

LCA for ENVIRONMENTAL PRODUCT INFORMATION SCHEMES

Possible approaches for an adequate application

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OBJECTIVES

- To discuss **past & current business approaches** and uses of LCA for external communication
- To identify **under which conditions** and **to which extent LCA can contribute** to the development of effective and efficient **Environmental Product Information Schemes (EPIS)**
 - based on and expanding the experience of **Eco-labels**
 - within the framework of **Integrated Product Policy (IPP)**

LCA FOR MARKETING - MAIN ISSUES

- Results of LCA **often disputable**
- **Lack of transparency** with respect to:
 - Source and quality of data
 - Many assumptions needed (e.g. system boundaries, allocation rules, energy mix, etc.)
 - Impact assessment methods
 - Subjective valuation factors and procedures
 - Simplification procedures
- Difficulty in **summarizing** the results of a **complex study**
- Unfortunately, several cases of misuse in the past
- Despite methodological progress, still big efforts needed

LCA FOR MARKETING - PAST EXPERIENCE IN EUROPEAN COUNTRIES

EXPECTATIONS

Product A
is “greener”
than
Product B?

LCA ANSWER

“...it depends...”
(a manual would often
be needed to explain
on what...)

CONSEQUENCES

Learning

R,D&D

Other Spin-offs

Some Form of
Int. or External
Communication (e.g.
within Supply Chain)

Failure

LCA FOR MARKETING - PAST EXPERIENCE IN EUROPEAN COUNTRIES

Application	CH		D		I		S	
	today	future	today	future	today	future	today	future
Bottleneck identification	A	A	A	A	-	B	A	A
Information and education to consumers and stakeholders	A	A	A	B	B	A	A	A
Compare existing products with planned alternatives	A	B	B	B	B	B	A	A
Research development and design	B	B	B	B	A	B	B	B
Compare existing company products with products of competitors	B	B	B	B	B	B	B	B
Procurement specifications...	B	B	B	B	B	A	B	B
Internal information and training	B	B	B	B	B	B	B	B
Anticipate and negotiate legislation	B	B	B	B	B	B	B	C
Marketing, advertising policies & join eco-labelling criteria	B	C	B	B	B	B	B	B
Environmental cost allocation	B	B	B	C	B	B	C	C
Assess the gap from eco-label criteria	C	C	B	C	B	C	C	C
Radical changes in product life cycle	C	C	C	B	C	B	C	C
Shift from product to service	C	C	C	C	C	C	C	C
<i>Other</i>	4.5%	4.5%	6.5%	1.6%	0%	22.2%	0%	1.5%
<i>Not answered</i>	6.8%	29.5%	4.8%	37.1%	0%	16.7%	1.5%	9.1%

A = high importance (>40% of companies), B = medium importance, C = low importance (<10% of companies); n.a. = not available

Source: Frankl & Rubik 1999

LCA for Environmental Product Information Schemes

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LCA FOR MARKETING - FUTURE PROSPECTS

- LCA already used to provide generic and extended information to **suppliers, customers and stakeholders** [source: Frankl & Rubik 1999]
- Some companies are already using LCA for **environmental product declarations** (ISO-type III ecolabel)
- Possible strengthening strategy: European discussion on **Integrated Product Policy** (IPP), its toolbox and application

ECOLABEL - TYPES

ISO-NORMS 14020 series

- Three label-types defined by ISO:
 - **Type I:** voluntary, multiple criteria based **third-party** programme setting up criteria and procedures for specific product groups; **qualitative** environmental information.
ISO 14024 (published April 1999)
 - **Type II: self-declared** environmental claims made by manufacturers themselves.
ISO 14021 (published)
 - **Type III:** quantified environmental data for a product with pre-set categories of parameters;
detailed quantitative environmental information
ISO TR 14025 (published March 2000)

LC-approaches and and ISO-types

- Focus on product life-cycle:
 - Type I: “life-cycle considerations”
 - Type II: “relevant aspects of life-cycle”
 - Type III: “based on 14040 series”
 - ▶ Life cycle / LCA mentioned in a rather generic manner
- TYPE I-LABELS:
 - EU-Flower criteria based on LCA
 - National/regional eco-label criteria (e.g. Blauer Engel, White Swan) **not necessarily** based on LCA
- TYPE III-LABELS:
 - Sweden: Environmental product declaration (EPD) with LCA as appropriate environmental assessment tool
see <http://www.miljostyrning.se/>

LCA AND ISO-TYPE III-LABELS

(ISO Technical Report 14025)

- Quantified data for an environmental product information **based on an externally peer-reviewed LCA** according to ISO 14040 (*according to chapter 7.3.3.*)
- **Three options possible:**
 - LCI only
 - LCI followed by life cycle impact assessment
 - LCI with some alternative methodologies
 - LCSEA - Life Cycle Stressor Effects Assessment (local impacts)
 - Single aggregate indicator system (e.g. EPS, Eco-indicator, eco-points)
 - LCM - Life cycle management including economic aspects
 - BEES - Building for environmental and economic sustainability

EXPERIENCE WITH ECOLABELS IN EUROPEAN COUNTRIES

- **Mixed experience** with Type-I Ecolabels
 - Some national / regional labels successful or qualified as such (Blue Angel, White Swan)
 - Other labels only had limited success (NL, F)
 - EU-Flower: difficult introduction and limited success
- **Very little experience** with Type-III Ecolabels
 - Sweden: EPD-programme
 - Canada
 - South Korea
- An **overload of** (non always transparent) information, eventually leading to confusion and mistrust
missing/insufficient target-group strategies

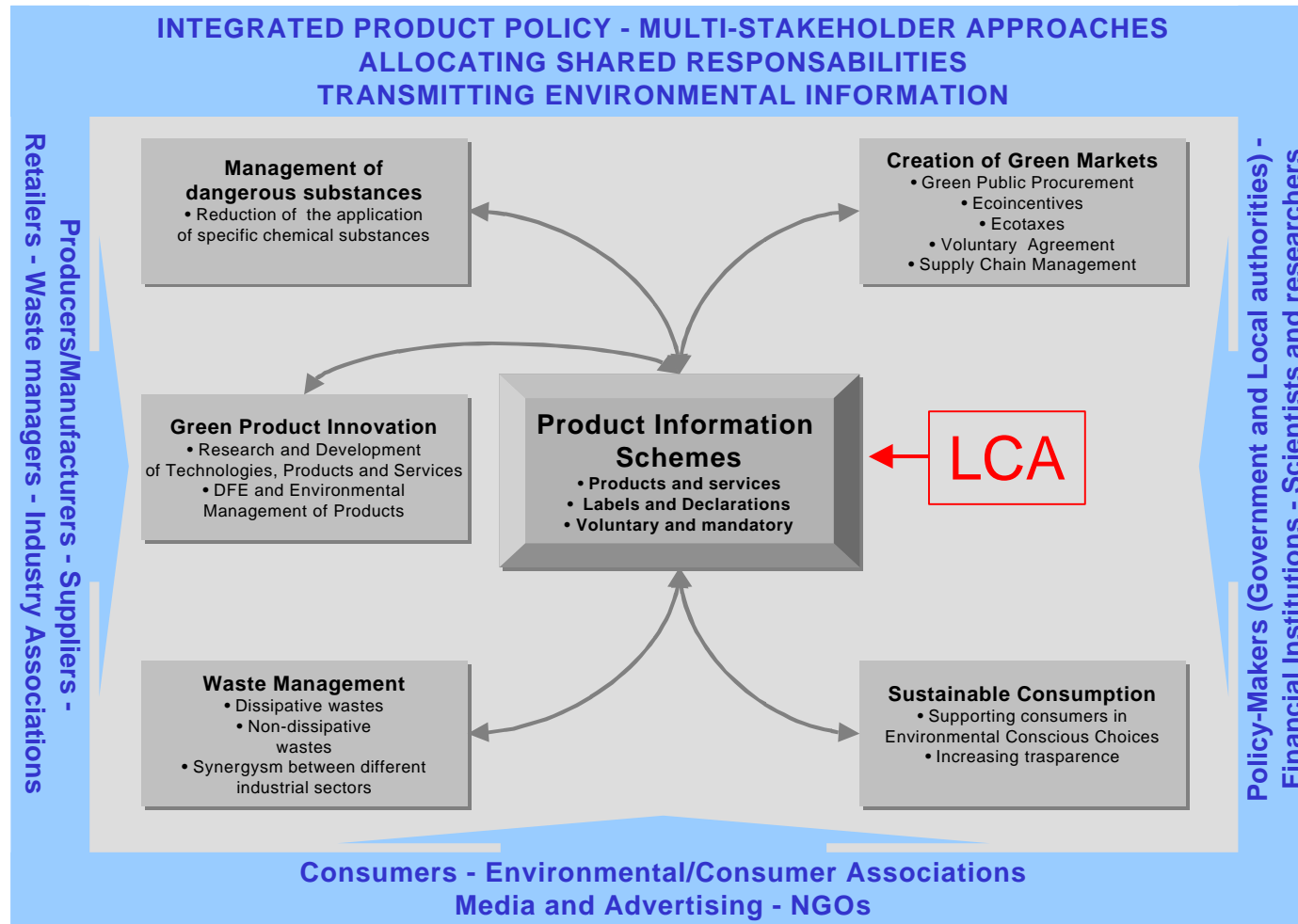
INTEGRATED PRODUCT POLICY (IPP)

- EU Environmental Policy increasingly **shifting its focus** from production and processes to products and services
- *Informal meeting of EC-Environmental Ministers (Weimar 1999):* **“Integrated Product Policy (IPP)** is public policy which aims at or is suitable for continuous improvement in the environmental performance of **products and services within a life-cycle context**“ (see: <http://www.bmu.de>)
- Leading countries: Sweden, The Netherlands, Denmark, Germany with national strategies/concepts published or under development (see: <http://www.ioew.de>)
- Greenbook of European Commission on IPP - expected for summer 2000

IPP & LC-approaches

- IPP requires new **multi-stakeholder approaches**
 - **Involving all actors** along the product-chain (Business, Retailers, Consumers, Legislators, Finance, etc.)
 - **Sharing responsibilities** (co-operation)
 - Transmitting **environmental information & communication**
 - Integrating **life-cycle considerations**
- **Environmental Product Information Schemes perfectly fit** within this M-S. working framework
- **LCA important assessment tool**, providing relevant information for all actors along the product-chain

IPP & LCA



LCA for Environmental Product Information Schemes

A NEW RESEARCH PROJECT - DEEP

DEVELOPING EFFECTIVE AND EFFICIENT PRODUCT INFORMATION SCHEMES

- 2 Years-long research project, starting May, 1st
- Financed by EU Commission / DGXII within the 5th Framework Program
- Project partners:
 - **IÖW** - Institut für ökologische Wirtschaftsforschung [*Institute for Ecological Economy Research*] gGmbH, Heidelberg (Germany) (**co-ordinator**);
 - **Università di Roma I “La Sapienza**, Dip.to ITACA Sezione Ambiente - Dipartimento di Innovazione Tecnologica nell’Architettura e Cultura dell’ Ambiente,)
 - **SIFO** - Statens institutt for forbruksforskning [*National Institute for Consumer Research*] (Norway);
 - **Randa Group S.A.** (Spain).

DEEP - RESEARCH OBJECTIVES

- **Assess previous experience** (both success-stories and failures) with EPIS in different European countries
- **Develop a framework** for most appropriate, i.e. **effective and efficient, product information schemes**, by:
 - **expanding** the concept and application sectors of **EPIS** (i.e. to services),
 - **harmonizing** national **EPIS** among themselves and with the **EU-Flower**
 - **strengthening** the importance of the latter
 - **balancing voluntary and mandatory** approaches
 - **expanding** the environmental focus towards **sustainability**
- Define strategies for efficiently **linking EPIS with other tools of IPP**, examine **role of LCA**

DEEP - RESEARCH METHODS

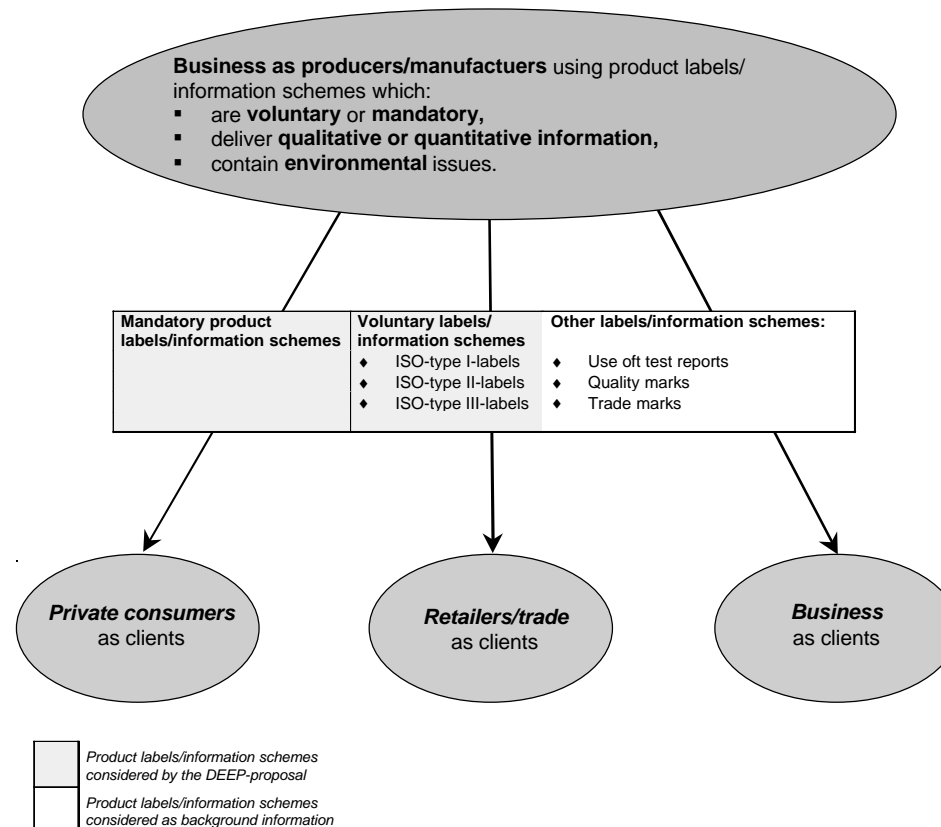
- **Analysis of present situation** with respect to:
 - ISO-TYPE I Third-party Ecolabels in different EU countries
 - ISO-TYPE III Environmental Product Declarations
 - IPP
- **Case-studies** on 4 selected product market sectors in each country
 - Quantitative and representative consumer survey
 - Qualitative interviews with key actors and experts
- **Multi-stakeholder approach** to develop effective EPIS within IPP framework (National and intl. workshops)
 - Industry,
 - Retailers,
 - Consumer Associations and NGO's,
 - Public authorities at European, National, regional and local level,
 - Universities and Research Centers, consultants, etc.

LCA FOR ENVIRONMENTAL PRODUCT INFORMATION SCHEMES (EPIS)

POSSIBLE APPROACHES FOR A CORRECT USE

- New **multi-stakeholder approaches** and new forms of collaboration needed (e.g. LCA associations, CPM in S)
- **Different strategies** in function of
 - **product information scheme**
 - mandatory vs. voluntary,
 - self-declaration vs. third-party certified, etc.
 - **target of communication**
 - business
 - consumers
 - public authorities
- **Sector approaches** (often sector-specific problems)
- **Public data-bases** (i.e. on energy, transportation & waste)

LCA FOR EPIS - DIFFERENT TARGET-GROUP STRATEGIES NEEDED



LCA FOR EPIS - KEY REQUIREMENTS

- **Max. Transparency** with respect to
 - Inventory data
 - All assumptions made
 - Impact Assessment method
 - Simplification and valuation procedures
- Clear and transparent rules for **simplification**
- Strict rules for **reporting** (ISO 14040)
 - External Peer Review
 - Sensitivity Analysis

LCA FOR EPIS - MAIN CONCLUSIONS

- On the mid-long term companies willing to “translate” results of LCA into market-tangible value
- Despite open issues, use for Marketing certainly **possible and desirable in many cases**, *if* some rules are strictly followed
- Distinction has to be made between **different target groups** of information/communication
 - Business to business
 - Business to final customers
 - Business to other stakeholders

LCA FOR EPIS - MAIN CONCLUSIONS (2)

- LCA clearly **appropriate for EPIS**, given some rules are strictly observed
- EPIS play a **fundamental role within IPP** framework
- Key-words (*Research on-going!*):
 - **Transparency** of data & assumptions (part. at the inventory level) *is a value in itself*
 - **Multi-stakeholder approach**
 - involving **all actors** along the product chain
 - creating **confidence and trust**
 - **Life-cycle of the product is the common playground** in this multi-stakeholder approach
 - Different **target-group communication strategies**, flexible LCA valuation (ex: multi-criteria) and communication tools
 - **Sector** studies and indicators
 - Important role of **Nat. Associations** (I-LCA, CPM in S)