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**GLOBAL GUIDANCE PRINCIPLES ON LCA DATABASES:
OUTREACH AND TRAINING ACTIVITIES WORLD WIDE
AND MULTI-REGION COLLABORATION
FOR CONSISTENT LCA DATA**

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ABSTRACT

The UNEP/ SETAC Life Cycle Initiative organized a Pellston-type workshop in 2011 in Shonan Village, Japan, based on which the Global Guidance Principles for LCA Databases were developed. Following its launch at LCM 2011, a number of outreach events have been organized in particular in emerging economies. Further development of the guidance principles is needed so that they can be used in a practical way for training and other applications. Therefore, outreach activities are being continued and strengthened by the development of training material to be used in future events. Collaboration among regional and country based LCA networks is seen as important elements of the implementation strategy.

INTRODUCTION – THE GLOBAL GUIDANCE PROCESS

The process behind the publication ‘Global Guidance Principles for Life Cycle Assessment (LCA) Databases’, as described by Sonnemann et al. (2011), started back in 2007 when the International Life Cycle Board (ILCB) agreed that the UNEP/SETAC Life Cycle Initiative should produce a manual on developing a country’s life cycle inventory data for energy systems as a starting point for a LCA database. However, the manual was never finalized due to the significant amount of diverging comments from LCA experts. Nevertheless, the need for guidance on LCA databases did not disappear as discussions at various forums highlighted the presence of a range of contentious issues concerning the development of LCA databases and datasets. In particular, emerging economies and developing countries need global guidance for their Life Cycle Assessment database efforts to guarantee an efficient allocation of resources, to ensure reliability and quality and to ensure interoperability between regions.

It was decided that the best way to proceed was to organize a workshop, bringing together LCA experts to address the topics of concern, reaching agreements and conclusions to be included as guidance principles in a publication. A Steering Committee equally composed of



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representatives from governments, business & industry and NGOs and academia was formed to run the process and lead the organization of the workshop and the publication.

METHODS – THE WORKSHOP

A five-day Pellston workshop was held early February 2011 in Shonan, Kanagawa, Japan. The SETAC Pellston-type workshop brought together 48 invited experts from 23 countries, who were drawn in a balanced way from governments, industry, academia and consultancies, for an intensive, week-long workshop, where, through the use of working groups and plenary sessions, specific topics were addressed and the discussions and decisions incorporated in the final workshop publication. Pellston workshops have been used successfully by SETAC for many years and were therefore deemed ideally suited as a method for the process.

The workshop aimed to achieve an agreement on common practice with regards to LCA databases, striving towards consensus on certain issues, and defining a way forward for addressing the remaining challenging matters later on as part of the process. The focus was on the development of guidance for Life Cycle Inventory (LCI) databases, without being sector-specific and not entailing the development of a common database format.

The participants addressed specific aspects of the topic and were responsible for the related chapter in the final workshop publication. An overarching ‘Integration and Cross-Fertilisation’ group was also established to ensure efficient communication and exchange of knowledge between the various groups.

RESULTS – THE PUBLICATION

The publication ‘Global Guidance Principles for LCA Databases: A Basis for Green Processes and Products’ (Sonnemann and Vigon 2011) is an account of the discussions, agreements reached and future roadmap decided upon during the workshop. Other than editorial changes, the authors were not allowed, according to Pellston workshop regulations, to add or change any text after the workshop. The publication did undergo a comprehensive Peer Review Process by SETAC and the UNEP/SETAC Life Cycle Initiative.

The publication was launched at LCM 2011 and consists of 8 chapters and 4 annexes, see Figure 1. Some of the key results and recommendations presented in the publication include:

- Data sourcing and data collection are critical elements in producing datasets that are consistent and exchangeable;
- There is a need to maximize transparency whenever possible,;
- A central position in creating and managing datasets is recommended for data documentation and review elements;
- The Guidance Principles include a clear and meaningful differentiation of what does or does not constitute an “LCI database”;
- The primary target audience of the publication is database managers, who manage the data flow and the actors in the data supply chain.
- Various adaptive approaches, including input-output, hybrid, time-dynamic and spatially-explicit approaches, were assessed according to their data-related implications, capabilities and constraints to answer questions about their usefulness, limitations and connection to traditional, process-based data;

- Some consideration was also given to social and economic assessments, and associated data/database aspects, as complimentary to environmental LCA.

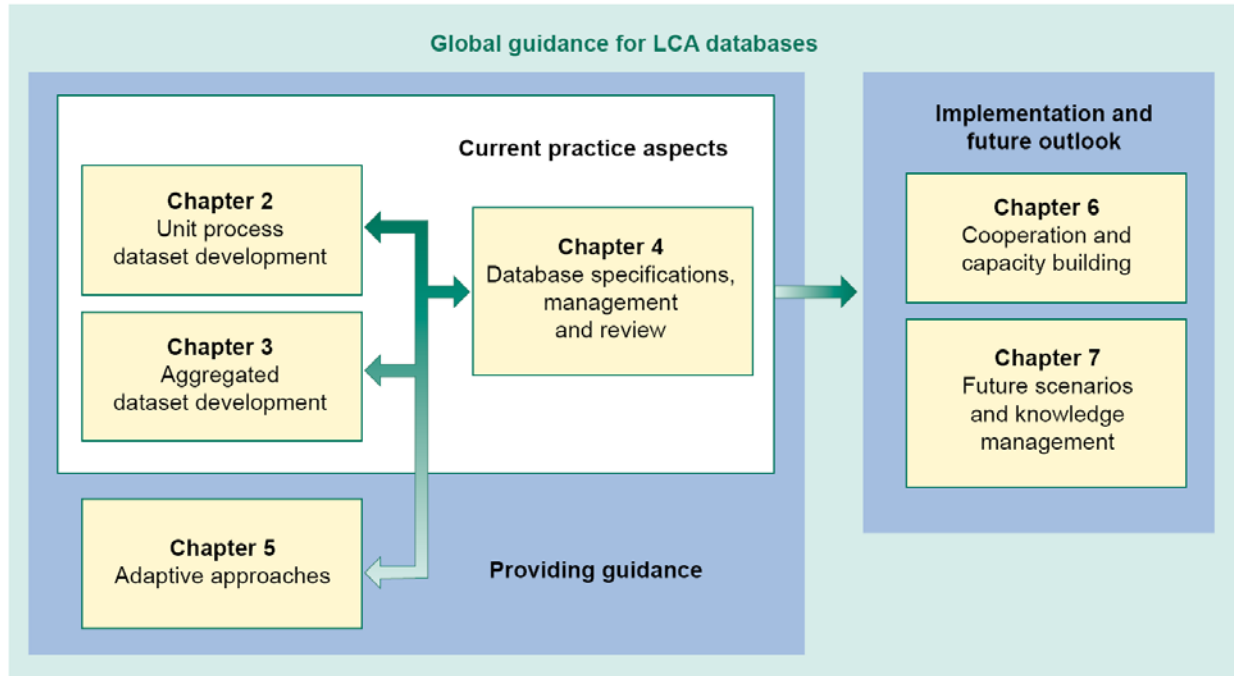


Figure 1. Organizational overview and roadmap of the publication 'Global Guidance Principles for LCA Databases, nicknamed Shonan Guidance Principles

DISCUSSION – OUTREACH AND TRAINING ACTIVITIES

Outreach on the publication

Following the launch of the publication, presentations were held and forums were provided to present and discuss the process, workshop and document. Outreach activities have been organized in particular in emerging economies. Initial events have been run in Chile at the national level and in Tunisia for the Southern Mediterranean region in December 2011. A launch of the Shonan guidance principles in Japan for the Asia-Pacific region were organised in January 2012. These activities were followed in June 2012 by two events back to back to the ISO TC 207 Plenary meeting in Thailand, one for the participants of the meeting coming from all around the world and one for the interested Thai audience. As a next step outreach events were organised in India (August 2012), Brazil (September 2012), China (November 2012) and Argentina (March 2013). They were seen as a crucial basis for developing datasets and setting up databases in the quickly industrialising parts of the world. These different activities have facilitated to create a global awareness of the Global Guidance Principles for LCA Databases.

Development of training material and multi-region collaboration

Further development of the guidance principles is needed so that they can be used in a practical way for training and other applications. To achieve this is one of the targets and actions identified for a flagship project within Phase 3 of the Life Cycle Initiative. The



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training material being prepared includes also the topic of how to set up databases and develop datasets, in particular in the developing world. The topic has been taken up by UNEP in its Rio+20 Voluntary Commitments (UNCSD 2012).

Regional and country based LCA networks are seen as important elements of this implementation strategy. They have already demonstrated their value for the organization of awareness-raising events on the Shonan Guidance Principles. Database managers are identified as central actors in the Shonan Guidance Principles. Therefore, establishing multi-stakeholder and multi-region collaboration worldwide among database managers that in general are part of a regional and country based LCA networks is seen as an other key element of a global roadmap for capability development on the generation of consistent LCA data and the management of related databases.

CONCLUSIONS – NEXT STEPS

As a result of the publication there are a range of anticipated benefits and future activities. Two priority components of the roadmaps moving forward include the global coordination among LCI dataset developers and LCA database managers, together with data mining, and the use of the publication for capacity building activities worldwide. Greater consistency and interoperability among national, industry association and commercial databases at the global level is another essential advantage anticipated for the future. The adoption of the ‘Global Guidance Principles’ publication as a de facto global standard is expected to support database teams and collaboration in regional networks, as well as assist in increasing consistency within the generation of LCA data, especially in emerging economies and developed countries. Along with the further dissemination of the publication, training materials are being produced and are to be used in training courses conducted globally.

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