

## Corner 'EU Life Cycle Policy and Support'

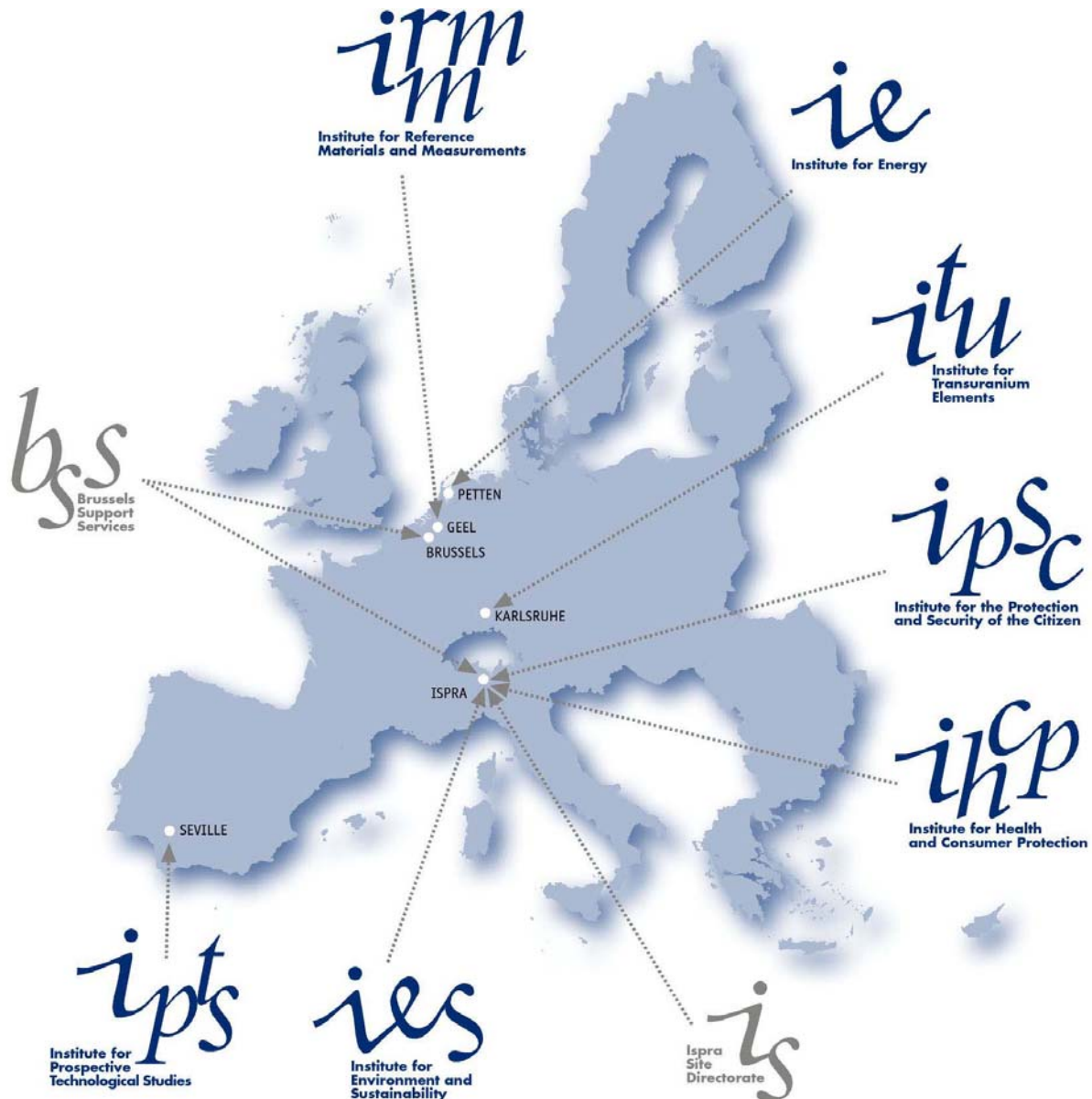
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through computer simulations, modelling, expert workshops, and state-of-the-art laboratories. The responsibilities include the implementation of the European Platform on LCA, which is developing the Reference European Life Cycle Data System (ELCD) and associated Technical Guidance Documents. The team has successfully conducted a series of international workshops and carried out pilot studies with Member States in relation to Life Cycle Thinking and Waste Management. Activities now include the development of European Life-Cycle Guidelines for Waste Management, and the broader development of Life Cycle-based Sustainability Indicators.

## Preface: EU Life Cycle Policy and Support

### Overcoming Barriers to the Broader Implementation of Life Cycle Thinking in Business and Public Administration

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**Preamble.** It is the **purpose** of this Corner to serve as an information and communication channel as well as a discussion forum between science and policy in general, as well as between research and management, in business and public administration with regard to goods and services (products).

It is the **aim** of this Corner to improve awareness of, and to help more effectively implement, life cycle thinking in all stages of decision making in business and public administration.

This Corner 'EU Life Cycle Policy and Support' appears regularly. Contributions are invited and uninvited articles, as well as discussion comments from the LCA community. They outline practical experiences, information on new regulations, directives and other policy instruments, as well as important theoretical considerations.

This first edition of the Corner provides, for discussion, a broad commentary on our underlying thoughts and ideas. This builds on ideas presented in e.g. the business context in the Life Cycle Management special edition (Int J LCA Special Issue 1, 2007), as well as recent policy developments in the European Union. This editorial is illustrated with example references related to each issue that were recently published in the journal (see [1–11]).

#### Challenges

To move towards sustainable consumption and production it is essential for decision-makers – whether product developers, consumers, policy advisors, or others – to consider the up-stream and down-stream trade-offs of goods and services (products). The full life cycle of products must be taken into account, from the extraction of raw materials to the disposal of remaining wastes (the 'cradle-to-grave'). The shifting of burdens within the life cycle, across impacts such as climate change, carcinogenic effects and others, or among regions is to be avoided. Life cycle thinking is therefore not only an option, but indispensable in decision support in businesses and public administrations. Yet, the true potential of life cycle thinking remains to be realized.

While there have been important achievements, for example the international standards for Life Cycle Assessment (LCA)<sup>1</sup>, there are still barriers that inhibit the broader implementation of life cycle thinking. These barriers are on both the demand and the supply side: On the demand side there are needs for greater awareness of its benefits and to strengthen the use of related tools such as Environmental Product Declarations (EPDs) in support of Business-to-Business communication and Eco-labels for Business-to-Consumer communication. On the supply side, there is a wealth of methods and data available, but direction is needed on what to use when along with further guarantees ensuring results of studies

do not depend on the experts conducting them. This is particularly important for life cycle thinking to become better accepted and more efficiently integrated into public decision making. Achieving this requires that private and national interests must be put aside.

#### Business – Corporate Responsibility and Markets

The incentives for life cycle thinking in business are broad. There is a potential for increased market share through targeted innovation, improved products and better corporate image. Practices in the supply chain and in post consumption are quantified in a structured way helping to identify product-related issues that may arise (risk management). Equally, its use in strategic decision support for infrastructure investments to help avoid environmentally dead-end technologies and processes is just one further example of the possible incentives.

Starting already in the early 1990s, a growing number of businesses use tools like LCA, mainly for in-house decision support. This is partially due to greater awareness and increased trust in this tool, as well as due to cost-reductions through the use of experience-based simplifications of more in-depth studies. For example, eco-design approaches such as Key Environmental Performance Indicators (KEPI) can help to cut costs and the time required for studies by 90% or more compared to the initial full studies, while achieving the same reliability. At the same time, the use of life cycle thinking in external communications is growing but this needs further support.

From the supply side, pro-active business associations recognise the importance of providing high-quality, up-to-date, and consistent data that reflects the life cycle reality of their goods and services. The supply of such data is supported by a growing body of experts in consultancies (mainly Small and Medium sized Enterprises, SMEs) and by various research groups; with altogether at least 100 small life cycle service providers in Europe and beyond. There are now at least 25 broad LCA databases and 40 LCA software tools available<sup>2</sup>. These resources and services are being complemented by various national and international networks. Related guidance and harmonization activities are particularly essential for greater consistency, broadening acceptance, improved data exchange, reducing costs, and efficiently highlighting key research needs.

<sup>1</sup> ISO 14040 and 14044

<sup>2</sup> <http://lca.jrc.ec.europa.eu/lcainfohub/directory.vm>

### Government – Initiatives in the European Union

Recognizing life cycle thinking as an important contribution to coherent, science-based decision making, the European Commission published in June 2003 its landmark Communication on Integrated Product Policy (IPP)<sup>3</sup>. In addition to this important political message and to launching actions needed to help broaden its adoption, Member States of the Union came together to exchange their growing experiences from the demand side of implementing this concept. In parallel, pilot studies were launched for selected product groups and conducted by business representatives to help investigate potential barriers and different stakeholder responsibilities. High-priority sectors were furthermore identified as a basis for more detailed studies of how and where improvements could be best achieved from a life cycle perspective. The underlying foundations are addressed by the European Platform on LCA. Through the Platform, the Commission provides support to its own policies, to Member States and to business by promoting the availability of reference and compliant third-party data complimented with recommended methods and guidance documents.

In December 2005, the IPP Communication was strengthened by the European Commission's Thematic Strategy on the Sustainable Use of Natural Resources<sup>4</sup>. Its focus is on decoupling economic growth from environmental impacts. Life cycle thinking is a core to this thematic strategy, being a foundation of the indicators that will be developed to monitor progress across the community. The global dimension is equally recognized through e.g. the establishment of a supporting International Panel on Natural Resources coordinated by UNEP. In parallel, the 2005 Thematic Strategy on the Prevention and Recycling of Waste<sup>5</sup> not only placed environmental improvement further at the heart of European Waste Policy, through proposals to update the Waste Framework Directive<sup>6</sup>, but also proposes consideration of the full implications of decisions from a life cycle perspective.

The Commission is now developing Action Plans on Sustainable Consumption and Production (SCP) and on Sustainable Industrial Policy<sup>7</sup>. These Action Plans should further help to identify and overcome barriers for SCP. They will raise the level of awareness among citizens and find necessary ways to change unsustainable consumption. The plans will build upon ongoing European initiatives and instruments, including the Eco-Management and Audit Scheme (EMAS), the Eco-Label Scheme, the Environmental Technology Action Plan (ETAP), Green Public Purchasing (GPP), the Eco-design of Energy-using Products (EuP) Directive as well as others. This will help increase coherence among the different related policy areas, while addressing gaps and supporting global interaction.

### Outlook

The main barriers to life cycle thinking are being overcome by pro-active businesses, public administrations, research groups, and consultancies putting aside private and national

interests. This cooperation and the resultant achievements are essential, particularly in the context of public decision making and for broader use in business. This will equally provide an increased demand for more focused research and a larger market for life cycle services, while addressing many of the needs for achieving sustainable consumption and production.

**In one sentence:** Life cycle thinking is now maturing, moving from its academic origins and limited uses primarily in-house in large companies to more powerful approaches that can efficiently support the provision of more sustainable goods and services through efficient use in product development, external communications, in support of customer choice, and in public debates.

The coming series of invited articles will give more details on these important developments.

### Glossary (will be traded and completed from issue to issue)

Eco-design of Energy-using Products	EuP
Eco-Management and Audit Scheme	EMAS
Environmental Product Declarations	EPDs
Green Public Purchasing	GPP
Integrated Product Policy	IPP
Key Environmental Performance Indicators	KEPI
Small and Medium sized Enterprises	SMEs
Sustainable Consumption and Production	SCP

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<sup>3</sup> COM (2003) 302 final (<http://ec.europa.eu/environment/ipp/>)

<sup>4</sup> COM (2005) 670 final (<http://ec.europa.eu/environment/natres/>)

<sup>5</sup> COM (2005) 666 final (<http://ec.europa.eu/environment/waste/>)

<sup>6</sup> COM (2005) 667 final (<http://ec.europa.eu/environment/waste/legislation/>)

<sup>7</sup> [http://ec.europa.eu/environment/eussd/escp\\_en.htm](http://ec.europa.eu/environment/eussd/escp_en.htm)