPS.

Collaboration for PhD-students and researchers

During 2014, SLC started an initiative to increase networking between PhD-students and researchers in SLC, predicated on an increased interest for collaboration and need for common activities. The aim was to connect people working with life cycle related topics from different universities and thereby create a platform for sharing ideas, exchanging results or discussing common challenges. As a step towards this, PhD-students and researchers within SLC were invited to a kick-off video meeting in November. 23 researchers and PhD-students from seven different organizations participated.

Many thanks to Sofia Poulikidou (KTH), Jutta Hildenbrand (Chalmers) and Cecilia Sundberg (SLU) who each gave a presentation about their respective universities life cycle networks and helped to organize the meeting.

Values of being a partner

During the fall, a qualitative evaluation of SLC was carried out with the aim of investigating the added value of being a partner in SLC and the added value of being hosted by Chalmers. The study also aimed to identify potential for further improvement towards efficient cooperation. It was carried out as an interview study, with each partner's board representative being interviewed.

The results show that many see great value in being a partner in SLC however the value of being a partner is varies depending on partner organization. This value is summarized in three parts.

- The **importance of working together to build up scientifically based knowledge and tools** that can be applied and implemented in internal strategies and working processes.
- The **unique contacts** with other experts and initiatives, which leads to **new collaboration projects and insights**.
- The **joint effort** with frontrunning organizations and actors within the life cycle field increases the opportunities **to make an impact**.

Results also show that it is of high value being hosted and coordinated within a university. An academic environment gives SLC the possibility to be a trusted and neutral arena for collaboration and discussion.

The results from the survey show that it is difficult for one single player to follow and influence all emerging initiatives. We see this as one of the greatest potential and opportunity for SLC to make a change with significant impact.

Network conference in Stockholm

SLC gathered fifty life cycle experts on September 10, for a network conference in Stockholm. During the conference, representatives from academia, industry, research institutes and the Swedish Environmental Protection Agency (Swedish EPA) could network, learn more about the Center and listen to presentations from our new partners; NCC Construction, presented by Larissa Strömberg and SLU – Dept. of Energy and Technology, presented by Serina Ahlgren. This was followed by presentations from the ongoing working groups. Per Lagerstedt from Nordic Investment Bank was invited to give a presentation on how they as a financial institution, is working to improve the environmental aspects of investments and projects. He expressed the importance of translating environmental impacts into monetary value, e.g. with regards to ecosystem services.

Thanks to everyone who participated and contributed to the network conference.

Social life cycle assessment

The area of Social LCA (i.e. methods to assess the social aspects of products throughout the life cycle) has continued to grow in the life cycle community. In 2014, SLC started a working group on Social LCA which involves several researchers and practitioners from different organizations with expertise within the social area.

The group is chaired by Hanna Ljungkvist from IVL and has 24 members. They work on understanding the methodology and how it can be implemented in businesses. During the year, they have been focused on identifying research questions and funding agencies of interest to fund projects involving social life cycle thinking.

Expansion of the Technical Secretariat

In January 2014, Sara Palander took over as the new director of SLC after Emma Rex. The Technical Secretariat was also supported by Elisabeth Hochschorner (KTH), corresponding to 10%. In May, Anna Wikström was employed to the center.



SLC's EXTERNAL INVOLVEMENT

International collaboration on Monetization

Researchers and professionals active in the SLC and SIS Environment Management Project have initiated a working process to develop a new ISO standard on monetization, i.e. valuing environmental impacts in monetary terms. Two international meetings have been held to explore interests and needs, one web meeting with invited experts and one meeting, organized as a workshop during the ISO meeting in Panama in May 2014. This resulted in a developed and submitted New Work Item Proposal (NWIP) to ISO by Sweden (SLC and Swedish Standards Institute). During 2015 this work will be continued, by anchoring this NWIP with important organizations.

Open and accessible life cycle data

The formation of SLC in 1996 was largely based on the recognition that inter-organisational collaboration is needed to increase the availability of life cycle data. Lately, on the international scene, awareness of the need for open LC data has emerged and has on many arenas surpassed Swedish initiatives on development and provision of LC data. There exist many ambitious initiatives for fully open data, such as Life Cycle Data Network, Global LCAccess, and some national LCI databases.

During 2014, SLC started to look into the data area more deeply and has taken part in some of the initiatives mentioned above. When the Life Cycle Data Network was launched, SLC was invited and the center was represented by Katarina Lorentzon (SP). During an international workshop in Washington DC, organized by US EPA (US Environmental Protection Agency) USDA (US Department of Agriculture) and UNEP (United Nations Environment Programme) - the initiators of the Global LCAccess, Sweden was invited as expert in the meeting. Johan Tivander at Chalmers University of Technology and Eva Ahlner at Swedish EPA represented Sweden and the Swedish Life Cycle Center. Global LCAccess will be followed up during 2015 to see how it will influence the global data development process.

Strategy for internationalization

During 2014, SLC has developed a strategy for internationalization. This work has been of value for SLC to prioritize which areas of work increase our international influence and presence. The project was funded by VINNOVA Sweden's innovation agency.

Center representatives in UN's program for sustainable consumption and production

The United Nations has decided on a ten year framework on programs to achieve goals for sustainable consumption and production patterns (10YFP-SCP) and is an international cooperation to accelerate the shift towards sustainable production and consumption in both developed and developing countries.

The Swedish Environmental Protection Agency (Swedish EPA) has been commissioned by the Ministry of Environment to a national focal point for 10YFP and will lead the work to inspire to action by emphasizing and highlighting good examples that encourage greater exchange of knowledge. Eva Ahlner (Swedish EPA) who is a board member of SLC is leading the work and Susan Iliefski-Janols (SCA), also a board member of SLC who is a member in the national reference group. The Swedish work within 10YFP was started with a kick off on April 3, 2014 in Stockholm. We encourage all partners to contribute with good examples to SCP at scpclearinghouse.org.

International involvement in UNEP/SETAC

SLC has now a strong position in SETAC Europe LCA Steering Committee. The Committee is chaired by Tomas Rydberg at IVL Swedish Environmental Research Institute and secretary is Sara Palander from the SLC Technical Secretariat.



Environmental Footprint expert group

Methods for environmental footprinting of products and services have been and are being developed all over the world. In April 2013, the European Commission in its communication Single Market for Green Products (SMGP) proposed actions to overcome problems on the internal market caused by this proliferation of initiatives.

The SMGP established two methods to measure environmental performance throughout the lifecycle, the Product Environmental Footprint (PEF) and the Organisation Environmental Footprint (OEF). The European Commission recommends their use by Member States, companies and others. The SMGP also announced a three-year pilot phase to develop product- and sector-specific rules.

In connection to the launch of the SMGP, a seminar within SLC resulted in the establishment of an expert group in 2014 for PEF/OEF methodology discussions. The group has an ambition to follow, learn and influence the PEF and OEF and share experiences from working with EU EF methodology and from pilots. The expert group is also giving support to the Swedish representatives in the EF Steering Committee (Eva Ahlner, Cecilia Mattsson and Anita Lundström at the Swedish EPA) and the EF Technical Advisory Board (Elin Eriksson at IVL Swedish Environmental Research Institute). As the methodology will be of importance for different industry sectors, business members in the expert group also have made their own "pilots" to evaluate the methodology when applied to their products and services.



VOICES FROM PARTNERS

Elisabet Olofsson, chair of the board at SLC

"We have reached our goal to be a Swedish life cycle center! The Center has obtained a stable and nationally strong platform to work on. More and more people and organizations approach the Center for advice, recommendations etc. SLC today works more internationally and receives requests from different organizations such as LCM 2015, SETAC and ISO to participate in their different activities."

Klas Hallberg, Manager Sustainable Development at AkzoNobel and board member at SLC

"The most important added value of cooperating with other companies, universities and research institutes in SLC is the exchange of experiences and knowledge. Within the center, we have developed methods and tools that are today being used at AkzoNobel."

Johanna Berlin, LCA Research and Business Developer at SP and board member at SLC

"SLC is Sweden's top life cycle center! SLC includes the frontrunners, namely those who actively have been working within the life cycle area and has a strong position. Everyone who believes that the life cycle field is important are welcome to join SLC!"

Mikael Ekhangen, Senior Sustainability Advisor at Vattenfall and board member at SLC

"SLC provides a natural platform for dialogue with other companies facing similar challenges. Our participation in SLC has also increased our contact with researchers, which has resulted in shorter take-off for new projects. SLC is a great platform for contacts!"

Carin Ström, Group Manager Environment & Chemistry, Volvo Group and board member at SLC

"SLC has been an important player for us during the development of our internal methods at Volvo Group. Thanks to the expert groups, we at Volvo have developed our own specific expertise."



Board members of SLC together with the Technical Secretariat



Lars-Gunnar Lindfors (IVL), Anna Hedlund Åström (KTH), Bengt Steen (Chalmers) and Salim Stahl (SP) at the Network Conference in September 2014



Per Lagerstedt, guest presenter (Nordic Investment Bank) and Elisabeth Ekener Petersen (KTH) at the Network Conference.



A SUMMARY OF ACTIVITIES

2014 IN NUMBERS

- 14** partners
- 300** people in network
- 8** newsletters
- 4** workings groups: Data & Databases, Get the prices right, LCA Biodiversity & Land use, social LCA
- 3** ongoing research projects
- 2** ongoing strategic and administration projects
- 33** people involved in research projects
- 1** expert group: Environmental footprint
- 136** people involved in working and expert groups
- 189** participants in seminars, webinars, SLC conferences etc.

COMMUNICATION TOOLS FOR SHARING

The newsletter - The SLC newsletter, which currently has 300 receivers from the Center partner organizations, collects the latest news in and outside SLC within the life cycle field. If you would like to contribute to the newsletters (tips on seminars, publications etc.) please send your input to lifecyclecenter@chalmers.se. Thanks to all who contributed with content to the 2014-years newsletters!

LinkedIn - SLC has during 2014 continued to spread life cycle thinking and sustainability news, tips on seminars and other hot life cycle related topics on LinkedIn in the Swedish Life Cycle Center-group on LinkedIn. We welcome and encourage all members to post news or take part in the discussions! Join us - [click here!](#)

Webinars - Are you preparing for your PhD defense and you would like to practice for a real audience? Are you involved in a very exciting project right now that you would want to spread to others? If you are interested in making a presentation but need help to reach out to a wider audience, the SLC Technical Secretariat can assist you in coordinating such a presentation as a webinar.

A SUMMARY OF 2014-YEARS EVENTS

- Design for Recycling** in Gothenburg with Taina Flink, Stena Recycling, August 27 (24 participants)
- Ecoinvent web meeting** with Gregor Wernet, September 22 (18 participants)
- Network Conference** in Stockholm, September 10 (50 participants)
- PhD students and researchers' videoconference meeting** – for November 7 (23 participants)
- Course on Environmental Priority Strategies** in Gothenburg by Bengt Steen, August 19 and November 12 (17 participants)
- Summary from the international seminar on Social LCA in Montpellier**, presented by Rickard Arvidsson. December 2 (15 participants)
- Introduction to life cycle perspective** in Stockholm by Sara Nilsson, Vattenfall and Serina Ahlgren SLU, December 10 (24 participants)
- Introduction to life cycle perspective** in Gothenburg by Emma Rex, SP Technical Research Institute of Sweden and Johan Widheden, AkzoNobel. Gothenburg December 11 (18 participants)

In total 189 participants

GET MORE INVOLVED?

Join a working group! - Share your publications or give tips about interesting seminars in a newsletter - Coordinate a research application - Become a partner! - Join us a LinkedIn - Hold a webinar - Other ideas? - Contact us!

ATTENDING A CONFERENCE?

If you are planning to attend a conference in 2015, you are welcome to publish a short summary or reflections from the conference, which can be used in newsletters, at LinkedIn or as a topic in a webinar. If you plan for an oral presentation, we can assist you with presentation material about SLC.

The Swedish Life Cycle Center

is a center of excellence for the advance of applied life cycle thinking in industry and other parts of society.

The life cycle perspective

is used to identify potentials and opportunities for innovations and reduce negative impact on the environment and society.

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