The Swedish Life Cycle Center position on "Global LCAccess"

LCAccess is a global network of interoperable LCA databases which aims to improve LCA Data Accessibility, Interoperability and Application. It is an ongoing intergovernmental dialogue and the participating members has agreed on a vision:

> *"The establishment of a global network comprised of independently-operated and interoperable LCA databases that connects multiple data sources to support life cycle assessment in a way that facilitates sustainability-related decisions".*

The purpose is increased efficiency, actual use and communication of LCA-related data for sustainable decisions and measures within business, policy making and monitoring.

Within this vision we emphasize and promote the following:

- *to learn from other initiatives of LC data harmonization and to share our experiences*
- *to collaborate and integrate with other international initiatives, such as ISO*
- *to have a user driven approach*
- *to have a long term perspective that supports current and future needs*

The role for Swedish life cycle center is to promote our position and to guide external work when needed.

Background

An international governmental dialogue induced by the need for coordination of the growing network of LCA-related data has resulted in a global cooperation lead by UNEP United Nations Environment Programme, the Governmental Forum on International LCA Cooperation.

The initiative is also being advanced in support of the 10-year Framework of Programme on Sustainable Consumption and Production, adopted at Rio +20. Participants in the cooperation: European Commission (Life Cycle Data Network), US Environmental Protection Agency and US Department of Agriculture, Ecoinvent, several countries disposing of national LCA databases e.g. France, China, Japan, Australia and Brazil, and commercial suppliers of LCA data. Sweden participates in the cooperation, contributes with competence on user perspectives, nomenclature and information technology to develop the global data network.

In addition to the vision an aspirational objective has been agreed:
"As an aspirational objective for 2017, an electronic system and protocol should be available – based as much as possible on existing structures – to enable access by users to the majority of the LCA databases and other relevant sustainability data, meaning that the LCA datasets and other data therein can be easily accessed in an exchange format that allows using them seamlessly in LCA software, with sufficient documentation of metadata that allows for defining "fitness for purpose" by any end user."

The position of SLC regarding Global LCAccess

We support this initiative and agree with the vision and emphasize the following aspects.

• 10 YFP on Sustainable Consumption and Production

The link to the 10 YFP on Sustainable Consumption and Production needs to be clarified and explained in a broader context when describing the Global LCAccess initiative. This is needed to further understand the importance of this initiative and to motivate nations to be active and contribute to this work.

• The long term perspective

This initiative, if successful, will have significant impact guiding the LCA community for a long time ahead. Generation and use of LCA data have changed and grown over time and has spread into many areas of society where the benefits of applying a life cycle perspective are realized. It will continue to evolve and this initiative must adopt a long term perspective to understand and learn from previous and ongoing initiatives as well as look forward to get a clear picture of future needs, users and technologies and how this initiative could and should influence future developments.

• Learn from other initiatives

A background study needs to be carried out on the history of life cycle data interoperability, success and failures, financing and organizational structure. The study should also include relevant interoperability structures as for example open data initiatives/guidelines and standards such as ISO and DCAT-AP. It is recommended to summarize and draw conclusions from already available reviews and similar documents into a 5-10 pages report or table.

• A user driven approach

The adoption of a user perspective is crucial in this initiative. Who are the data users and the data providers and what are the different needs, barriers and incentives (policy makers, LCA practitioners in industry, researchers at universities, NGOs, etc.)? How can barriers to incentives to publish open data in such infrastructure be decreased? Should specific kinds of LCA data and end uses be prioritized by the global network? If so, why? At this point these questions has only been briefly addressed without conclusive agreement. In Sweden we have identified open national reference background data as key data for such infrastructure (e.g. transport, energy etc.).

With a clear picture of existing and potential data generators and end users we argue that perhaps the most important role of this initiative is to facilitate communication between these actors to foster improved data quality. I.e. not by centrally setting detailed mandatory data requirements but by letting users get easy access to LCA data and by making data providers informed about how their data is used and about users' needs for data quality improvements.

- Organizational structure and financing of the operational network

  This is an extensive long term commitment of the global LCA community and it is therefore essential to clarify the long term organizational and financial and implications before committing to this ambition.

  The network when in operation is a system which will facilitate the collaboration between data providers and users. The organizational structure of the infrastructure needs clarification in terms of roles and responsibilities. Which parts will necessarily be centralized and why? Which parts are vital to keep decentralized and why? We favour the amount of centralized organization as low as possible to keep a lean central economy, and clear delimitations of ownership and responsibilities of databases and network processes. A well designed system should attract external investments of adding data content and quality improvement as well as functionality.

- Interoperability and accessibility - keep in mind the overall vision

  We promote quite moderate *mandatory* entry level requirements on publishing data in the network, which will lower the barriers of publishing data. This is a global initiative promoting use of LCA data for sustainability decisions. The diversity of decision making situations that have use of LCA data is vast. Our vision is that the network would be the go-to place for LCA data for any type of user situation. The main purpose of the minimum requirements is therefore to filter out LCA data from other data regardless of format or other detailed regulation on content.

  Less detailed mandatory central regulation of data content and formatting further implies lower costs to revise and reformat data by potential publishers and lower costs for the necessary minimum validation and review process of all data.

  This allows for a large pool of LCA data in the network, granted of very diverse format and content, but data accessibility is a quality aspect in itself. The quality aspects of relevance and reliability of the data always depend on the use situation. It is up to the user to evaluate what quality is appropriate for different purposes. It is therefore very important to consider how to preserve transparency of data to enable user to assess data quality. A reference to the original data as entered in the network should be kept with each dataset as any processing of data almost always implies data distortion and a loss of original information. Well documented data with references to original sources and explanation of data treatment should be encouraged.

  Since the minimum requirement to publish data in the network must be agreed by all partners, i.e. global consensus is required, this would avoid drawn-out debates on detailed central regulation of data content and formatting and what types of LCA end uses the system should cater.

  Low entry level requirements clearly implies that not all data published will directly fit in any global integrated LCA data model of interconnected product chains of the kind seen in comprehensive benchmark databases such as ecoinvent. It is however not the purpose of the minimum requirement to filter out data only for this purpose; this must be managed by other organisational and technical procedures.

  Higher interoperability can be reached by *voluntary* agreement among partners who find consensus among themselves suitable for their end use purposes and arrange financing for development and operation. The data generated by such higher interoperability processes,

surpassing the minimum requirements, can then be easily be republished into the network and made available to all.

Over time, by facilitating communication between data providers and users, best practices will emerge for different use cases, depending on what and how data is actually used. Data quality will improve and at some point it may be possible to globally agree on central recommendations higher than the minimum requirements.

- The ambition statement

   The ambition statement is a desirable outcome however it leaves room for interpretation. Exactly what databases should be considered? There is to our knowledge no agreed inventory of "LCA databases and other relevant sustainability data". What does "seamlessly" imply? Seamless data access on the user side may mean a lot of effort required in on the provider side. Data can be technically forced to fit into a format and product chain market models providing apparently seamless data to users, but to what does this imply in terms of preserving original meaning of data and in terms of investments of technical solutions and cost of operation for data providers and the network.

The Swedish process

o   The Swedish Life Cycle Center and the Swedish EPA have an ambition to make a workshop with authorities to investigate data that are of interest for policy actions, such as Sustainable Consumption and Production (10 YFP) and follow up on the Swedish Environmental Objectives etc.
o   We have an ambition to develop a strategy for Sweden to provide transparent and open life cycle benchmark data for Swedish conditions to be used in environmental performance assessments globally - with a few datasets (Swedish energy background data) as a starting point.
o   We will continue to monitor and provide input of the development of the Global LCAccess.