

The UNEP/SETAC Life Cycle Initiative
– Bringing science-based life cycle approaches into practice

Jensen, A.A., Fava,¹ J., Sonnemann, G.,²
Valdivia, S.

Presenter:

Allan Astrup Jensen

FORCE Technology, Brøndby, Denmark

aaj@force.dk

+45 43 26 70 81

¹ Five Winds International, West Chester, USA

² UNEP DTIE, Paris, France

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Summary

Aware of the need to support a global dissemination and implementation of Life Cycle approaches, the Life Cycle Initiative was set-up in 2002 by UNEP and SETAC. In the first phase of the UNEP/SETAC Life Cycle Initiative a secretariat was set up in the UNEP DTIE office in Paris, and three programs:

- (1) Life Cycle Management Program; application of LCA and life cycle thinking;
- (2) Life Cycle Inventory Program; development and enhancement of sound LCI data and methods; and
- (3) Life Cycle Impact Assessment Program; Development and enhancement of sound LCIA data and methods.

These activities were conducted in various Task Forces and workshops coordinated by the International Life Cycle Panel (ILCP). The first phase concludes this year with important achievements and the completion of a series of products, which will be presented.

Renewed goals and a strategy are being outlined for the second phase of the Life Cycle Initiative from 2006 to 2010 in line with the 10-year Framework of Programmes on Sustainable Consumption and Production (Marrakech Process). The Initiative aims at facilitating

- (1) Promotion of life cycle thinking worldwide in order to bring science-based life cycle approaches into practice.
- (2) Collection, dissemination and discussion of experiences among business, and
- (3) Knowledge exchange of the 100 leading life cycle experts and associated regional networks (Africa, Eastern Europe, Latin America and Southeast Asia),

Preliminarily it is foreseen to structure the activities in the second phase in work areas such as:

- (1) LCM applied to Consumption Clusters (structured in housing, mobility, food and consumer products),
- (2) Industry roundtable
- (3) Resource and Capacity Building and
- (4) Life Cycle Approaches Methodology.

The final decision about activities will be taken in connection with the launch of the second phase in Montreal, Canada, November 2006.

Key words: UNEP/ SETAC Life Cycle Initiative, Life Cycle Management, Life Cycle Thinking, LCA.

Introduction

After the publication of the ISO 14040 (1998) series, a real need for supporting the dissemination and implementation of this approach in industrialized and non industrialized countries was identified. UNEP and SETAC, aware of this need, conjointly began to work on the articulation of existing efforts around Life Cycle Approaches resulting in the setting-up of the Life Cycle Initiative in 2002. This Initiative aims at promoting Life Cycle Thinking worldwide and at facilitating the knowledge exchange of almost 200 experts worldwide and 4 regional networks from different continents.

SETAC commits to provide technical advice and UNEP to facilitate the processes involving all kind of stakeholders and from different regions as well as to communicate achievements (i.e. by means of training).

UNEP plays the role of the Secretariat of this Initiative, which is running the last months of its first phase that began the year 2002 [1]. During this phase three important fields of work (Life Management, Life Cycle Inventories and Life Cycle Impact Assessments) as well as a cross-cutting area (Inclusion of Social Impacts in LCA) were established. Achievements and products from the first phase are being presented and disseminated for open use.

For the second phase, a renewed mission (“promotion of global Life Cycle Thinking”) and goals and action plans have been outlined. This second phase will cover the period until 2010 and the planned tasks are being articulated with the activities of the 10-year Framework of Programmes on Sustainable Consumption and Production (Marrakesh Process) [2].

The Marrakesh Process is directly dealing with substantive issues that are within the scope of work of the Initiative (i.e. Sustainable Lifestyles, Sustainable Products, Sustainable Procurement, Sustainable Tourism and Sustainable Building and Construction). The implementation of the Marrakesh Process is being pursued by UNEP and the United Nations - Department of Economic and Social Affairs (UN DESA) and started in 2003. Linkages between the Initiative and the Marrakesh Process are being strength.

The Life Cycle Initiative – First phase (2002-2006)

A summary on the growing performance in the Initiative and results until now are given in this chapter.

Participation in the Initiative and representativeness of the members

Since 2002, there has been a considerable growth in the Initiative membership. Currently, around 1000 interested members are registered in the UNEP Initiative's database and 200 experts are actively working in three Working Programs (Life Management, Life Cycle Inventories and Life Cycle Impact Assessments) and 13 Task Forces.

Around 300 out of 1000 interested members come from Latin America, Africa and Asia. The largest group of members (almost 700) are from other regions/continents like North America, Europe and Asia/ Pacific and from international private companies u other organizations. An approximate distribution of the participation of interested members is given in Figure 1.

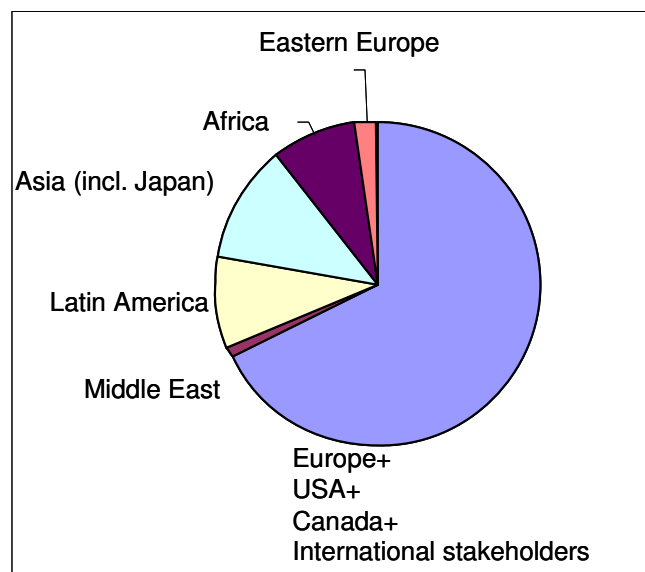


Figure 1: Distribution of regional memberships

80% of the members come from academic and research institutions, 15% from NGOs and consulting firms and 5% from private companies, governmental institutions and other kind of organisations.

It is, hence, evidenced that the Initiative has moved towards a global network; however, there is still the need to intensify actions to include more members from developing countries and from the private sector.

Achievements of the Life Cycle Initiative

The most relevant achievements and deliverables from the Initiative through its Secretariat, its 3 programs (Life Management, Life Cycle Inventories and Life Cycle Impact Assessments) and 13 Task Forces are the following ones.

Achievements:

- Building capacities and an international Life Cycle community, including more and more developing country experts, facilitating global exchange of information.
- Making available free awareness-raising and training material for global use.
- Setting the scene for Sustainable Product Life Cycle Management based on triple-bottom line approach.
- Enhancing consensus among LCA experts in methodological and data availability questions.
- Providing direct input for the recently launched European LCA platform.
- Supporting the set-up of a global Resources Panel with the European Commission.
- Raising awareness among Life Cycle experts for the particularities of resources, in particular metals.
- Ensuring that initiatives facilitated by UNEP such as UNEP Finance Initiative, Global e-Sustainability Initiative, Tour Operators' Initiative and the Sustainable Building & Construction Initiative take Life Cycle Approaches.
- Being in contacts with Multilateral Environmental Agreements, in particular Basel Convention, to base waste policies on Life Cycle Thinking.
- Providing direct input to the task forces of the Marrakech Process that is being pursued by UNEP and the United Nations – Department of Economic and Social affairs (UN DESA) [2].

Key Deliverables:

- Worldwide network of around 1000 experts of which 200 actively participated in Initiative.

- Regional and national ‘centres of excellence’ for capacity building and technology transfer.
- Organisation of many workshops on LCA and LCM issues.
- Support of around 50 open meetings on LCA worldwide.
- Set-up of an open management content system: website ESTIS for the Life Cycle Initiative and its task forces and regional networks.
- Free licenses of LCI databases and LCA softwares for 22 organisations from 14 developing countries to support LCA case studies.
- Background Report on a UNEP Guide to Life Cycle Management and a related slide show. Both to be downloaded since 2005 from the UNEP website.
- The final UNEP-SETAC LCM guide (draft version).
- LCA and LCM training materials (draft versions).
- Feasibility studies for Extended LCA (incl. social aspects).
- Global LCI database registry.
- Guidance documents on how to set up LCI databases for capacity building in all regions.
- Guidance on how to move from current practices to global recommended practice in LCIA (in preparation).

The Life Cycle Initiative – Second phase (2007-2010)

The mission, objectives and work areas of the second phase:

A renewed mission is: “To be the recognized facilitator to bring Life Cycle Approaches into practice world wide”

The objectives for Phase 2 are the following ones:

Objective 1: Enhance the global scope of life cycle approaches methodology;

Objective 2: Collect, develop, maintain and disseminate information on successful applications of life cycle approaches (together with the interface to other tools – e.g. certifications) to ‘resources’, including natural resources, chemicals, energy, water, etc.;

Objective 3: Facilitate the use of life cycle approaches worldwide by influencing management decisions in business and administration related to key consumption clusters and strengthening product policies and product stewardship programs by working closely with the respective leading actors;

Objective 4: Create capacity in the use of life cycle approaches in key public policy and business stakeholders worldwide, in collaboration with regional life cycle networks and other organizations.

The work in the second phase of the Life Cycle Initiative will be structured in five work areas:

- 1) Life Cycle Capacity Building
- 2) Life Cycle Management: Natural Resources
- 3) Life Cycle Management: Chemicals
- 4) Life Cycle Management: Consumption Clusters structured in:
 - a. housing,
 - b. mobility,
 - c. food, and
 - d. consumer products
- 5) Life Cycle Approaches methodology

The relationship between the five work areas can be seen in the Figure 2. Thus, it is pursued that the impact of the Life Cycle Initiative goes beyond the work on methodologies and capacity building and contributes in a more practical and effective way to the economies and to the ongoing international efforts to change unsustainable patterns of Production and Consumption.

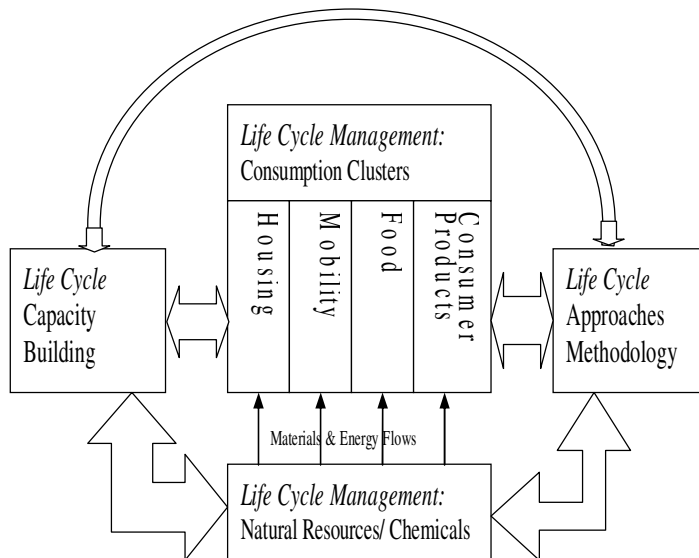


Figure 2: Linkages among the future work areas

New proposed projects:

A number of projects have been identified and plans are underway to successfully complete or launch them. It is expected, among others, to work on the following projects in the first part of Phase two in the year 2007/8:

- *Improvement of Characterization Factors in Life Cycle Impact Assessment of Ecotoxicity (Fate – Exposure – Effects) of metals.*
- *Long term development and maintenance of a LCI database registry.* This activity will allow structured collection and dissemination of *meta* data about running database projects and developments.
- *Dissemination of latest developments in LCA methodology.* Participation in the EC Coordinated Action on Life Cycle Assessment (CALCAS) will allow the UNEP/SETAC Life Cycle Initiative to disseminate latest developments and receive feedback on future activities.
- *Extended LCA: Integration of social impacts into the LCIA framework.* This project will identify in what manner social aspects can be integrated into LCA methodologies, and shape the process towards agreement in the expert community (Code of Practice) and towards standardization in the long term.

- *Further development of LCM concepts on sustainable management along the product lifecycle and value chain, product innovation, stakeholder relationships and communication.* Possibly, founding a business roundtable as a forum for exchange of experiences and views may be in cooperation with eg. WBCSD.
- *Building Capacity in Global Supply Chains.* The focus of the project will be producers in the production chains for extraction and processing of natural resources, primarily in less-industrialized countries and regions.
- *Partnership with the International Panel on Natural Resources.* This partnership will allow the Life Cycle Initiative the articulation of projects on natural resources with scientists and key stakeholders working with the panel as well as an exchange of opinions regarding the activities on this area.
- *Workshop with Strategic Approach to International Chemicals Management (SAICM) managed by UNEP.* A workshop bringing together key participants from SAICM and the Life Cycle Initiative will be held to pursue further areas of collaboration.
- *Relationship with UNEP's Sustainable Building and Construction Initiative (SBCI).* SBCI focus, in part, is to develop and promote economic incentives for a life cycle approach in design, construction and financing of buildings.
- *Workshop in UNEP, Consultative Meeting with Business & Industry and meetings with UNEP programme officers on mobility and food and the Marrakech taskforces, NCPCs and the Global e-sustainability Initiative (GeSI).* These meetings will aim at finding ways for an inclusion of life cycle approaches in these activities.
- *Organization of the International Conference on Life Cycle Assessment CILCA 2007 in Brazil.* International meeting co-organized by the regional Latin American life cycle network where an exchange of experiences with training workshops and presentations of latest developments will take place.
- *Cooperation with organizers of LCM2007 in Zürich, 27-29 August 2007 and other European networks e.g. NORLCA.*
- *Second phase of LCA awarded projects.* Workshop to recognize the participants who have been awarded LCA software and data base and to exchange learning, insights, and examples of how they have used their experiences to build capacity regionally.
- *Training workshops on LCA and LCM in Mexico and Vietnam.* Regional expert meetings where capacity building with the latest UNEP/SETAC materials and world class trainers will take place.
- *Start of public web-based system.* This will allow LCA practitioners free access to updated information and knowledge on commercial and free databases and LCA tools.

Conclusions

UNEP-SETAC Life Cycle Initiative's role is consolidating as catalyst of efforts on putting life cycle thinking into practice in business around the world, as support in the development of international policies that include life cycle thinking in developing and developed economies, and as the linking element to promote training and case studies in various areas, including in SMEs.

The Initiative brings together key actors from all the regions, and it is providing the platform and opportunity to share visions on activities for the promotion Life Cycle Thinking worldwide.

Everybody attending this meeting is encouraged to participate in the work and support the Initiative. Both UNEP and SETAC are not-for-profit organizations, and the Life Cycle Initiative relies fully on voluntary works and on support and sponsorship, especially from government, business and industrial associations. Without sufficient support all these ideas for new projects, I have presented, will not be accomplished.

Therefore, only if the Initiative makes something useful for society and business, it will survive!

Acknowledgement

The authors would like to thank the other members of the Strategy Committee of the Life Cycle Initiative for the leadership and support during the 1st and the coming 2nd phase:

- H.A. Udo de Haes, CML, Leiden University, the Netherlands
- G. Norris, Sylvatica and Harvard University, USA
- Quiros, EcoGlobal, Costa Rica
- De Leeuw, UNEP DTIE, Paris

References

[1] <http://lcinitiative.unep.fr/>

[2] UNEP – UN DESA, “10 Year Framework on SCP”,
<http://www.unep.fr/pc/sustain/10year/home.htm>

