



Partnership on benchmarking and monitoring the
environmental performance of animal production and
processing

28, 29 March, Rome, FAO



UNEP/SETAC Life Cycle Initiative



March, 2011

Sonia Valdivia

United Nations Environment Programme



International Life Cycle Partnership

*To bring science-based life cycle approaches into
practice worldwide*

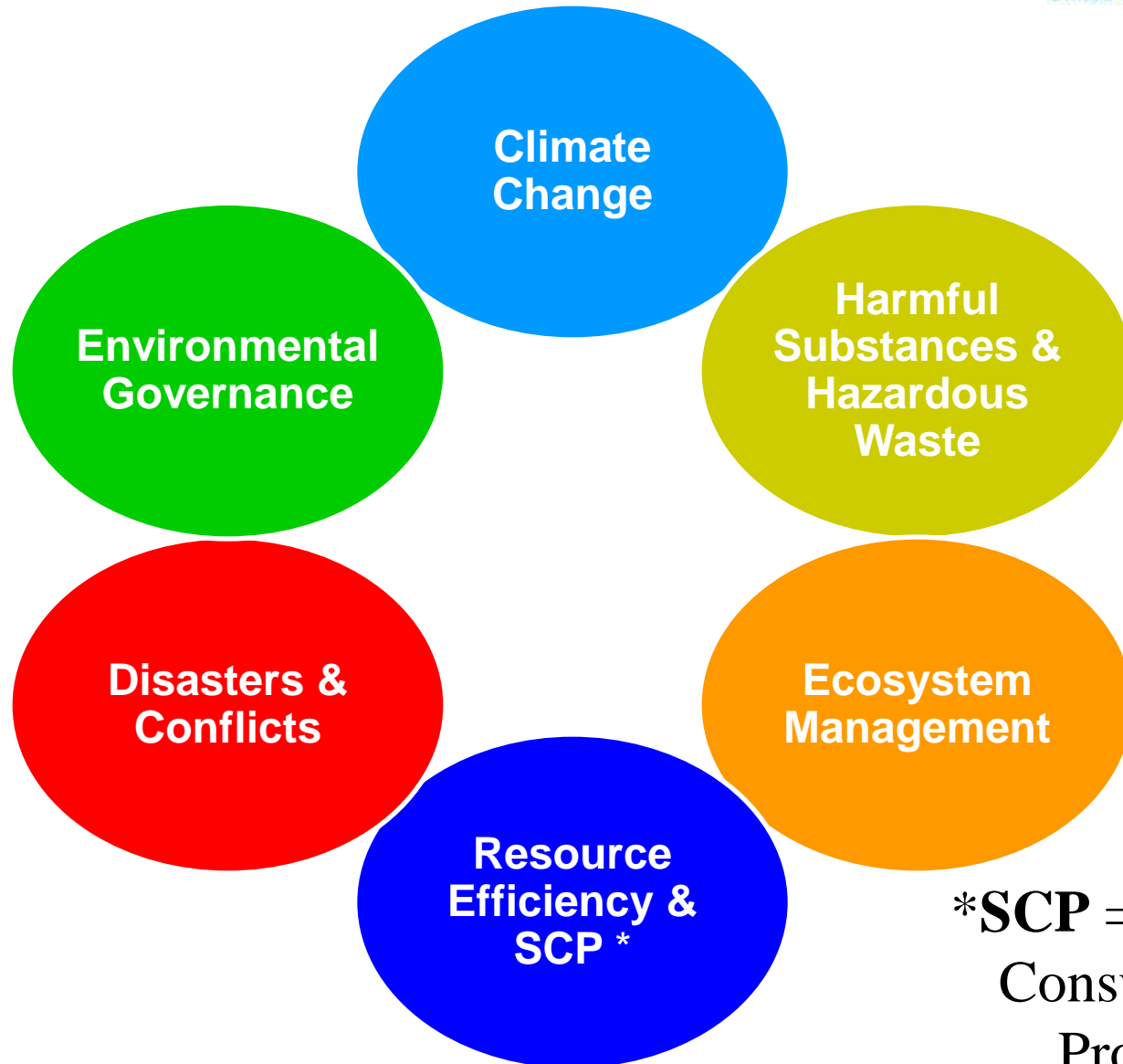
Agenda

- 1) UNEP and the SCP Branch**
 - i. Thematic Priorities
- 2) Resource Panel**
- 3) Life Cycle Initiative**
 - i. Global LCA data base guidance project
 - ii. LCIA and footprinting
 - iii. LCM
 - iv. Capability development
- 4) Agri-food program within the 10YFP**



UNEP

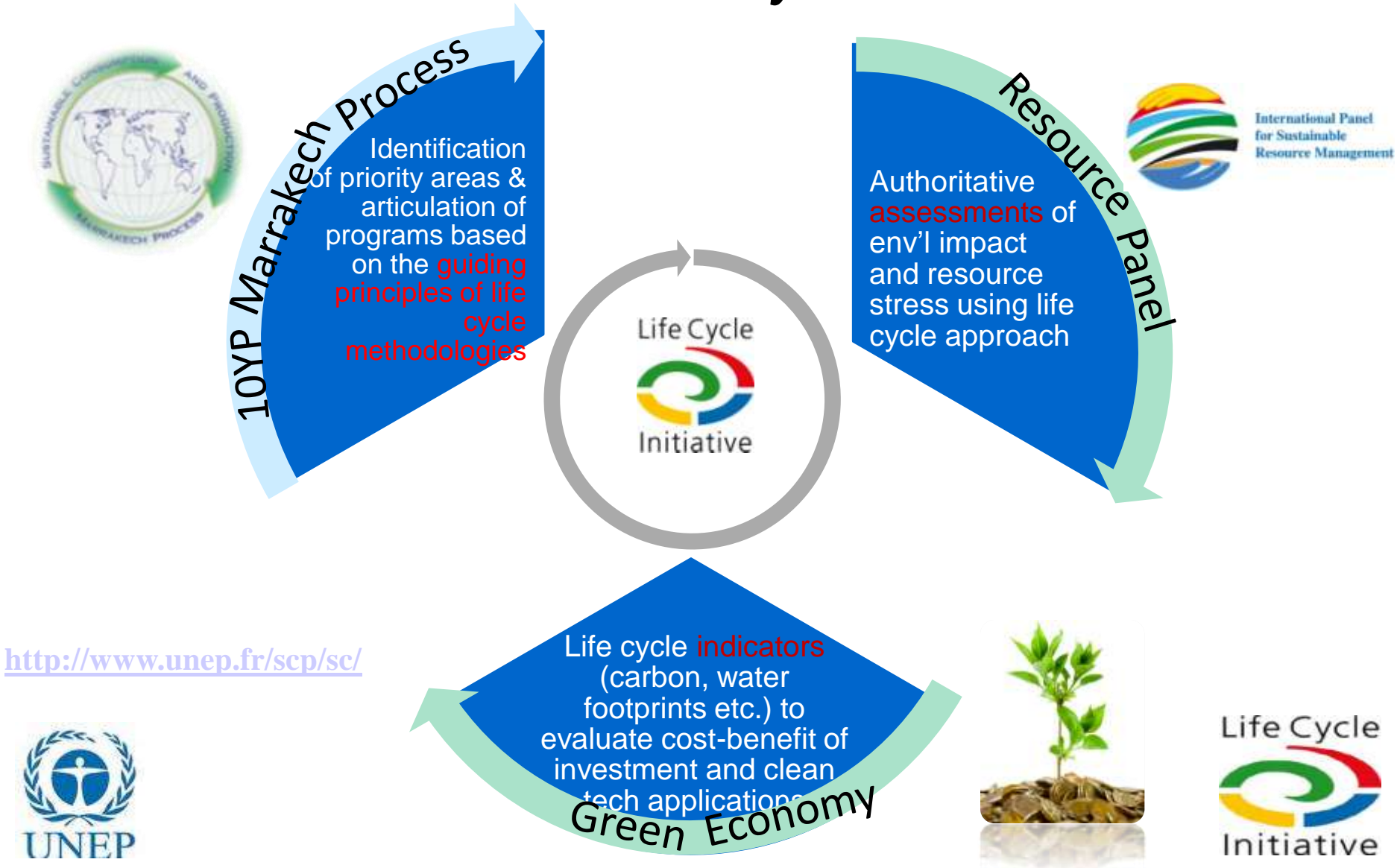
Thematic Priorities



*SCP = Sustainable Consumption & Production

UNEP – SCP

UNEP/SETAC Life Cycle Initiative





International Panel for Sustainable
Resource Management



Assessing the Environmental Impacts of Consumption and Production:

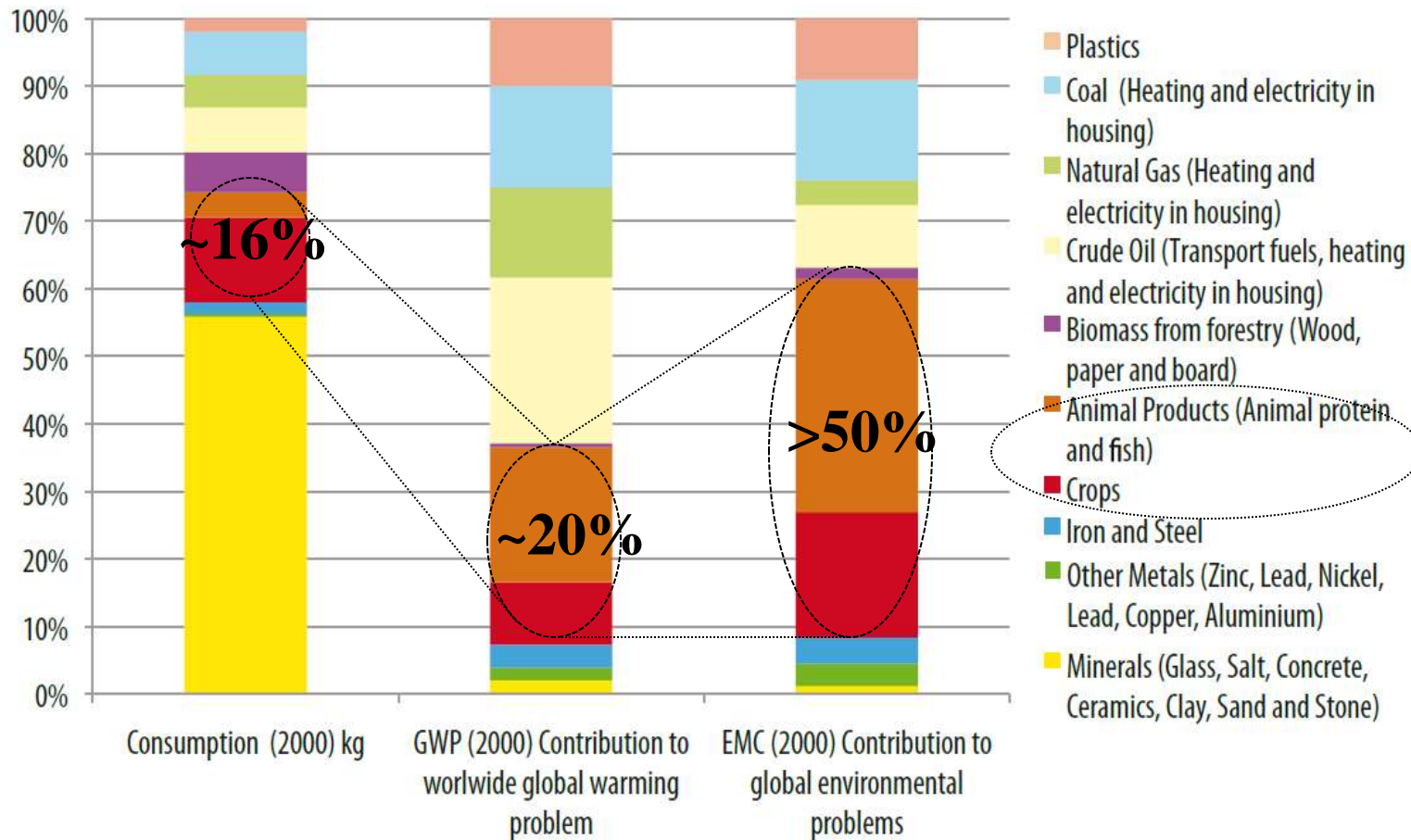


**PRIORITY
PRODUCTS AND
MATERIALS**

Key Messages



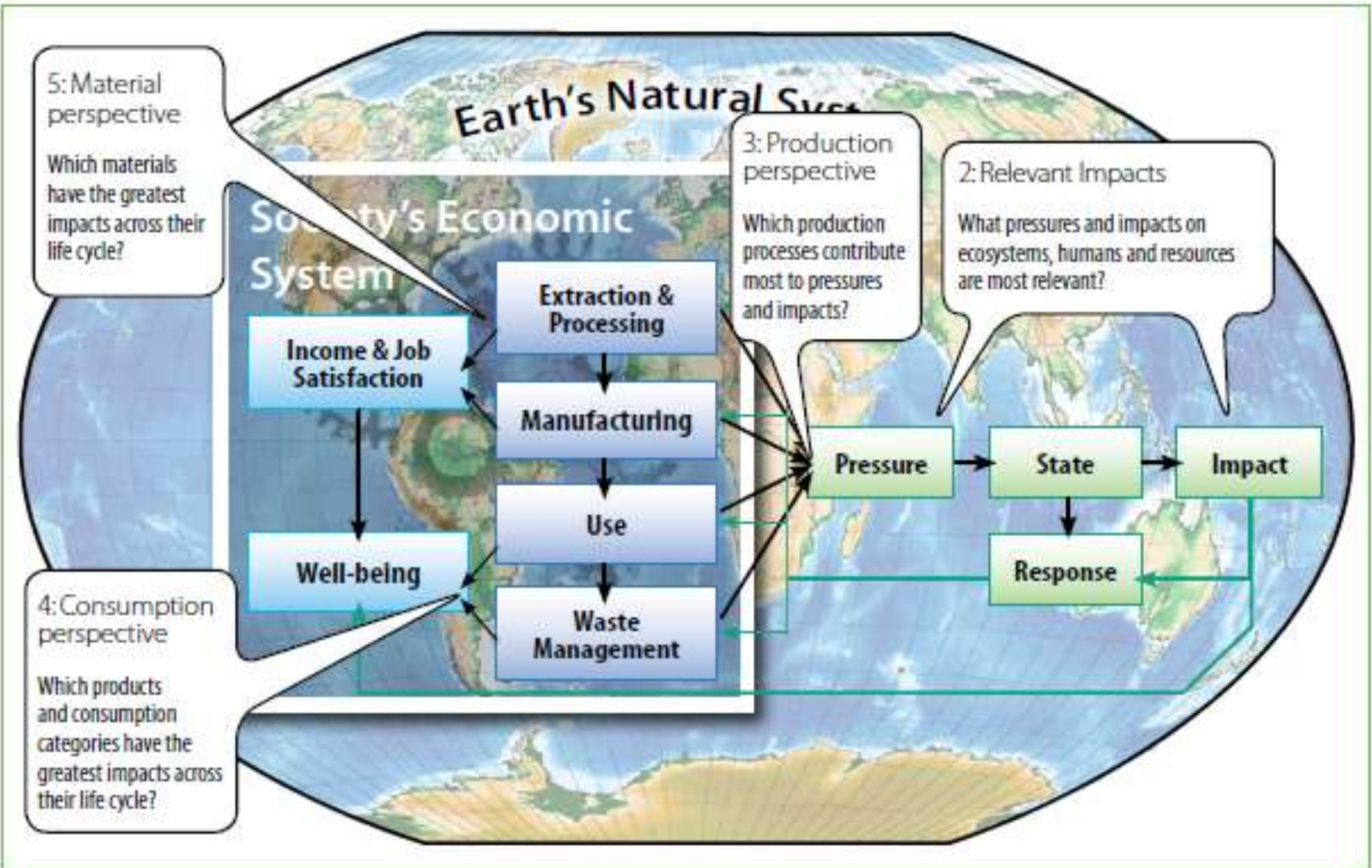
Material use, CO2 and total impacts



Environmentally weighted material consumption (EMC)



Methodological Framework



International Panel on the Sustainable Use of Natural Resources
Assessing the Env. Impacts of Production & Consumption: *Priority Products & Materials*

Summary: findings at a glance

- Studies and perspectives converge on the dominance of:
 - *Agriculture and food* consumption
 - Activities (mobility, housing and energy using products) using *fossil fuels*as main contributors for environmental impacts
- Other findings:
 - *Impacts rise with income*
 - *Pollution embodied in trade* is relevant
- Outlook:
 - New *patterns of consumption and production* needed.
 - *Harmonized data* gathering and *better trend analyses* help improved decision making



UNEP/SETAC Life Cycle Initiative

Public Private Partnership

launched by UNEP & SETAC in 2002



Mission: *To bring science-based life cycle approaches into practice worldwide*

Added Value: *Ability to mobilize an established and growing network of about 2000 global experts*

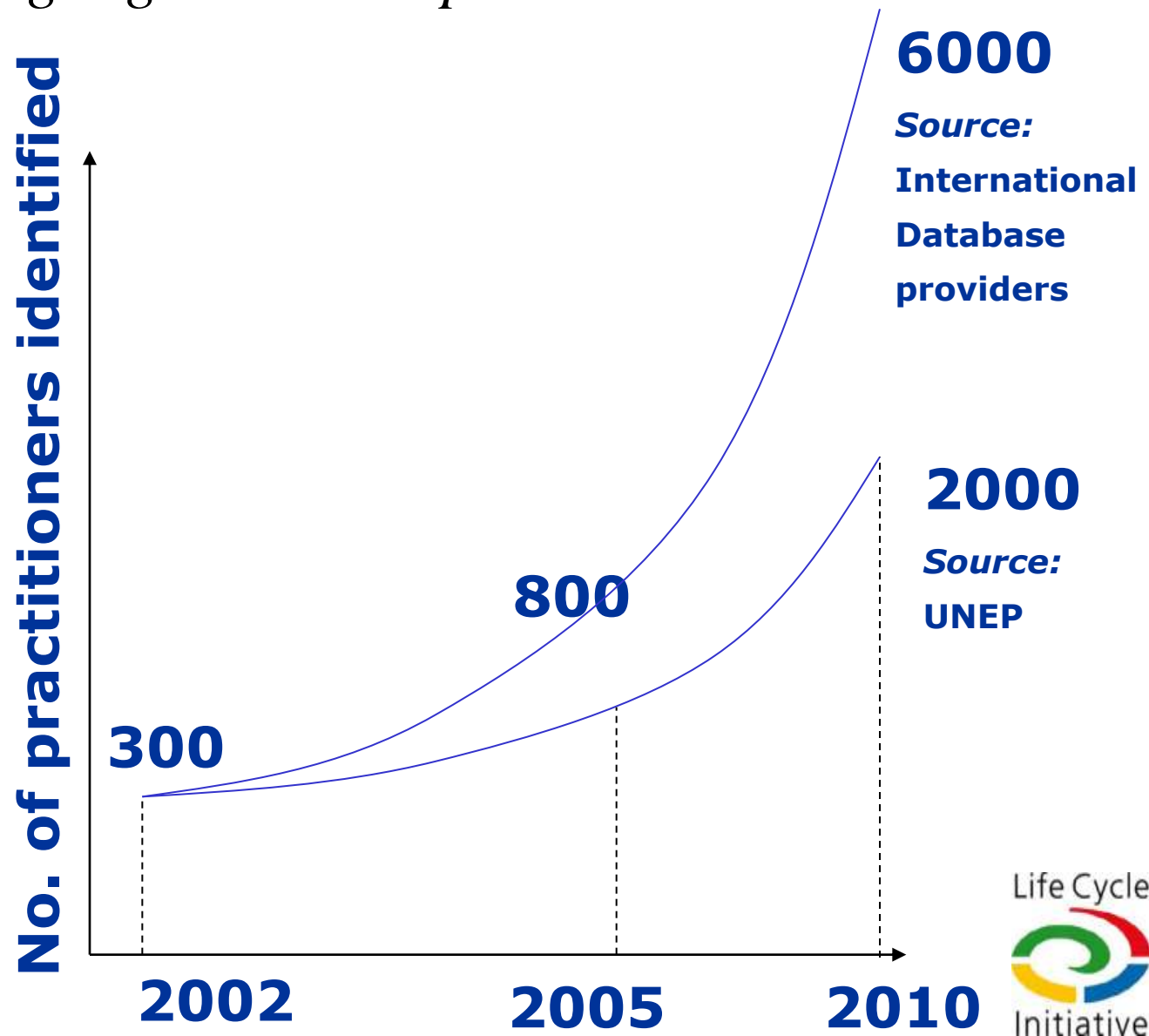
Objectives:

- 1) Refine & facilitate *methodologies and data* for LCA achieved by international consensus
- 2) Facilitate the *use of life cycle based approaches* worldwide
- 3) *Expanding capability* worldwide to apply life cycle approaches



UNEP/SETAC Life Cycle Initiative

Bringing together LCA practitioners



UNEP/SETAC Life Cycle Initiative

Achievements – PUBLICATIONS

TOTAL ~ 10

Examples:

Guidelines for Social Life Cycle Assessment of Products

Life Cycle Management (LCM)

- A business guide to sustainability
- How business uses it to decrease footprint, create opportunities & make value chains more sustainable

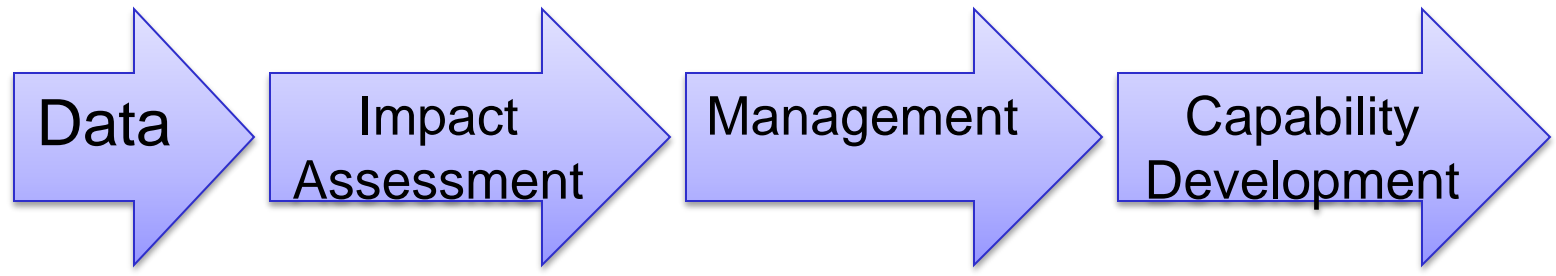
* Communication of Life Cycle Information in the Building and Energy Sectors



(for the full list of publications and access to the documents please visit the Life Cycle Initiative's website: <http://lcinitiative.unep.fr/>)



Areas of Work



More Sustainable Products and Services

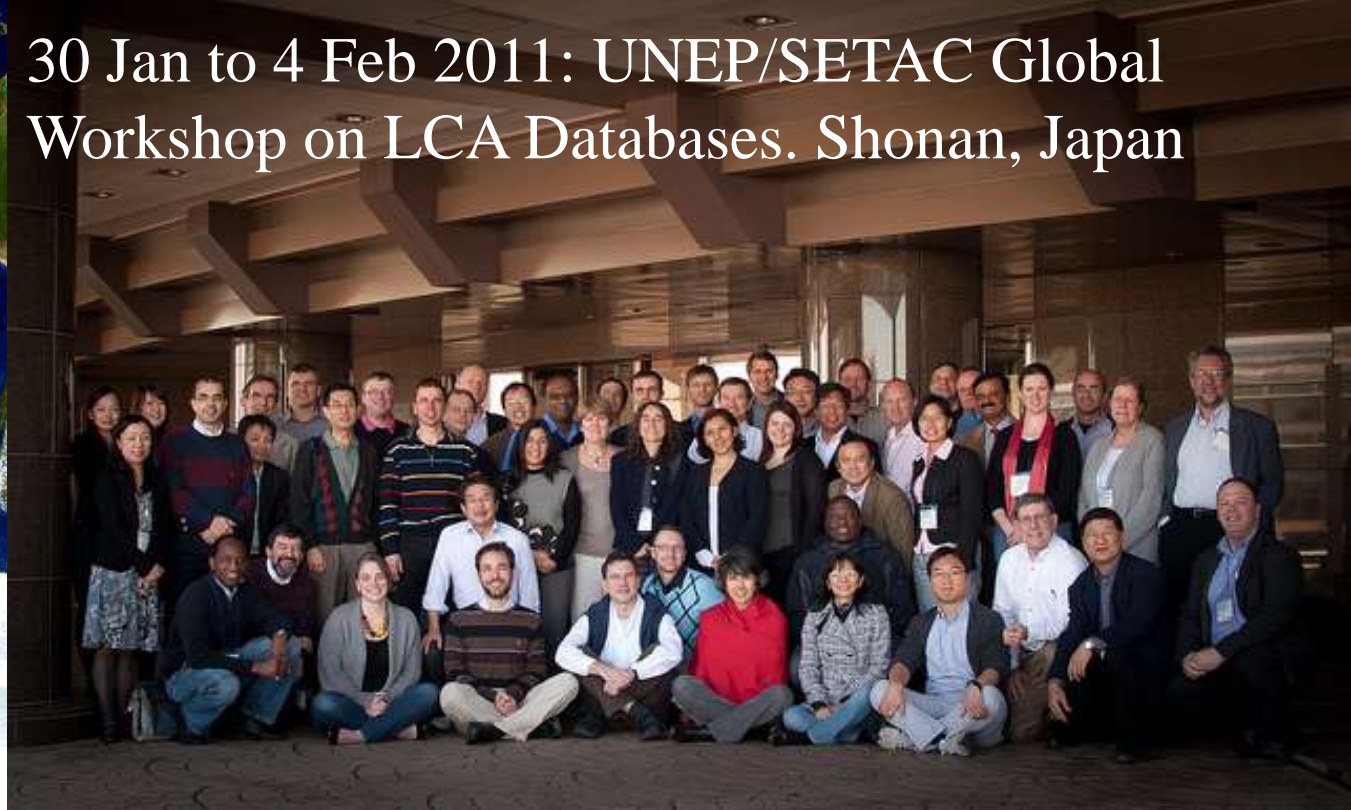


- To provide global guidance on the **establishment and maintenance of LCA databases**, as the basis for future improved interlinkages of databases worldwide.
- Benefits
 - ✓ Increase the **credibility** of existing LCA data,
 - ✓ Encourage **generation** and overall **accessibility** of more data (also for application such as carbon and water footprint)
 - ✓ Provides a **sound scientific basis for product stewardship** in business & industry and life cycle based policies in governments, and
 - ✓ ultimately, **helps to advance the sustainability of products**.
- This should complement other ongoing initiatives.

LCA guidance documents from 10 Countries/Regions and 7 Organizations



30 Jan to 4 Feb 2011: UNEP/SETAC Global Workshop on LCA Databases. Shonan, Japan



Database Guidance: How to Get There

Outreach, Publishing and Training

- Stakeholder communications and outreach. Capture key stakeholder commentary in annex
- **1 Jun** Report into publication editing, layout and composition
- **28-31 Aug** Launch at LCM 2011

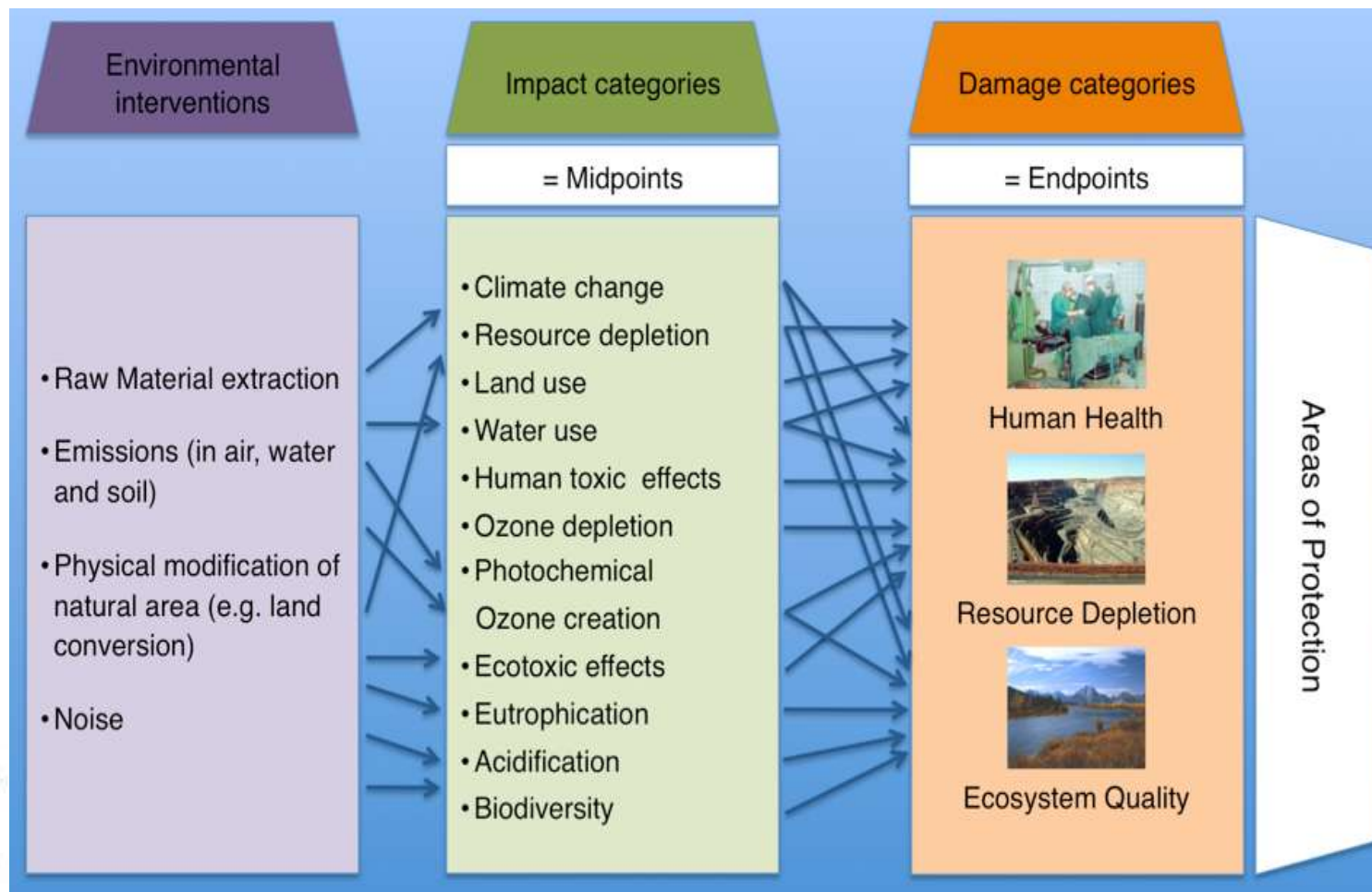


LCM 2011 - Towards Life Cycle Sustainability Management

- **End 2011**: Capacity building worldwide – training package and courses after launch

LCIA Midpoint-Damage Framework of the UNEP/SETAC Life Cycle Initiative

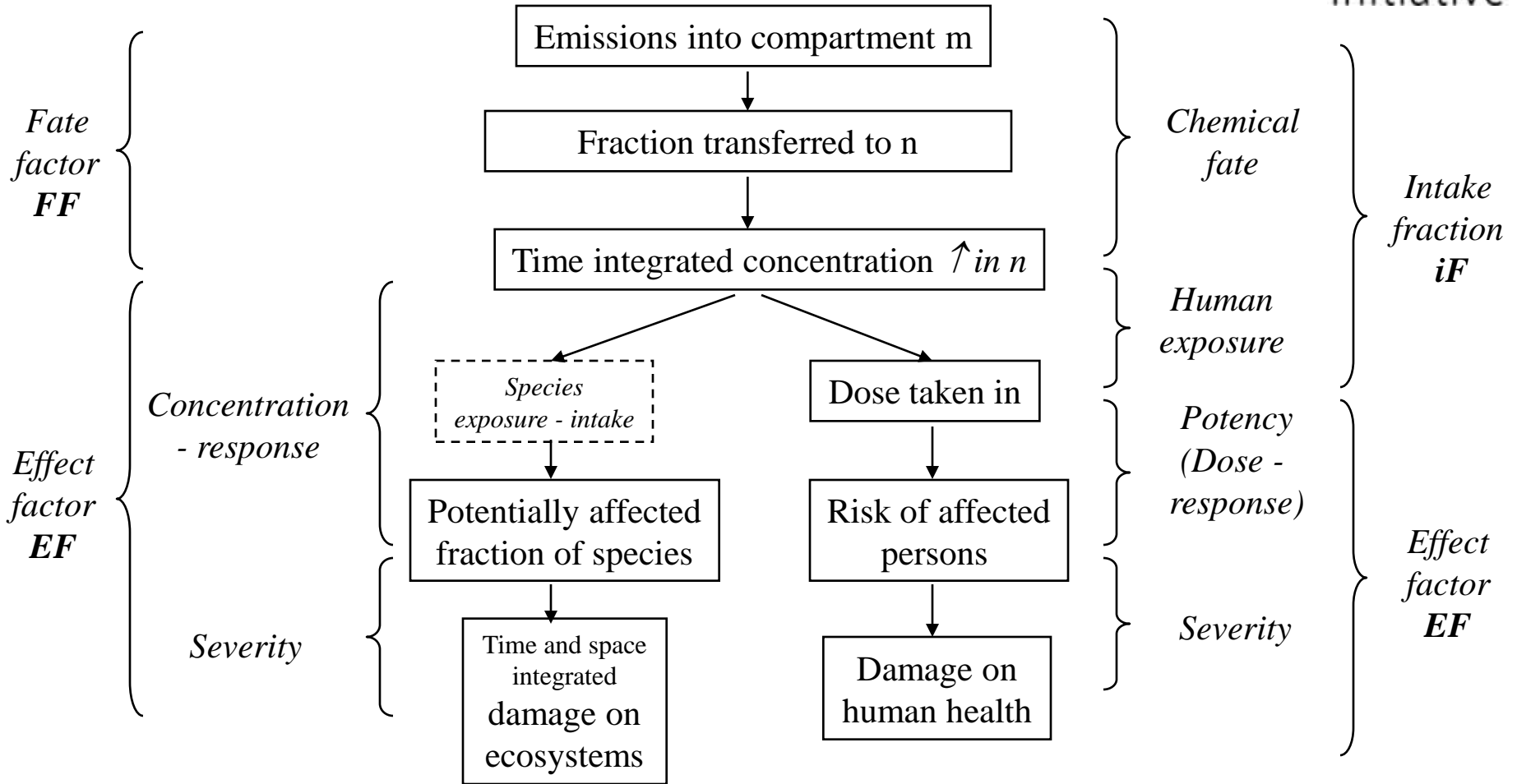
(Olivier Jolliet et.al.)





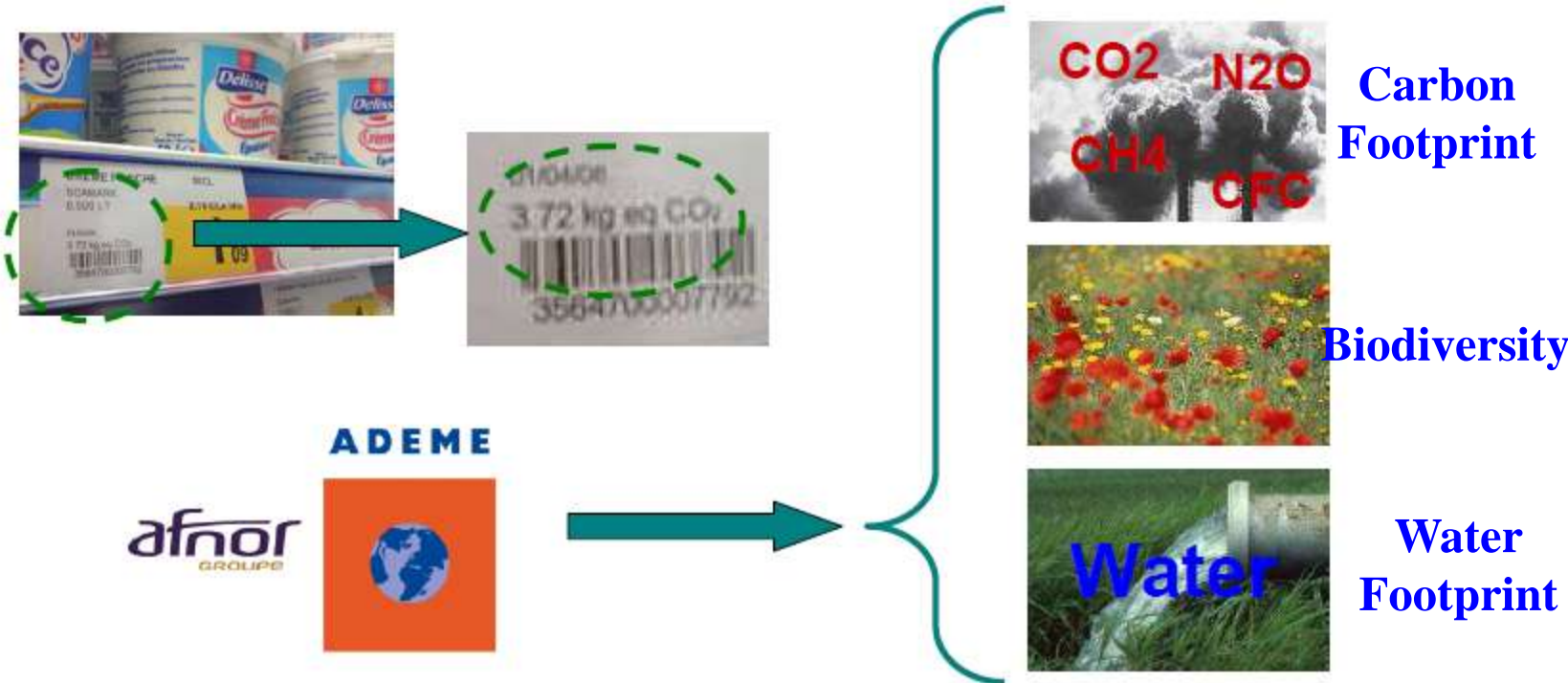
USEtox Framework

www.usetox.org



Ecotoxicity: $CF=FF \cdot EF$

Human toxicity: $CF=iF \cdot EF$

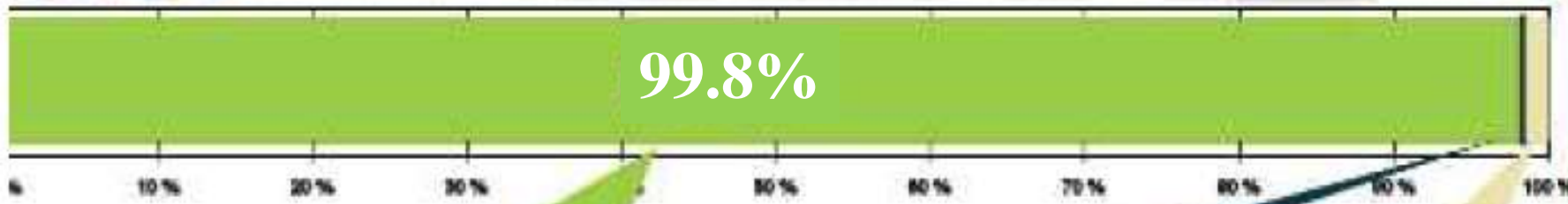


Food – New ways of labeling

Finnish food group Raisio: 1st food company to add an H₂O label to product



"From field to an end product"



Oats cultivation

Processing 0.02%

Packaging materials 0.16%

Rainfall
Evaporation

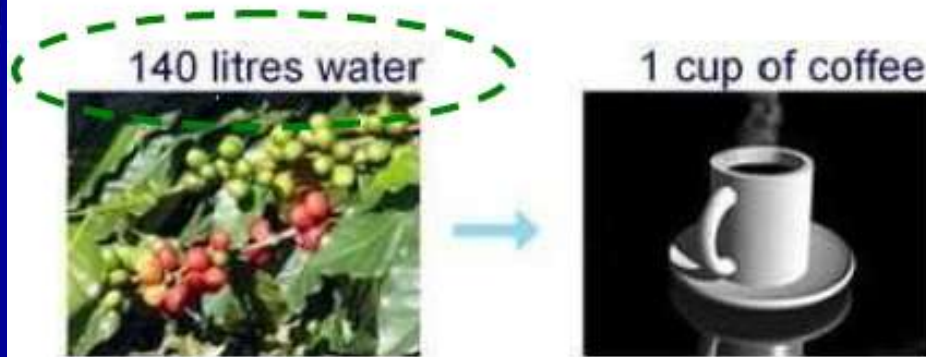
Use of water
in processing
Steaming

Use of water
in manufacturing
of the packaging materials

CONSUMER

Different Water footprint methods lead to different results: Coffee ex.

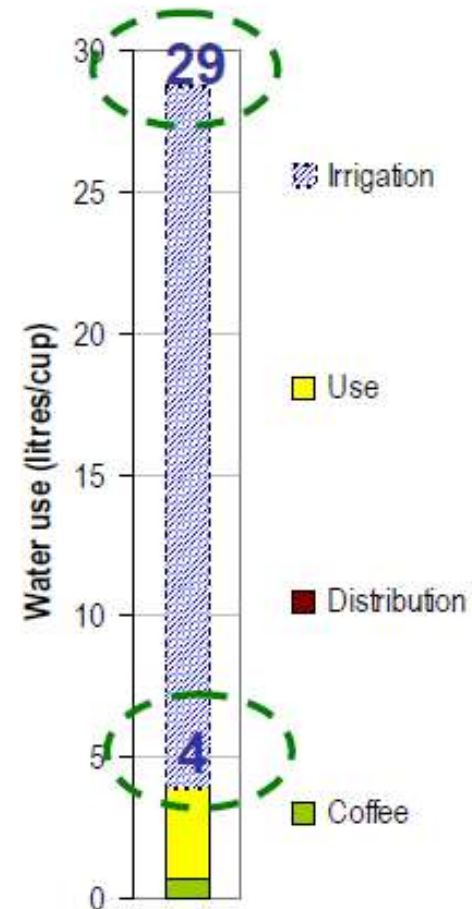
- Two water footprinting results



Chapagain and Hoekstra

Humbert et al.

- Differences?



Resource Use Intensity & Impact Assessment Indicators and Methods

	<i>UNEP Midterm Strategy Priorities</i>		
<i>Indicators</i> ↓	Resource Efficiency	Other Environmental Priorities	<i>Indicators</i> ↓
<i>Energy Demand (IEA)</i>	Energy	Climate Change (CC)	<i>Carbon Footprint (WRI/ WBCSD, ISO)</i>
<i>Water Footprint (WWF/ WFN)</i>	Water	Hazardous Substances (HS)	<i>USEtox (SETAC)</i>
<i>Material Intensity (WI)</i>	Materials / Waste	Ecosystems Management (EM)/ Biodiversity	<i>Biodiversity Damage (IUCN)</i>

Life Cycle Management Capability Maturity Model (CMM) -1

Level	Description	Span of control / influence	Metrics	Decision Process	Key activities & processes
1- Ad hoc	Chaotic, disorganized	Individual	Compliance	Individual agenda, power relationships	Hazard identification, Incident investigation, Emergency response
2- Managed	Predictable projects	Project	Process inputs/ outputs	Team-based, visible trade-offs	Process mapping, Environmental accounting, Risk management
3- Defined	Management system for consistent results across enterprise	Enterprise	Eco- efficiency, company focus	Rule-based trade-offs to achieve enterprise goals	EMS, LCI, Eco- efficiency
4- Continual Improvement	Value chain performance optimized with quantified improvements	Value chain	Cradle to grave, integrated across value chain	Fact-based, anticipate value chain trade-offs	LCIA, Systems thinking
5- Optimizing & adapting	Ongoing stakeholder dialogue, resiliency for long term advantage	Society	Sustainability measures, address externalities	Value-based, co-evolution of business goals and social expectations	Dynamic modeling & simulation, Ecosystem valuation

February 16, 2010

Companies Wanted for UN's Sustainable Value Chains Pilot

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A UN pilot on reporting standards for sustainable value chains is getting underway. The United Nations Environment Program and the Society for Environmental Toxicology and Chemistry are actively seeking large global companies to take part in the pilot, which aims to develop and test a “**capability framework**” for sustainable value chains, reports **Industry Week**.

“Companies are being overwhelmed by initiatives to measure their sustainability performance,” said project manager Tom Swarr, in the article.

The so-called “capability framework” seeks to tap into a well-dispersed group of global suppliers to develop a model for reporting on sustainability.

This new effort is part of the evolution of an earlier collaboration with the World Business Council for Sustainable Development on life cycle management,

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Powering growth
For the global green economy

B4E Business for the Environment
Global Summit 2010

<http://www.environmentalleader.com/2010/02/16/companies-wanted-for-uns-sustainable-value-chains-pilot/>

New UNEP/SETAC Publication on Lessons Learned from Decades of LCAs in the Food Packaging Sector

Starting in [May 2011](#)

Aims:

- [To educate on the benefits](#) of the life cycle approach to designing food packaging by providing examples of how well designed food packaging:

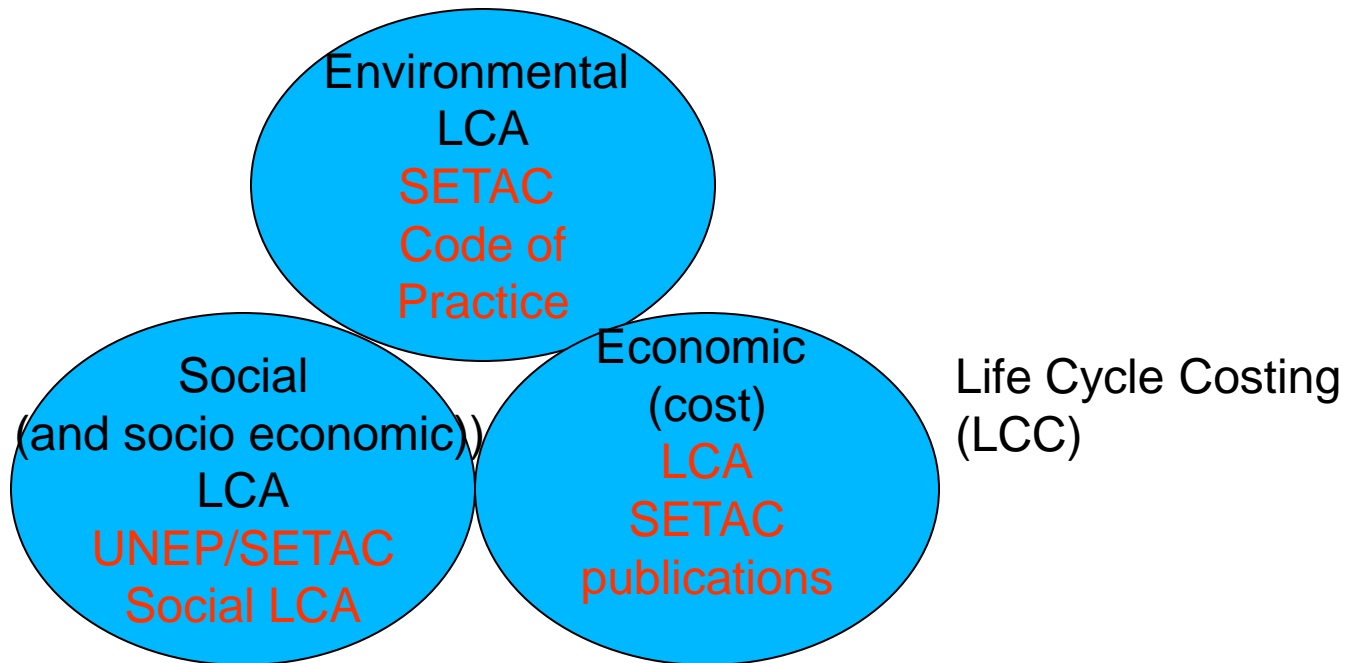
- » [reduces food waste](#) and [energy](#) use from the delivery through the storage and consumption
- » [ensures global safe use of foods and distribution](#) to developing countries that normally would not be able to produce or consume within their region

Guidelines for a Social LCA (2009): distinguish relevant impact category / subcategory / indicator chains per stakeholder

Stakeholder categories	Impact categories	Subcategories	Inv. indicators	Inventory data
Workers	Human rights	■		
Local community	Working conditions	■		
Society	Health and safety	■		
Consumers	Cultural heritage	■		
Value chain actors	Governance	■		
	Socio-economic repercussions	■		

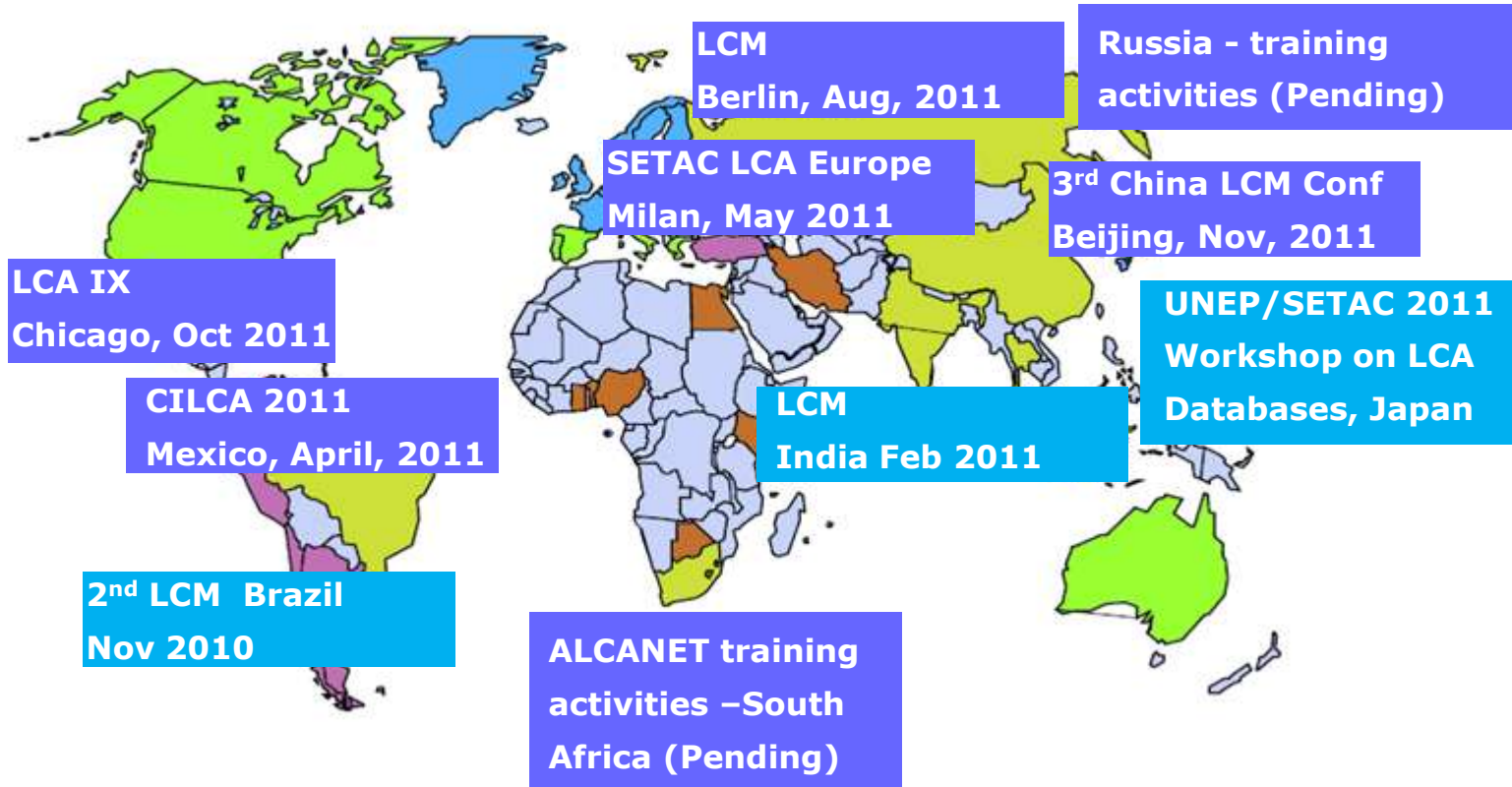


Advancing towards the **LC Sustainability Assessment** – a UNEP/SETAC Publication–
Publication expected in 2011









Life Cycle Approaches Worldwide

– Next activities: Capability Development



Legend:

-  : No information available.
- Level 0  : No LC experience or regulation.
- Level 1  : Limited experience and no regulation.
- Level 2  : Some research experience and foundations of LC based regulation.
- Level 3  : Some good practices and limited regulation.
- Level 4  : Advanced LC practices and developed regulation.

Examples of available training packages

www.unep.fr/scp/lcinitiative/publications/training/index.htm

Basic training:

- How to do a LCA
- How to implement LCM in the business sector
- Ecolabelling

Advanced training (combined with webinars):

- Capability Maturity Model for Business
- Social LCA
- USETox

To be completed in 2011

- Water Life Cycle Impact Assessment, Footprint and Neutrality
- Critical Review Acc. to ISO 14040/44
- Global Guidance for LCA Databases

Agrifood Programme on Sustainable Consumption and Production (SCP)

Since 2009, UNEP's SCP Branch has been developing its capacity in agriculture and fisheries.

Activity areas

1. Open source 'life cycle inventory' database on agri-food products and government/business partnered extension services.
2. Consumer information tools and activities.
3. Enabling environments in developing countries.
4. Market-based approaches to promote SCP in production methods.

UNEP Coordinator of the Agri-food Programme: James Lomax

Agri-food Programme at UNEP

- Interactions between UNEP DTIE, SCP, and FAO since September 2010
- Main area of collaboration identified: **Joint development of an Agri-food Programme on SCP** for inclusion in the 10 Year Framework of Programmes on SCP.
- **Scoping meeting held in November 2010**. 35 participants – EC, US, Brazil, India and China were represented as well as civil society and business from the sector.

Key outcomes from the meeting

1. **Joint collaboration UNEP/FAO** to further elaborate the Programme and for FAO to assume the leadership in close partnership with UNEP.
2. **To form a Task Force** to collaborate on the implementation of the Programme.

Agrifood Programme on SCP

Main Goal

To *facilitate* the transition to more sustainable and resource efficient production and consumption in the agri-food sector

Objectives:

- To *design* and *pilot innovative policies, market based mechanisms* and *financial tools* that provide the incentives for more resource efficient production and consumption; *where existing policies* are working, *scaling up*.
- To *create knowledge platforms* and *offer technical assistance* to policy makers, industry, and wider civil society, to build *capacity* to adopt more sustainable agri-food production systems and consumption patterns.
- To *develop* and *support partnerships* (including public-private and business-to-business), joint activities and information transfer *within agri-food supply chains* and creation of innovative

Next Steps

1. Task Force Meeting in Paris in April 2011 to elaborate the Programme on SCP ahead of CSD 19 in New York in May.
2. TBC - Side event at CSD hosted by The Netherlands and Ghana led by the FAO.

Join us!

Participate and support the UNEP/SETAC Life Cycle Initiative

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Providing financial support to the overall activities of the Initiative at varying levels: Platinum (US\$ 50,000), Gold (US\$ 25,000) and Silver (US\$ 12,500).

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