

Life Cycle indicators for the Data Centres on resources, products and waste

IMEA Workshop
Paris, 20 March 2009



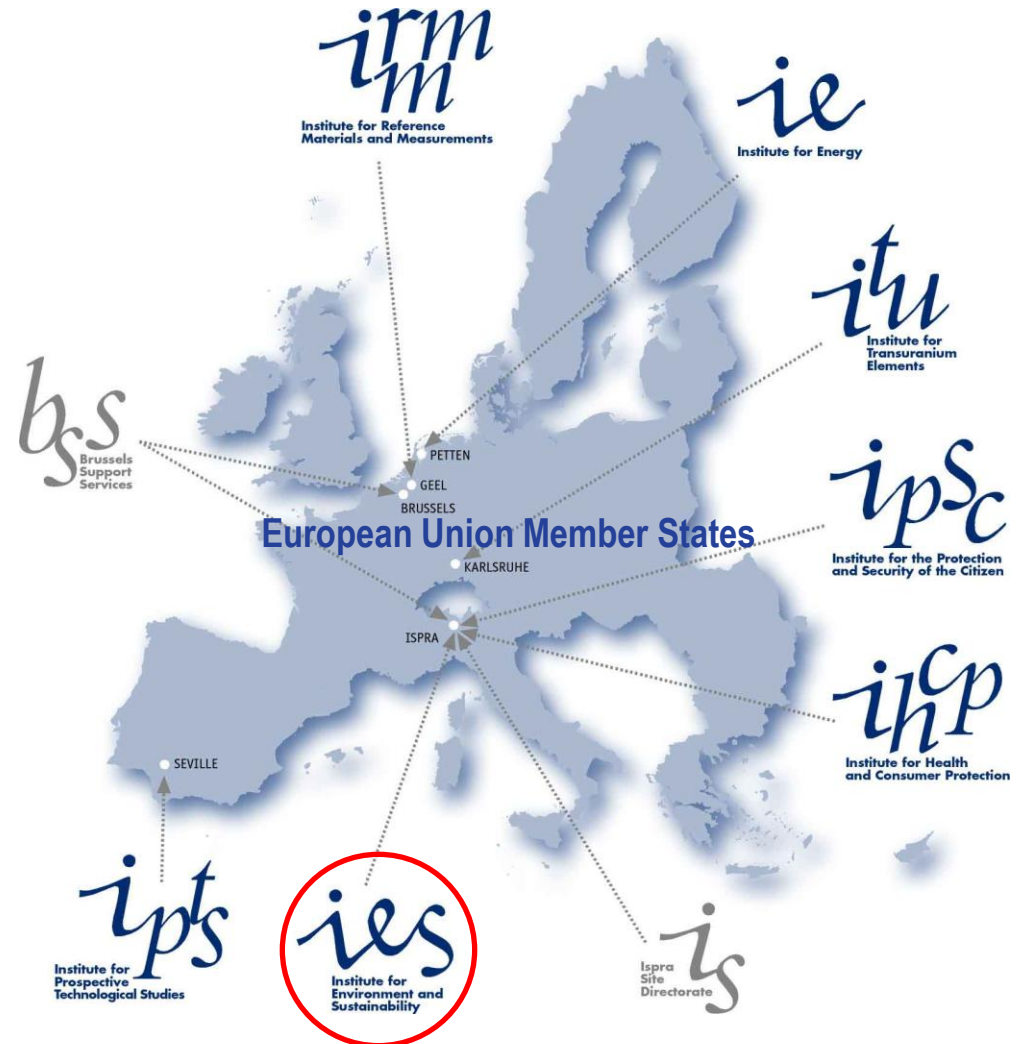
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Summary

- JRC IES presentation
- Life Cycle Indicators for the Data Centres on Resources, Products and Waste
 - Policy context
 - Methodology
 - Activities
- International Life Cycle Data system (ILCD)

European Commission Joint Research Centre (JRC) Institute for Environment and Sustainability (IES):

“The mission of the IES is to provide scientific-technical support to the European Union's policies for the protection and sustainable development of the European and global environment”



Policy context

A number of new **EU policies** (IPP, TS Resources, TS Waste, SCP), **require life cycle based indicators** to successfully monitor their effectiveness in the context of Sustainable Development.

The need of such indicators was a major outcome of the **3rd International Life Cycle Thinking Workshop**, organized by the JRC in Cyprus in January 2007.

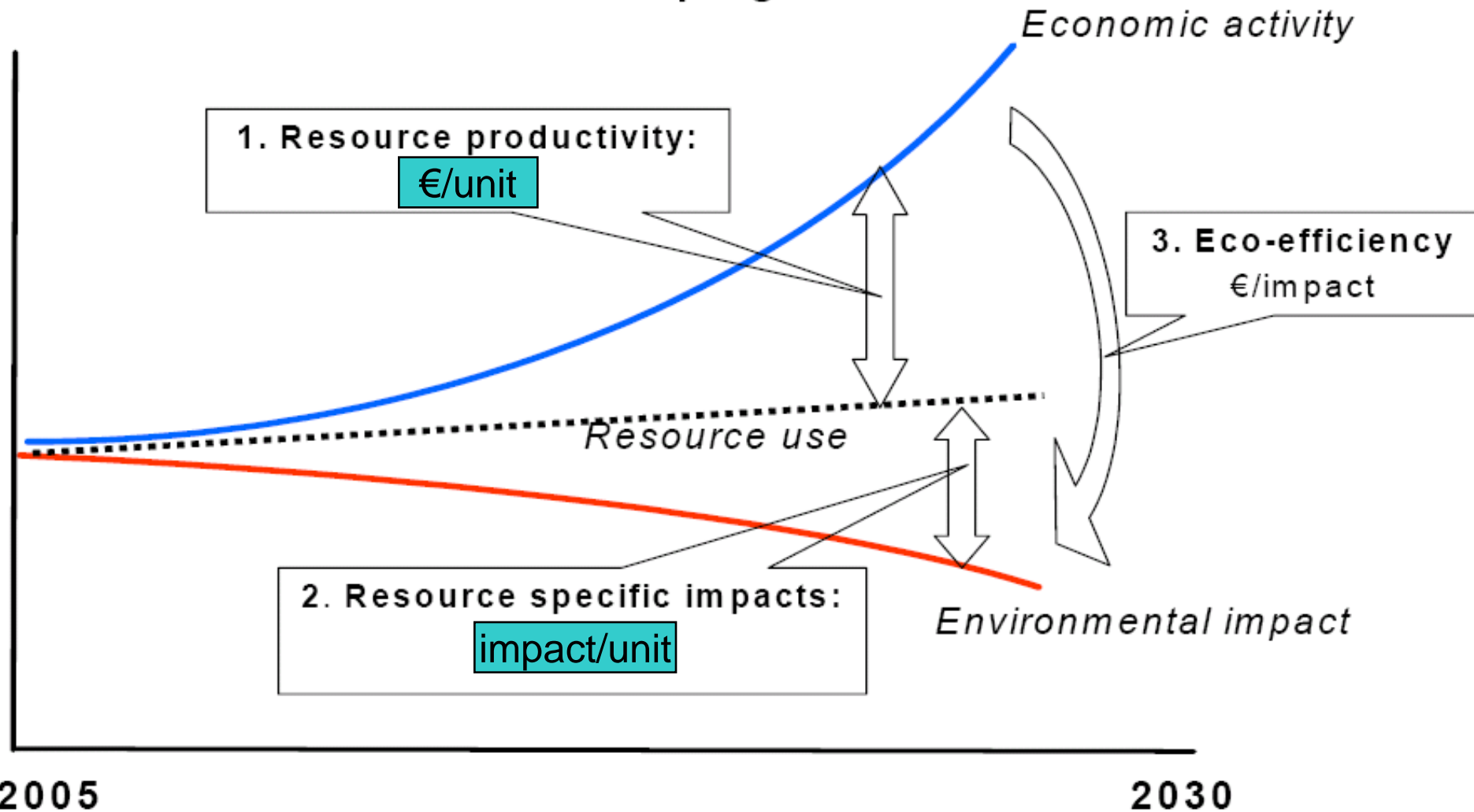
The Commission (Go4) has recently established **three Data Centres on Resources, Products and Waste**. These Data Centres will provide the necessary information to support the implementation and monitoring of the above policy areas.

Life Cycle Indicators for Monitoring SCP AA Eurostat – JRC IES

JRC IES will develop by 2010 **life cycle based** environmental indicators for three Data Centres on Resources, Products and Waste:

- three sets of decoupling indicators set out in the Thematic Strategy on Natural Resources
 - **overall EU eco-efficiency** indicator
 - **resource productivity**
 - **resource specific impact** indicators
- **products environmental impact** indicators – for basket of key product groups consumed or used in EU-27;
- **waste environmental** indicators - key waste types generated and treated in EU-27.

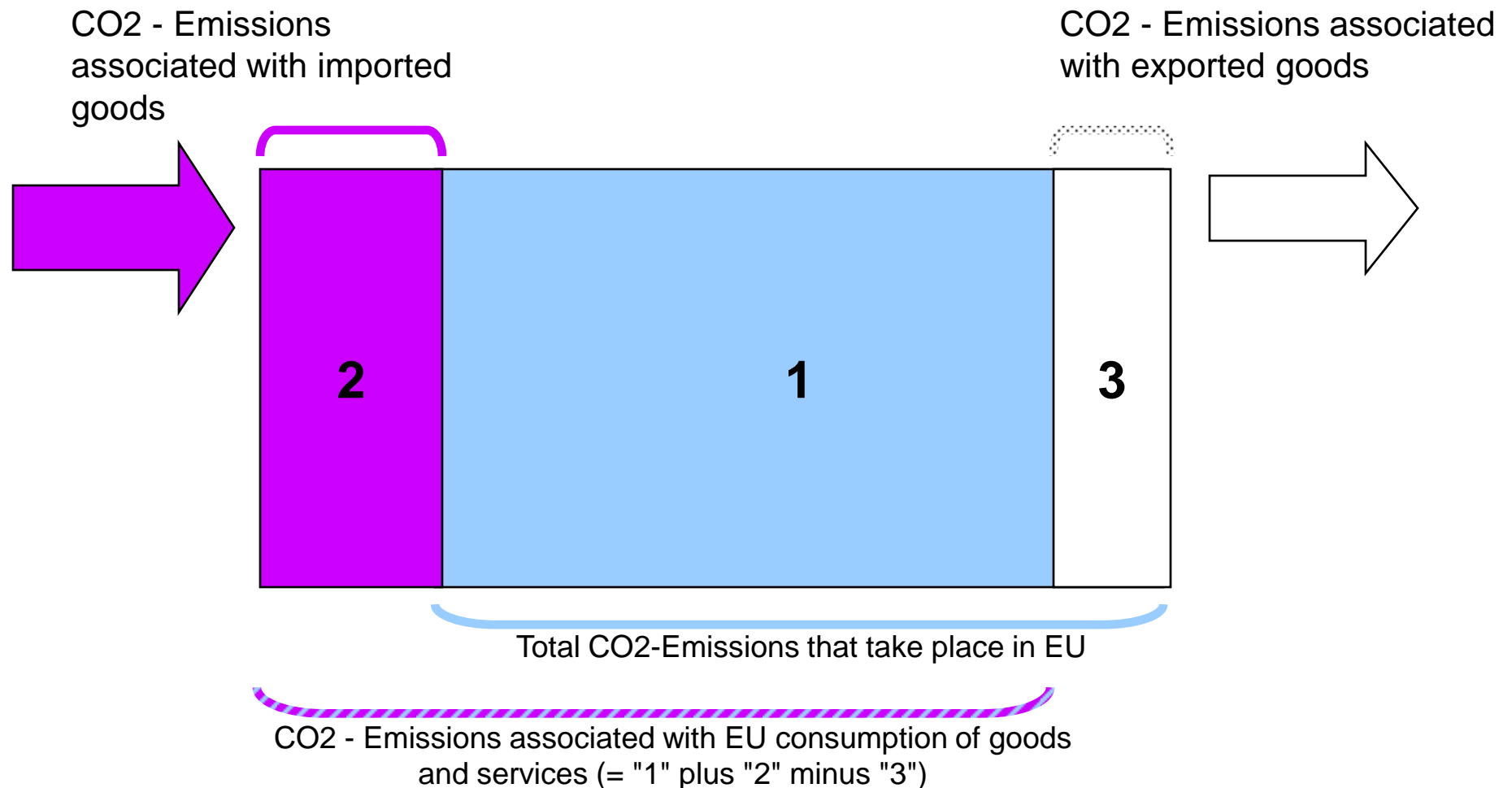
Three indicators to measure progress



Resource indicators: methodological approach

Principle: Total impacts that physically take place in EU plus imported impacts minus exported impacts (life cycle burdens linked to production of traded goods)

Example CO₂-Emissions (analogous for all other emissions and resources):



Resource indicators: methodological approach

Emissions and resources within EU boundaries

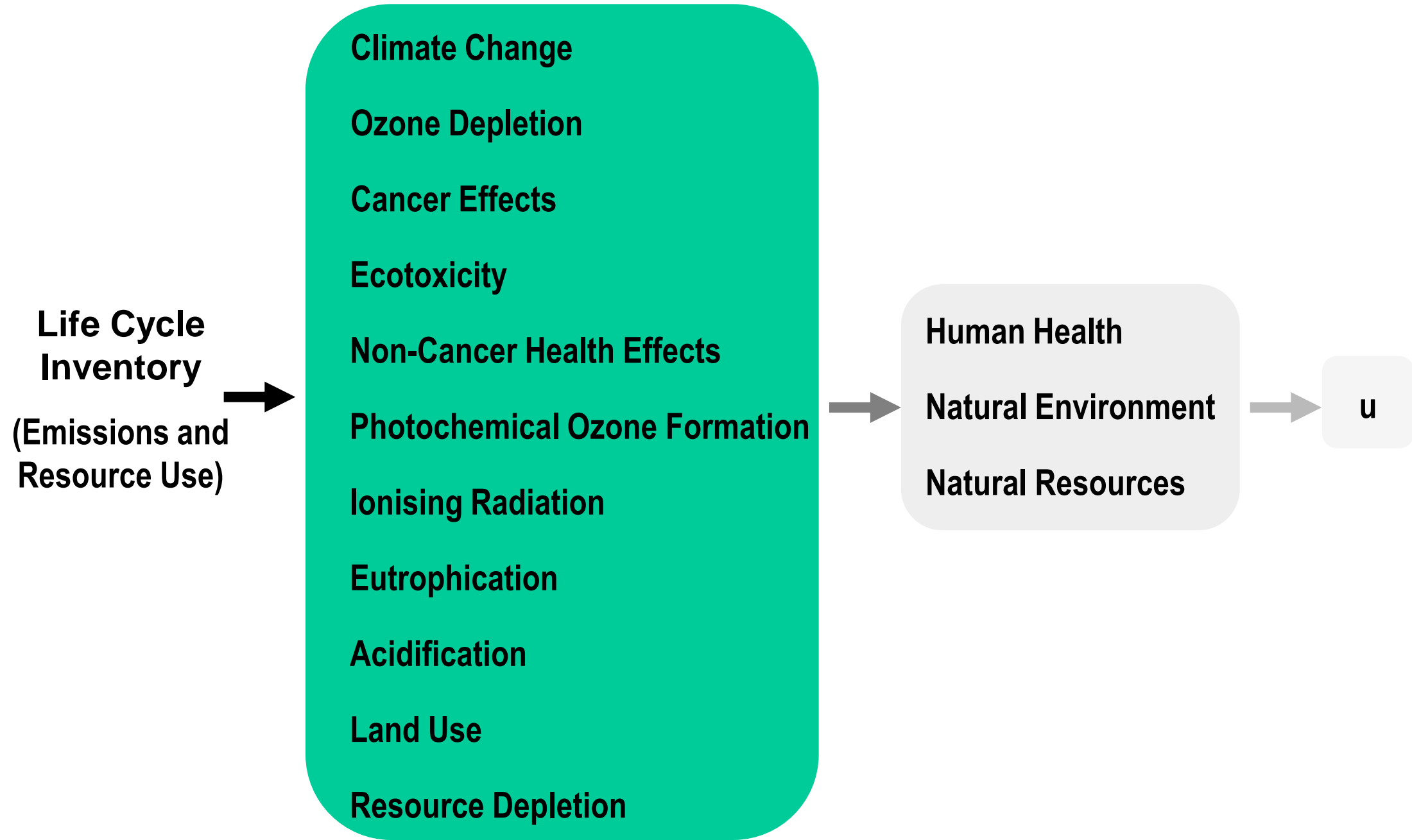
- Combination of relevant statistical data from national/international inventories and accounting systems, such as NAMEA, MFA, COMEXT etc.

Emissions and resources associated with traded products (import/export)

- Process based LCA, as first option, with attributional modelling
- Outputs from a study comparing *process LCA*, *input/output LCA* and *hybrid LCA* in macro and micro applications will be considered (under finalisation)
- As far as possible, ILCD conform life cycle inventory data (cradle-to-gate emissions and resources use)

Impact assessment indicators

- ILCD recommended impact factors “emission to impact + resource scarcity”
- Climate change, acidification, cancer effects, land use, etc.
- **Weighting scheme across impact categories**



International Reference Life Cycle Data System (ILCD)

**Basis for Coherence, Quality Assurance, Availability
in Public and Private Sectors**

Main Components:

- **ILCD Handbook**
- **ILCD Data Network (including European database ELCD)**
- **Supporting tools and documents**

Ensuring Consistent, Quality-Assured Data and Methods

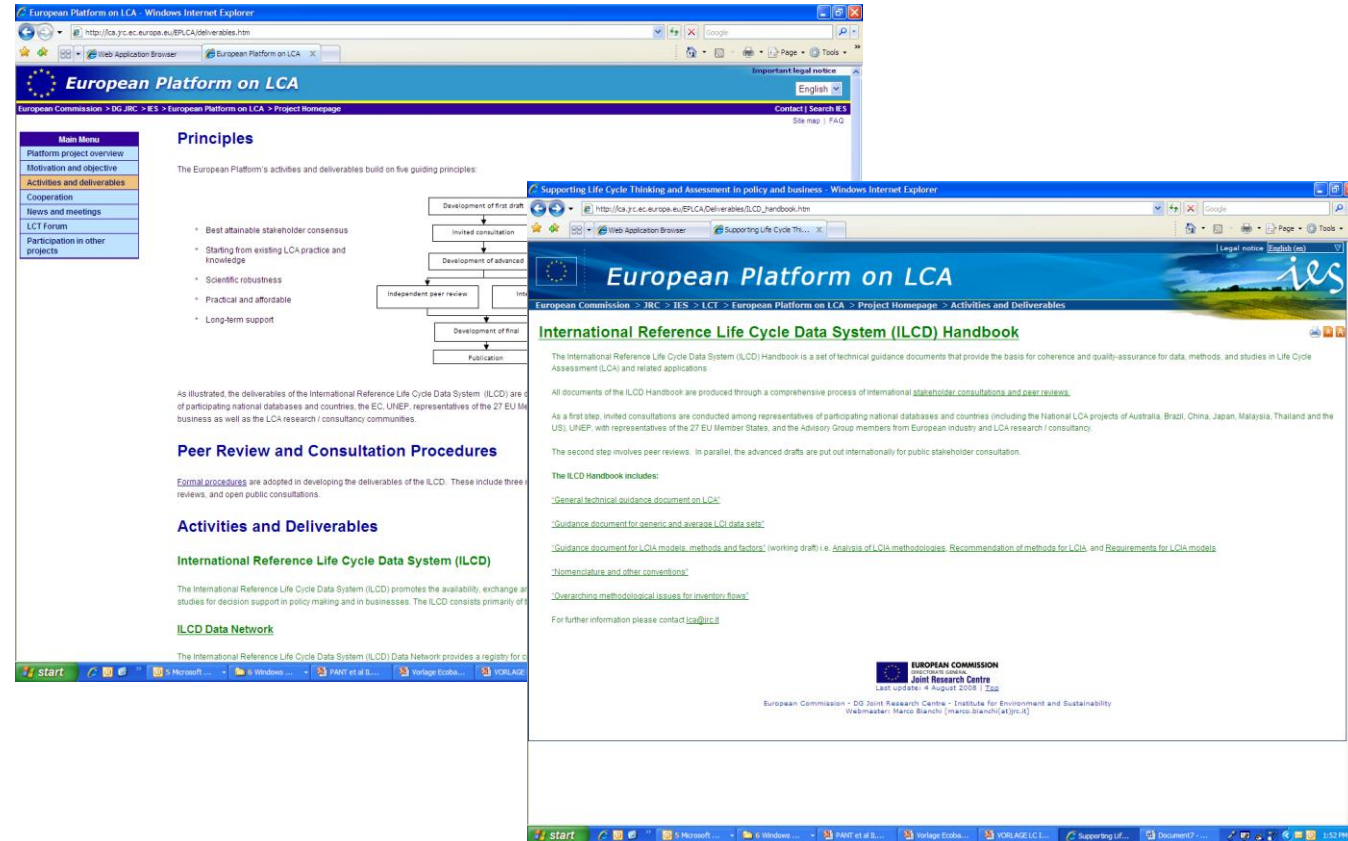
Integrated Product Policy, 2003:

“LCA is the best framework for assessing the potential environmental impacts of products, but the debate is ongoing about good practice”

- *The European Commission will develop ...*
 - *Handbook on best practice; best attainable consensus among stakeholders*
 - *Coordinate to make data more accessible and systematically collected*
 - *Directory of LCA databases to be updated at regular intervals*
 - *Platform to facilitate communication and exchange*

Sustainable Consumption and Production Action Plan, 2008:

“To implement this policy, consistent and reliable data and methods are required to assess the overall environmental performance of products ...”



The screenshot displays two overlapping browser windows. The background window shows the 'European Platform on LCA' website with a 'Principles' section. The foreground window shows the 'International Reference Life Cycle Data System (ILCD) Handbook' page, which includes a flowchart of the handbook development process and a list of handbook contents.

Principles

The European Platform's activities and deliverables build on five guiding principles:

- Best attainable stakeholder consensus
- Starting from existing LCA practice and knowledge
- Scientific robustness
- Practical and affordable
- Long-term support

As illustrated, the deliverables of the International Reference Life Cycle Data System (ILCD) are of participating national databases and countries, the EC, UNEP, representatives of the 27 EU Member States as well as the LCA research / consultancy communities.

Peer Review and Consultation Procedures

Formal procedures are adopted in developing the deliverables of the ILCD. These include three reviews, and open public consultations.

Activities and Deliverables

International Reference Life Cycle Data System (ILCD)

The International Reference Life Cycle Data System (ILCD) promotes the availability, exchange and studies for decision support in policy making and in businesses. The ILCD consists primarily of:

ILCD Data Network

The International Reference Life Cycle Data System (ILCD) Data Network provides a registry for c

Supporting Life Cycle Thinking and Assessment in policy and business - Handbook

The International Reference Life Cycle Data System (ILCD) Handbook is a set of technical guidance documents that provide the basis for coherence and quality-assurance for data, methods, and studies in Life Cycle Assessment (LCA) and related applications.

All documents of the ILCD Handbook are produced through a comprehensive process of international stakeholder consultations and peer reviews.

As a first step, invited consultations are conducted among representatives of participating national databases and countries (including the National LCA projects of Australia, Brazil, China, Japan, Malaysia, Thailand and the US), UNEP, with representatives of the 27 EU Member States, and the Advisory Group members from European industry and LCA research / consultancy.

The second step involves peer reviews. In parallel, the advanced drafts are put out internationally for public stakeholder consultation.

The ILCD Handbook includes:

- 'General technical guidance document on LCA'
- 'Guidance document for generic and average LCI data sets'
- 'Guidance document for LCA models, methods and factors' (working draft) i.e. Analysis of LCA methodologies, Recommendation of methods for LCA, and Requirements for LCA models
- 'Nomenclature and other conventions'
- 'Overarching methodological issues for inventory flows'

For further information please contact ica@jrc.it

Indicators:

[http://lca.jrc.ec.europa.eu/indicators/
lca-indicators@jrc.it](http://lca.jrc.ec.europa.eu/indicators/lca-indicators@jrc.it)

ILCD Handbook (draft versions!):

http://lca.jrc.ec.europa.eu/EPLCA/Deliverables/ILCD_handbook.htm

YOUR Questions?

THANK YOU FOR YOUR TIME AND ATTENTION!