



Regional Stakeholder Consultation on LCA Databases in Latin America

Session on 'Regional Roadmap towards the Development of LCA Databases'. 14 July 2015. In conjunction with the CILCA 2015 Conference. Pontificia Universidad Católica del Perú (PUCP). Av. Universitaria 1801, San Miguel. Lima, Perú

Introduction

The development of Life Cycle Assessment (LCA) databases is an emerging topic in Latin American and Caribbean (LAC) region. Results from a survey held in 2014 were presented (Sonnemann et al.) which confirms that the LCA databases situation improved in 2014 as opposed to 2005 when no LCA databases existed. In 2014 one operational LCA database has been identified (Mexico is the Mexican LCA database, CADIS, 2015) as well as clusters of datasets in Brazil and Chile. In Brazil and Chile a breakthrough is expected following a commitment and strong leadership national organizations (e.g. Fundación Chile, The Brazilian Institute of Information in Science and Technology –IBICT- and the Centre of Life Cycle Assessment and Sustainable Design - CADIS) and the support of international organisations (e.g. UNEP and the European Commission jointly) or projects (theecoinvent project on internationalisation). Colombia, Peru, Argentina and Costa Rica are at an early stage of discussions on how to generate data and establish LCA databases. There is no evidence of local LCA studies and no records at all concerning the development of databases in the remaining countries.

Aim

With the aim to facilitate more coordinated efforts in the LAC region and to promote new initiatives in these countries, a UNEP/SETAC session on ‘Regional Roadmap towards the Development of LCA Databases’ was held on 14 July 2015.

Participants

About 40 organizations’ representatives from over 13 countries including LAC1, Spain, Portugal and India took part in the discussions which included standard-setters involved in international coordination and standard setting processes in the Latin American region, government officials at different levels, experts from the academia and business and industry organizations. See the complete list of participants in Annex B.

In the following lines, a summary of highlights of the discussions and agreed next steps is presented.

Highlights

Following an invitation to express the expectation of this session, participants mentioned their interest in (a) improving their understanding on the status of LCA databases developments in the LAC region and in (b) increasing the cooperation and identifying areas or collaboration in the area of LCA databases towards a regional LCA database. Specific interventions also included (c) countries proposals commitments and (d) next steps.

The Indian representative which is supporting a national LCA database effort in India expressed the expectation of learning from the road-mapping exercise and repeat it in India.

To introduce the discussion on (b) 'potential approaches for joint activities', presentations were provided on 'National life cycle databases creation and expansion around the world - global mapping of LCA databases development' by Guido Sonnemann and the 'Global Network on Interoperable LCA Databases' by Llorenç Milà i Canals (See Annex C).

a. Current status of most advanced LCA initiatives

Participants provided details about their recent developments on LCA databases activities as follows:

- The Brazilian LCA Program is led by IBICT and aims to promote LCA and databases development. The databases is being developed using the ILCD format. Several Technical committees have been setup. The program is in process of partnering with several national and international institutions such as soda4LCA².

¹ Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Mexico and Peru.

² IAI is an international platform based in Germany that has the aim to support the implementation of the International Reference Life Cycle Data System (ILCD) data format.

- The development of the Mexican database (Mexicanuih) started in 2010 with support of the international experts such as Tim Grant (Australia) and Andreas Ciroth (Germany). A very relevant aspect concerns the legal issues on data ownership and ways to use it. The Mexican database is able to use and exchange data in ILCD and XLSX formats.
- In Chile, the LCA database work is led by Fundacion Chile and based on the XLSX format. It is focusing on 16 top export food products and 5 building materials and will have produced by 2015 about 110 primary and 400 secondary datasets including electronic tools for footprinting calculator and their documentation. It was added that there exist additional efforts in Chile due to export markets requirements (promoted by Pro-Chile) and data does not normally go through a third part review and remain in Governments and private sector repositories with a limited use of the results.
- Cuba highlighted the existence of datasets generated with the sugar industry support.
- Also in Peru, the growing need to increase the competitiveness of Peruvian exporting companies has led to raise the interest of PROMPERU in the LCA database development area.
- A recent development is the internationalization project led and funded byecoinvent (www.sustainable-industries.org) and supported by Quantis which includes a formal review of the data which afterwards will be available in the national databases of the countries providers. The regional hub will be based in Brazil and aims is to facilitate the strengthening of LAC capacities and generation of self-sustaining regional datasets in Brazil and LAC participating countries.
- A European Commission funded initiative, SUDOIE, was introduced and the platform structure and LCA data was offered to the LAC database initiative following an adaptation.

b. Aspects and approaches for joint activities in the LAC region

Following issues were remarked by the participants to be dealt with for successful regional cooperation and enhancement of LCA databases:

- Starting with a national database vs a regional one. While the majority agreed enthusiastically with the idea of a regional database, the start with national databases was seen as a more realistic option. Furthermore,ecoinvent suggested to start with the priority sectors (for example, based on GDP and on most exported products' clusters) and apply a companies' rating system that ranks at the top the ones reporting to the national database.
- Communication. More preaching is needed on the goodness of having an LCA databases by explaining, for example, what policies need LCA in order to raise the interest by public bodies to be the holders or repositories. The example of 'sustainable public procurement' was provided which can well explain the benefits of using LC data and links with LC based tools.
- Purpose and Governance. Before starting it is fundamental to have a clear purpose and criteria on where the database network should go. Government's involvement is essential either in the leading role or as part of an independent multi-stakeholder based Consortium. Concerning the selection of the national database repository and manager, it should be noted that not only the public sector but the private one can be considered as option as it has more capacity. To facilitate the process at national levels, leading persons would need official acknowledgement.
- Regional agreement (MoU) and seed funding. This is needed to ensure a stable process. Strong leadership and agreed working plan are crucial. Face-to-face meetings are not really necessary for a successful implementation. Minimum funding is essential at the beginning to cover, for example, the formalization costs, training on how to manage databases, and legal advice (including topics on how to handle data ownership issues). It was also highlighted that maintenance costs of databases are not low and countries need to plan sustainable solutions which consider the strengthening of political support and of independence from external

resources e.g. from the government or international organizations.

- Which LCA data and what platform to use. There exists plenty of LCA data which is not integrated in LCA databases. In order to minimize countries efforts on data generation, one task of the Global Network on Interoperable LCA databases presented by UNEP could be to organize the entering of LC and raw data into national databases. An enlightening fact was presented on the amount of LC data available in Spain (2nd country in LCA publications after USA in last 10 years) which could serve the LAC effort and platform; it was also mentioned the opportunity of exploiting national registries to generate datasets, following models of extrapolation. The raw data mining exercise needs to be supported by conversion tools that could, for example, translate national statistics into LCA datasets formats before proceeding with the feeding process at national level. Data quality of key products and materials is also key in this discussion; better informed policies (e.g. PEF in Europe and SPP in emerging economies) can result from good and available data quality. The raw data mining effort would complementecoinvent's initiative as it is not really going into raw data mining management.
- On the platform selection, currently there are three different international ones and countries do not count on guidance nor criteria for decision makers. UNEP is asked to assist countries facing this situation.
- Segmentation of tasks. This was recommended to avoid that everyone does everything from scratch (dataset generation, documentation, review, etc.) Different groups could specialize in different steps.
- IT aspects and lack of local capacities. Practical issues such as on the IT platform, metadata documentation, IP for data, among others, need to be addressed from the design stage and during the training activities. Improving IT skills through regional cooperation is essential to allow the generation and digestion of all life cycle data if these were made available; Brazil, Mexico and Chile have started joint activities and to articulate with additional LAC countries that want to start the national process.
- The long-term maintenance responsibilities. It was suggested to leave this task to

the main user of the database (e.g. through LEED certification in case of the building and construction sector). The setup of a pool of LCA data reviewers would be also crucial.

- Inter-operability of LCA databases complemented with LCA documentation. This will help interlinking and mixing different databases.

c. Specific countries' proposals and commitments

To the challenging question on where countries would start in the hypothetical scenario of funding available, Costa Rica and Chile echoed by other participants suggested to let the three most advanced countries in the region – Mexico, Chile and Brazil – propose a way for a regional platform. The proposal should be inclusive and consider countries particularities as well as include incentives for LCA data sharing to compensate the efforts. This proposal needs to be consistent with the Global Network agreements and benefit from lessons learned. Guidance from UNEP along the regional process including criteria would be helpful.

Afterwards, the audience expressed a number of specific proposals and commitments which are summarized in the following lines:

- The Peruvian LC network offered to engage PROMPeru and the Ministry of Environment of Peru. Concrete plans of the Peruvian Life Cycle Network were committed to be developed by March 2016.
- The Chilean network offered support to the Ministry of Environment of Chile with the review and maintenance processes of datasets. It added that the Iberoamerican network could be also of help.
- Brazilian activities are underway with strong political support as explained above. In addition, the local Brazilian representative mentioned the idea to launch an LCA Journal en Latin America.
- Cuban participants echoed Brazil's statement on the relevance of Governmental support to advance in this area and offered to continue and pursue for a national

database.

- The Colombia life cycle network offered to count by March 2016 with organizations linked and developing LCA databases.
- In case of Mexico, the LCA network proposed to setup a database consortium with industrials associations, academia and the Secretariat of Environment and Natural Resources.

d. Main agreements and next steps

From the discussion three four agreements emerged:

- Let the most advanced countries in the region – Mexico, Chile and Brazil – to make a proposal of a regional LC platform. The proposal should include incentives for LCA data sharing to compensate the efforts. This proposal needs to be consistent with the Global Network agreements and benefit from lessons learned.
- Governments' involvement in national processes in a leading or supporting role is a 'must'.
- Training on IT aspects to manage the raw data mining and LCA data management processes is crucial and should continue in parallel.
- Guidance from UNEP along the regional process including criteria would be helpful. UNEP communicated the intention to continue supporting this dialogue either virtually or through face-to-face meetings.
- Participants agreed that progress done on commitments and agreements should be presented by the next CILCA 2017.

Participants raised the possibility to meet at the following occasions and decision will be taken later based on the availability of participants and resources available.

- 2º Congreso Interamericano de Cambio Climático (CICC 2016) (14-16 March), Mexico. Focal point: Patricia Guereca
- WRF 2016 Conference (16-18 May), Costa Rica. Focal point: Ana Quiros

References

- Sonnemann G., Citroth A., Valdivia S., Mila i Canals L. (2015). Opportunities for LC networks creation and expansion around the world - with a special focus on LCA database development and based on a global mapping and conformance analysis of LCA databases. UNEP/SETAC publication. In Press.

Annex A. Agenda. Session on ‘Regional Roadmap towards the Development of LCA Databases’. Tuesday 14 July 2015.

13:30 - 13:40	Welcome & Opening Remarks <i>Isabel Quispe, Red Peruana Ciclo de Vida</i> <i>Llorenç Milà i Canals, UNEP</i>
13:40 - 13:50	Tour de table: Introduction of participants, of their expectations and of existing LCA Initiatives in Latin America around LCA data
13:50 - 14:00	Summary of previous activities in the region <i>Nydia Suppen, CADIS, Mexico</i>
14:00 - 14:10	National life cycle databases creation and expansion around the world <i>Guido Sonnemann, University of Bordeaux, France</i>
14:10 - 14:20	International collaboration: the Global Network of Interoperable LCA Databases <i>Llorenç Milà i Canals, UNEP</i>
14:20 - 15:05	Mainstreaming <ul style="list-style-type: none"> • What are the needs (industry, government, NGOs)? • Priority sectors • Who could do what and when? <p>Action Plan: Infrastructure, format, ownership, governance, (first) activities <i>Moderated by Guido Sonnemann and Sonia Valdivia, WRF</i></p>
15:05 - 15:15	Break
15:15 - 16:45	LCA Databases Detailed planning of next steps to start with: <ul style="list-style-type: none"> • What does exist? First datasets to be created? Or adapted? What are the core datasets for the country? • What kind of database will it be and which database protocol? • How will the national database be interoperable and able to share datasets outside the country? Starting within the region? • Who manages the database? Who is doing what in the short term? <p>- Decisions on and development of mechanism to generate datasets and the system of databases in the region - Initial business plan for initial setup...for long term operations...for updates and upgrades <i>Moderated by Llorenç Milà i Canals and Nydia Suppen</i></p>
16:45 - 17:00	Conclusion and wrap-up <i>Llorenç Milà i Canals, UNEP</i> <i>Nydia Suppen, CADIS, Mexico</i>

Annex B. List of participants

N°	Last Name	First Names	Institution	Country
1	ARENA	ALEJANDRO PABLO	UTN - FRM	ARGENTINA
2	SCHEIN	LEILA C.	Universidad Nacional de Luján	ARGENTINA
3	CASTRILLO	PAOLA	VERTECH GROUP	BOLIVIA
4	Braga	Tiago Emmanuel	Instituto Brasileiro de Informação em Ciência e Tecnologia - Ibict	BRASIL
5	UGAYA	CASSIA	ABCV	BRASIL
6	ANDERI	GIL	USP	BRAZIL
7	CINO	ANDREA	Fundación Chile	CHILE
8	EMHART	CRISTIAN	Fundación Chile	CHILE
9	MORENO	PAULA XIMENA	PROCHILE	CHILE
10	PEÑA	CLAUDIA	RICV	CHILE
11	SENERMAN	MICHELLE	Fundación Chile	CHILE
12	Sepúlveda	María Belén	Ministerio del Medio Ambiente- Chile	CHILE
13	NARANJO	CARLOS	GAIA SA	COLOMBIA
14	ZORRILLA	YELITZA ANGELICA	Universidad del Valle	COLOMBIA
15	QUIROS	ANA	ALCALA	COSTA RICA
16	Rodríguez	Berlan	Universidad de Cienfuegos	CUBA
17	Rosa	Elena Regla	Universidad Central Marta Abreu de Las Villas	CUBA
18	CASTELLS	FRANCESC	URV CAT	ESPAÑA
19	Mila	Llorenç	UNEP	ESPAÑA
20	RIERADEVALL	JOAN	UAB CAT	ESPAÑA
21	SONNEMANN	GUIDO	UNEP	FRANCIA
22	BAJAJ	SANJEEVAN	FICCI	INDIA
23	GUERECA	PATRICIA	UNAM	MEXICO
24	SUPPEN	NYDIA	CADIS	MEXICO
25	ALATRISTA	GIOVANNI	Universidad Católica de Santa María	PERU
26	CHIRINOS	MARITZA	Universidad Católica de Santa María	PERU
27	GUCCIONE	LAURA	EDGE ENVIRONMENT	PERU
28	GUERRA	LUIS ENRIQUE	Instituto nacional de Innovacion Agraria INIA	PERU
29	PRIETO	ROCIO PAOLA	MINAM	PERU
30	QUISPE	MARIA ISABEL	PUCP	PERU
31	ROSAS	KATIA MARILUZ	PROMPERU	PERU
32	SANCHEZ	LUIS ALBERTO	Universidad Agraria La Molina	PERU

33	Sosa	Guillermo	Instituto nacional de Innovacion Agraria INIA	PERU
34	TUESTA	YUNUIK	MINAM	PERU
35	Tupayachy	Danny Pamela	Universidad Católica de Santa María	PERU
36	VALVERDE	JHONNY WILFREDO	Universidad Cesar Vallejo - Lima	PERU
37	VAZQUEZ	IAN	PUCP	PERU
38	FREIRE	FAUSTO	Universidade de Coimbra	PORTUGAL
39	VALDIVIA	SONIA MELBA	World Resources Forum	SUIZA
40	GMUENDER	SIMON	QUANTIS	SUIZA
41	SAFAEI	AMIR	ecoinvent	SUIZA
42	ZAH	RAINER	QUANTIS	SUIZA

Annex C. Presentations are attached as separate files.

‘National life cycle databases creation and expansion around the world - global mapping of LCA databases development’ by Guido Sonnemann

‘Global Network on Interoperable LCA Databases’ by Llorenç Milà i Canals