

Strategy for Phase 2 (2006-2010) of the UNEP/SETAC Life Cycle Initiative - Bringing science-based life cycle approaches into practice

J. Fava¹, A. Quiros², G. Sonnemann³, S. Valdivia⁴, G. Norris⁵, B. De Leeuw⁶, H.A. Udo de Haes⁷, (the Strategy Committee of the UNEP/SETAC Life Cycle Initiative)

¹ *Five Winds International– USA; j.fava@fivewinds.com (Corresponding author)*

² *EcoGlobal, Costa Rica; eg@ecoglobala.com*

^{3,4,6} *UNEP DTIE - Paris, USA; gsonnemann@unep.fr, svaldivia@unep.fr, bdeleeu@unep.fr*

⁵ *Sylvatica and Harvard University, USA; gnorris@hsph.harvard.edu*

⁷ *CML, Leiden University, the Netherlands - the Netherlands; udodehaes@cml.leidenuniv.nl*

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ABSTRACT

The first phase of the UNEP/SETAC Life Cycle Initiative concluded in March 2007 with important achievements and the completion of a series of products.

In the second phase of the Initiative (2006 – 2010) it is foreseen to structure the activities in five work areas on Life Cycle Approaches as it applies to: Consumption Clusters (structured in housing, mobility, food and consumer products), Resources, Methodology, Business and Industries and Capability Development. The last work area is strongly focused on emerging and developing economies supported by our regional networks.

This paper will present a general outline of the planned steps for the next 4 years and a more detailed description of the activities for the first year (2007), taking into account the aim of global participation and focus on well defined deliverables. Further details on Phase 1 results can be found in a second paper presented at this conference.

1 Introduction

After the publication of the ISO 14040 (1998) series, a real need for supporting the dissemination and implementation of this approach worldwide 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 around the globe and 4 regional networks from different continents.

SETAC commits to provide technical advice and UNEP to facilitate the processes involving different stakeholders from several regions as well as to communicate achievements (i.e. by means of training and hosting the web site:

<http://lcinitiative.unep.fr/>). UNEP serves as the Secretariat of this Initiative.

Phase 1 began in the year 2002, and has just been completed. During the first 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 [1] and are summarized in a second paper presented in this conference.

For the second phase beginning in 2006 - 2007, a renewed mission and goals and action plans have been outlined. This second phase will cover the period until 2010 and the execution of planned tasks is being initiated.

2. The life cycle initiative – second phase (2006 - 2010)

Based upon the achievements and success of Phase 1 as well as on the gaps needed to be filled in and on the growing interest perceived from our stakeholders to advance life cycle approaches worldwide, UNEP and SETAC agreed to continue their partnership in Phase 2.

Feedback received from collaborators of the Life Cycle Initiative and from various relevant stakeholders and the recognition of the changing context where the Life Cycle Initiative works, have been extremely valuable inputs in order to adequately and in timely fashion re-address the activities of the Life Cycle Initiative in Phase 2.

At UNEP new opportunities favourable to the Life Cycle Initiative have been identified that will allow an optimal use of our resources and the access to more channels for international cooperation, dissemination and exchange. The 10-year Framework of Programmes on Sustainable Consumption and Production (Marrakech Process) (see

<http://www.uneptie.org/PC/sustain/10year/home.htm>) that is being pursued by UNEP and the United Nations Department of Economic and Social Affairs (UN DESA) directly deals with substantive issues which are within the scope of work of the Life Cycle Initiative¹ and consequently the planned activities for the second phase of the Life Cycle Initiative will be articulated with a clear link to the activities of this Framework of Programmes.

On the other hand, members of the governing body of the UNEP/SETAC Life Cycle Initiative (ILCP) highlighted the need to better balance the activities of the Life Cycle Initiative between academic research and industry orientation. They addressed the need to identify ways for a better approach to private businesses to provide them with useful, feasible and innovative life cycle solutions.

The strategy of Phase 2 will be therefore characterized by a close collaboration with actors in the field of product policy and development to support them in taking a life cycle approach, and by the strong focus on applicability based on lessons learnt from LCA rather than on further research. This will make a clear difference to the first phase.

¹ e.g. Sustainable Lifestyles, Sustainable Products, Sustainable Procurement, Sustainable Tourism and Sustainable Building and Construction.

2.1 New mission of the Life Cycle Initiative and work areas

A renewed mission, priorities for the second phase, and a selection of new activities are described in the next lines.

The new mission is “to bring science-based life cycle approaches into practice”

The work in the second phase of the Life Cycle Initiative is initially proposed to be structured in five work areas:

- a. Life Cycle Approaches Methodology (including data, methods, case studies, etc.)
- b. Life Cycle Approaches for Resources and Materials (including natural resources, chemicals, water, energy, etc.)
- c. Life Cycle Approaches for Consumption Clusters (structured in housing, mobility, food and consumer products)
- d. Life Cycle Approaches for Capability Development (including institutional empowerment, training, curricular development, etc.)
- e. Life Cycle Management in Businesses and Industries

The four consumption clusters (housing, mobility, food and consumer products) were selected, based on the critical impacts identified along their life cycles and on their potential to provide demonstrative case studies for positive changes towards sustainable consumption and production. In these cases, articulated implementation of life cycle approaches, based on enhanced life cycle methodologies and the enforcement of local capacities and the capacity building of decision makers, is key to achieving positive changes.

The relationships between the five work areas are illustrated in the Figure 1. Thus, it is sought that the scope of activities of the UNEP/SETAC Life Cycle Initiative goes beyond the methodologies and contribute in a way that emphasizes practical implementation in industry and in ongoing international efforts to change unsustainable patterns of Production and Consumption.

2.2 Objectives

To achieve our revised mission, the objectives for Phase 2 are as follows:

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

- Objective 2: Facilitate the use of life cycle approaches worldwide by encouraging life cycle thinking in decision-making in business, government and the general public about natural resources, materials and products targeted at consumption clusters
- Objective 3: Expanding capability worldwide to apply and to improve life cycle approaches

2.3 New projects in the focused work areas

It is expected to continue, among others, with the following projects:

On Life Cycle Approaches Methodology:

- *Improvement of Characterization Factors in Life Cycle Impact Assessment of Ecotoxicity (Fate – Exposure – Effects).* This project is aiming at improving characterization factors for metals ecotoxicity **(new)**
- *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 achieved: www.lci-network.de/db-registry **(ongoing)**
- *Set up of Life Cycle Inventory data format converter.* Within 1.5 years, a modular software to convert relevant LCA data formats from one to the other, in a loss-less manner will be completed. The software will be available as open source for free. Initially, a basic framework for life cycle assessment (LCA) calculation, a format converter and an uncertainty module will be implemented. See an introduction at: <http://www.openlca.org/> **(ongoing)**
- *Dissemination of latest developments in LCA methodology.* Participation in the EC Coordinated Action on Life Cycle Assessment will allow the Life Cycle Initiative to disseminate latest developments and receive feedback on future activities CALCAS: <http://jp1.estis.net/sites/calcas/> **(ongoing)**
- *Extended LCA: Integration of social aspects into LCA 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. Furthermore, core elements of and core requirements upon the integration of social aspects shall be formulated **(ongoing)**

On Life Cycle Approaches for Resources and Consumption Clusters:

- *International network cooperation:*
 - a. Partnership with the International Panel on Natural Resources.
 - b. Sustainable Building and Construction Initiative.
 - c. Workshop with Strategic Approach to International Chemicals Management (SAICM) managed by UNEP. **(ongoing)**
- *Publication on indoor air pollution.* It will include the method proposed and its application to disseminate the results. **(new)**

On Life Cycle Approaches for Development:

- Cooperation with International conferences where an exchange of experiences with training workshops and presentations of latest developments takes place:
 - a. Support of the regional Latin American life cycle network in the organization of the International Conference on Life Cycle Assessment, CILCA2007, 26-28 February 2007 in Sao Paulo, Brazil.
 - b. Co-operation with organizers of LCM2007 in Zürich, 27-29 August 2007 and other European based networks e.g. NORLCA and SCORE.
 - c. Training course on LCA and LCM during the 7th Asia Pacific Roundtable for Sustainable Consumption and Production, Hanoi, 25 - 27 April 2007 **(ongoing)**
- *LCI data pool for developing countries.* It will consist of a manual on how to develop a country's LCI data for background processes focusing on energy systems, starting from available data **(new)**.

- *Second phase of LCA awarded projects.* Workshop to be held during LCM 2007 in Zurich in order to acknowledge 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. **(new)**
- *Completion 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. **(ongoing)**

2.4 Preparatory activities

For Phase 2 following types of projects are supported:

1. Group Projects. Carried out by Project Groups of experts within the Life Cycle Initiative. Partial Funding available from LCI.
2. Commissioned Projects. Carried out by a single organization within the Life Cycle Initiative. Complete Funding available from LCI.
3. Co-governed Projects. Carried out by external organizations or individuals and meeting the Initiative's mission. Funded externally and managed jointly by LCI and external organization. An additional amount is provided to the Initiative to fund the follow-up and review activities of the project.
4. Endorsed Projects. Proposed by an external partner organization for endorsement. If they meet the Life Cycle Initiative's mission the project is endorsed, but will be funded and managed externally.

To assure a bottom-up process for the generation of projects for Phase 2, the Initiative announced a call for expressions of interest and a subsequent call for ideas for projects.

Following the announcement of the first "call for proposals" of Phase 2 of the Initiative, it received during two weeks and by 15 May 2007 over hundred and twenty expressions of interest and 25 projects.

Regarding proposed projects 57% of them were submitted by universities, 40% come from Latin America and 30% from Africa. The Work Area that attracted more proposals is the one on Capability

Development with 37% of the total amount followed by the Work Area on Methodologies with 29%.

An overview of results of the open calls for expressions of interest and projects can be graphically seen in Figures 2, 3, 4, 5 and 6.

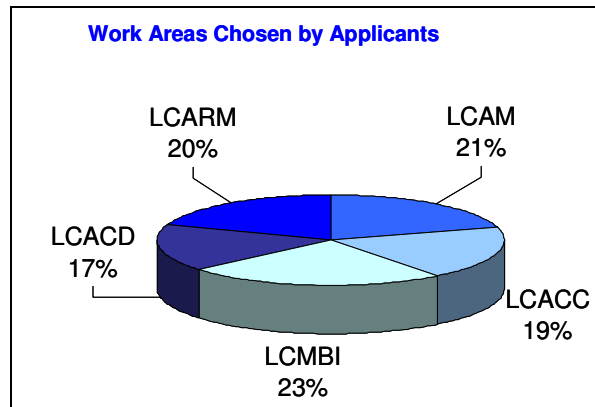


Figure 2 – Expressions of Interest for the Work Areas²

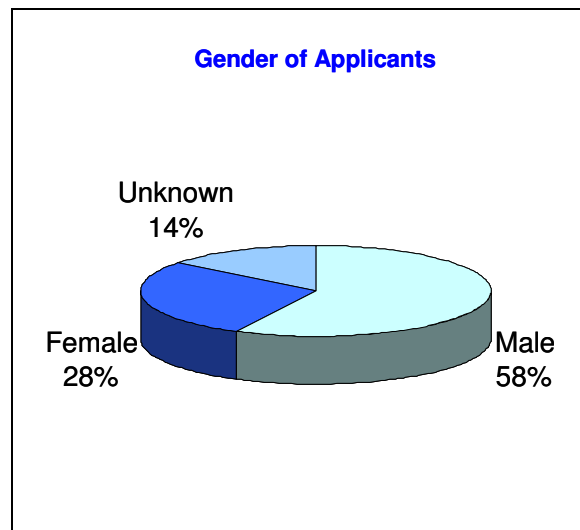


Figure 3 – Gender of applicants for the Work Areas

² Legend:

LCAM: Life Cycle Approaches for Methodologies

LCARM: Life Cycle Approaches for Resources & Materials

LCACC: Life Cycle Approaches for Consumption Clusters

LCACB: Life Cycle Approaches for Capability Building

LCMBI: Life Cycle Management for Business & Industry

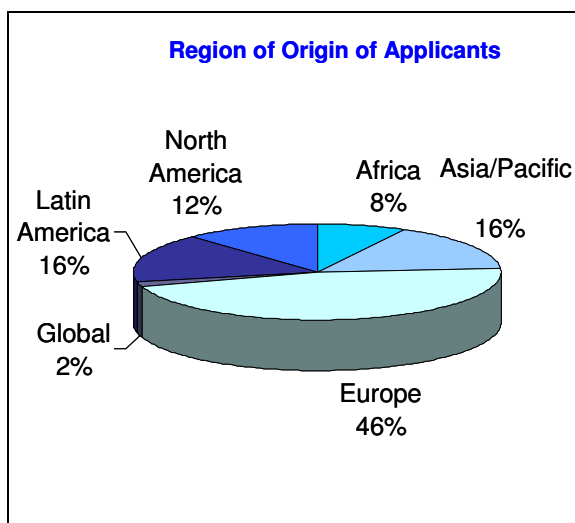


Figure 4 – Region of origin of applicants for the Work Areas

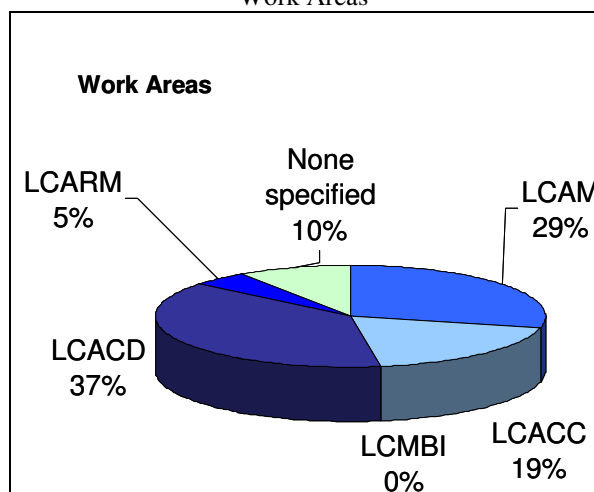


Figure 5 – Distribution of projects submitted per work area

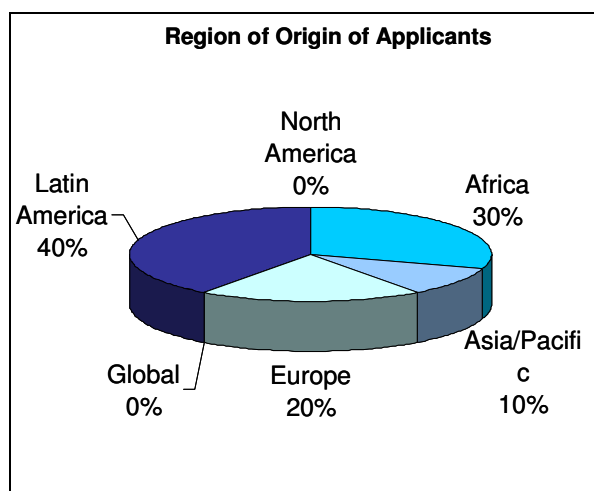


Figure 6 – Region of origin of projects submitted

4. Conclusions

The 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 facilitator of best case studies and capability building, and
- as support in the development of international policies that include life cycle thinking in developing and developed economies.

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. Still more than 50% of applications as active members for the Work Areas come from developed economies, but this proportion is changing towards a more geographically balanced distribution of the members.

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 will not be accomplished.

Therefore, your support is requested to prepare and communicate useful Life Cycle Approaches. For additional information, please visit the web site <http://lcinitiative.unep.fr/>, or contact sc@unep.fr.

References

- [1] Webpage of the UNEP/SETAC Life Cycle Initiative, <http://lcinitiative.unep.fr/>, UNEP DTIE
- [2] UNEP – UN DESA, “10 Year Framework on SCP”, <http://www.unep.fr/pc/sustain/10year/home.htm>, last day of access: 11th August 2006
- [3] Fava J; Hall J, “Why Take A Life Cycle Approach?” UNEP DTIE, 2004
- [4] Jensen A A; Remmen A, Background Report for a UNEP Guide to Life Cycle Management, UNEP DTIE, 2004.

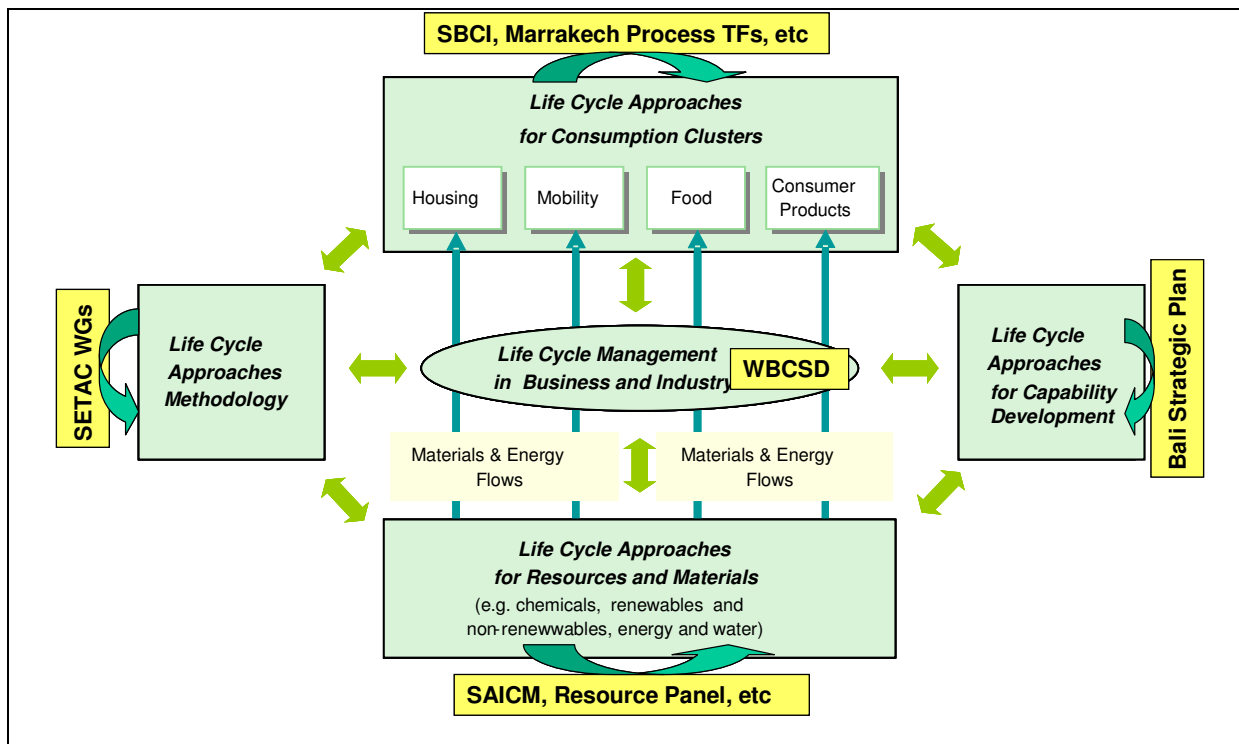


Figure 1 - Linkages among the work areas