The contribution of Life Cycle Assessment to global sustainability reporting of organizations

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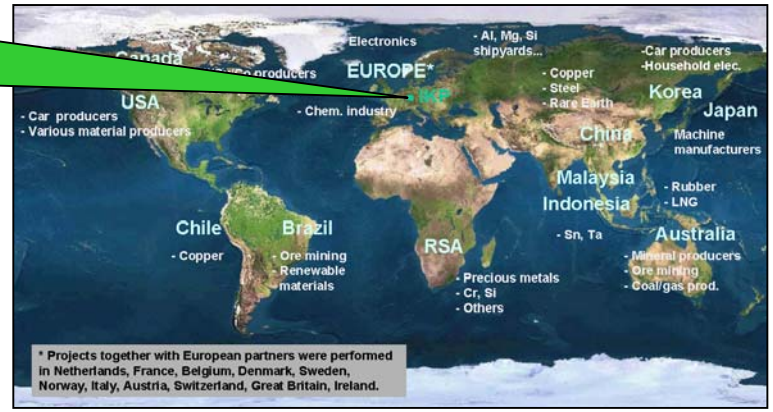
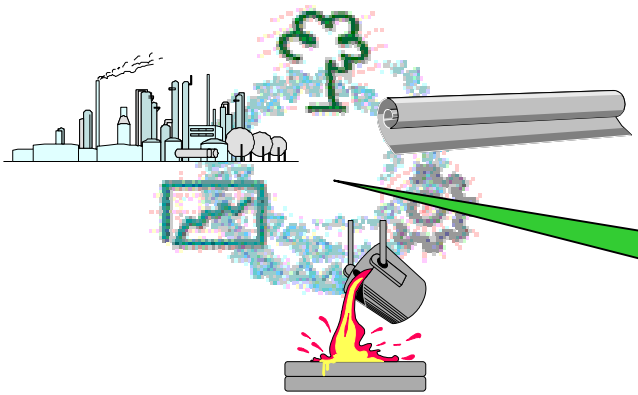
Industry and research projects on ecological-economic-technical analysis and decision-support of product, process and service design

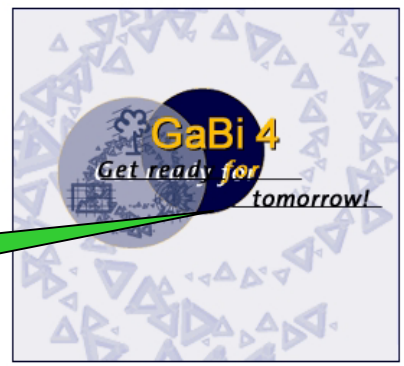




Methodology development (Life Cycle Engineering and Sustainability, substance flow analysis, Indicators)

IKP and its co-operation partner PE Europe form the world's largest working group of LCA experts
and are one of the world market leaders in LCA software and databases.

Customized Software and database development and maintenance (GaBi software, DfE-tools)



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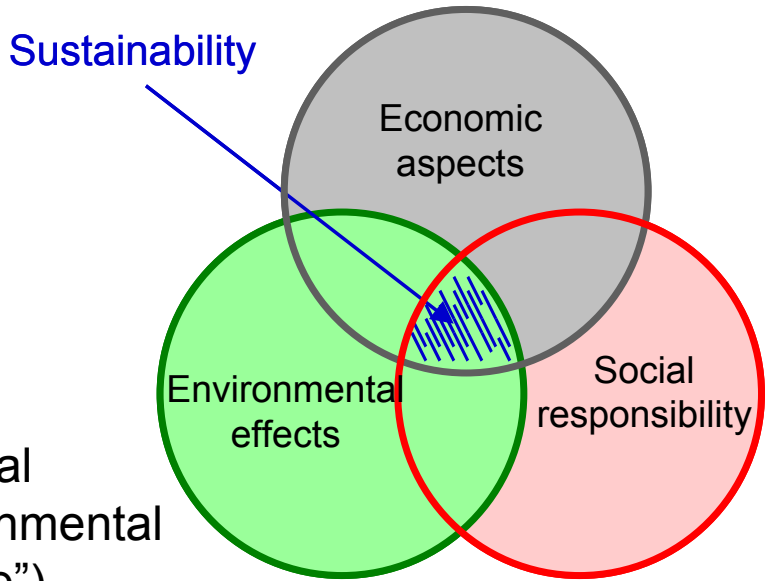
Global sustainability reporting
Background

Society expects well-balanced ratio between profit orientation and concentration on social concerns or environmental issues

Leads to integration of economic aspects, social responsibility and environmental effects

Reflects the most widely accepted approach to defining sustainability:



<u>Global sustainability reporting:</u>

The Global Reporting Initiative (GRI) interprets global sustainability reporting in terms of economic, environmental and social performance (known as “triple bottom line”)

- Corporate view, no product view
- Qualitative and quantitative parameters reported
- No possibility of parameter aggregation
- No impact orientation, no life cycle view

“Do good and spread the word”

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Global sustainability reporting
From the vision of sustainability to global reporting

Vision
(Idea of the corporate sustainable development)

↓

Corporate policy
(Specification of long-term sustainability aims and basic principles)

↓

Management systems
(Description of tasks, responsibilities and procedures)

↓

Corporate performance
(strengths and weaknesses)

↓

Internal/External Communication of the corporate performance
(Integration of economic, environmental and social performance in global sustainability reporting)

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Global sustainability reporting
Internal/External Communication of corporate performance

1. Strategic and operational goals
   as reference point for further sustainability work

2. Performance data [Inventory level]
   e.g. wages, investment, … raw material consumption, … working conditions, …

3. Analysis of performance data - Translation to core indicators
   e.g. Accidents at work per employee, GWP of energy supply chain, …

4. Evaluation of performance [inventory/impact level]
   via measures like benchmarking, internal goals, fulfillment of external requirements,…

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Global sustainability reporting
Future trends go towards…

Product view

- Extended Product responsibility (EPR)
- Integrated Product Policy (IPP)

Inclusion of “indirect” (beyond the site) effects

- Eco-management and audit scheme (EMAS II)
- Supply chain management
- Corporate sphere of influence, Definition of system boundaries

Analysis of results on impact level

- Core indicators

Automation of data administration

- Web-/Intranet-based data collection
- Software solutions for data processing
- Integrated systems

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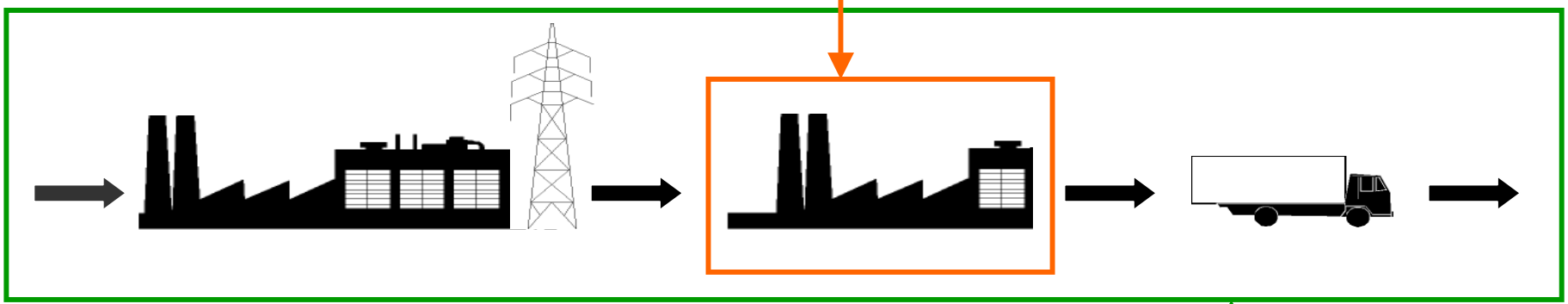
Global sustainability reporting
Integrated analysis of the dimensions economy, environment and society

Economic dimension:

In general the life cycle approach is not of corporate interest
Focus is on direct costs and benefits



Environmental and social dimension:

Life cycle approach including “indirect” effects

Aggregation of environmental and social “burdens” over the life cycle

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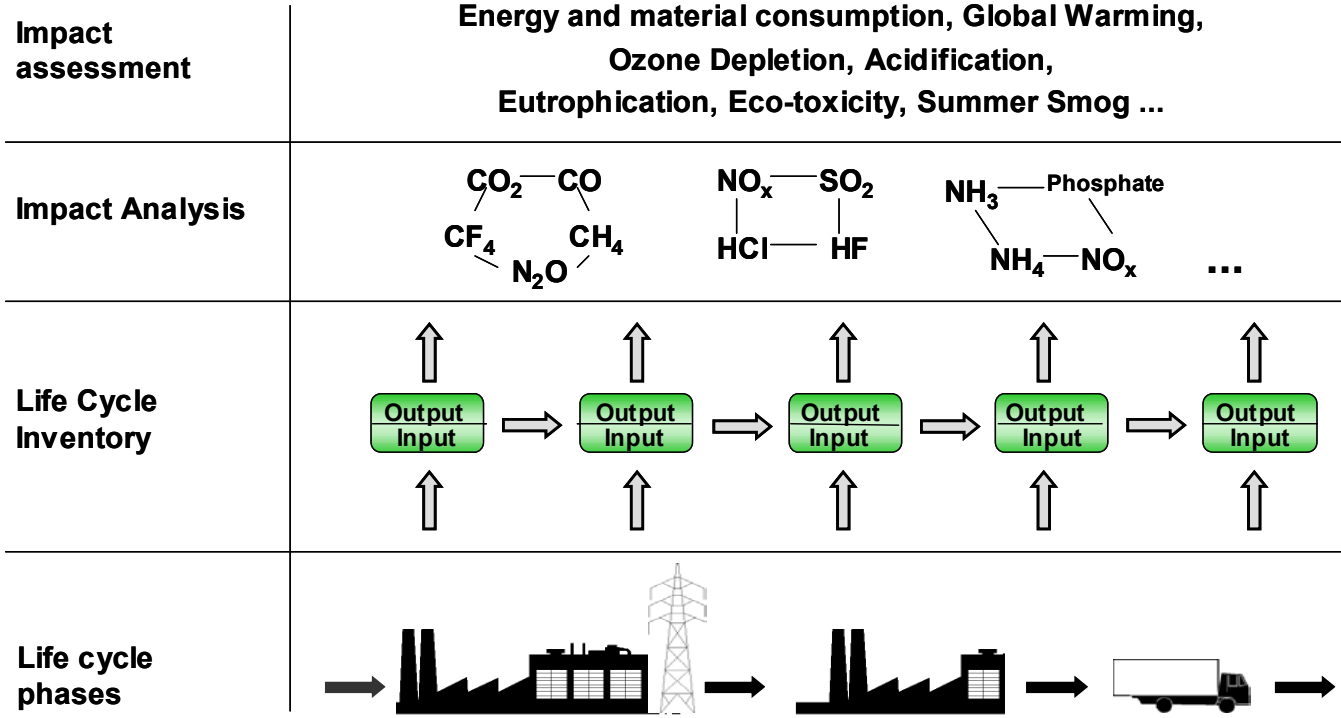
Global sustainability reporting
The contribution of Life Cycle Assessment

- Product life cycle view
- Consideration of indirect effects (upstream/downstream processes)
- Assessment on inventory and impact level (relevance of environmental aspects)



- Software and database solutions available on base of LCA software tools
  - for environmental reporting
  - sustainability reporting
  - Remote data exchange capabilities

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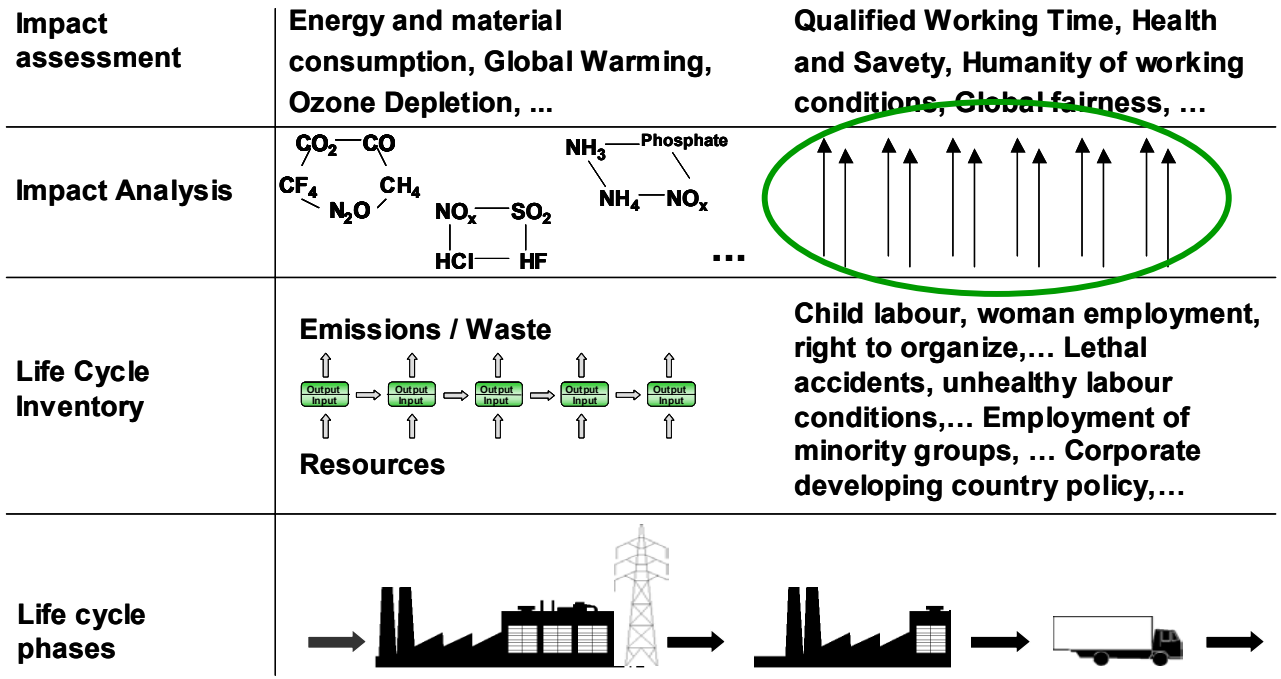
Global sustainability reporting
Integration of the socio-economic dimension into Life Cycle Assessment

The social dimension can be analyzed and reported on inventory level analogous to the environmental part of the global sustainability reporting using the same

- System boundaries
- System model
- Database / Software tool



For the analysis on impact level further work has to be done in the field of social impact analysis to enable the interpretation, assessment and reporting of results on level of the overall social effects like Global fairness, Health and Savety...

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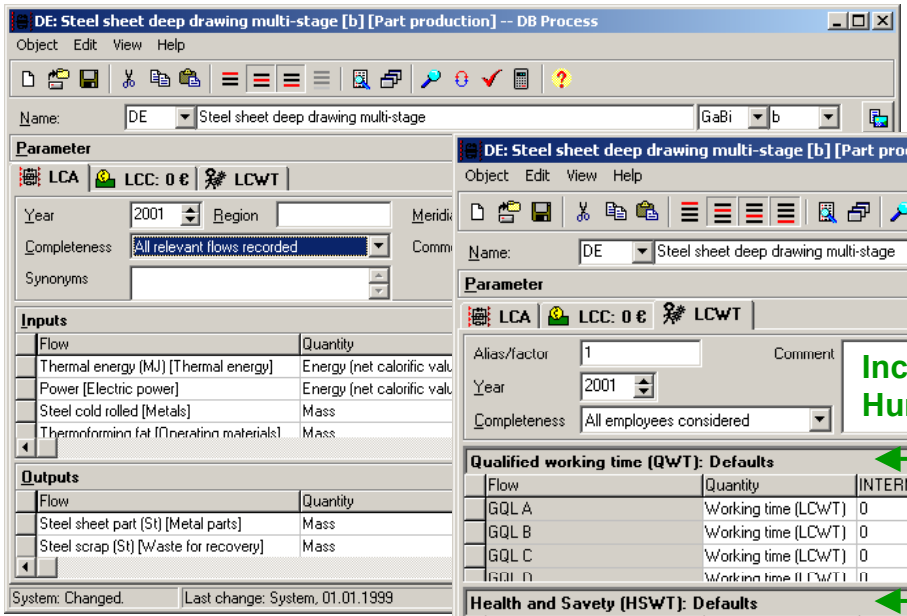
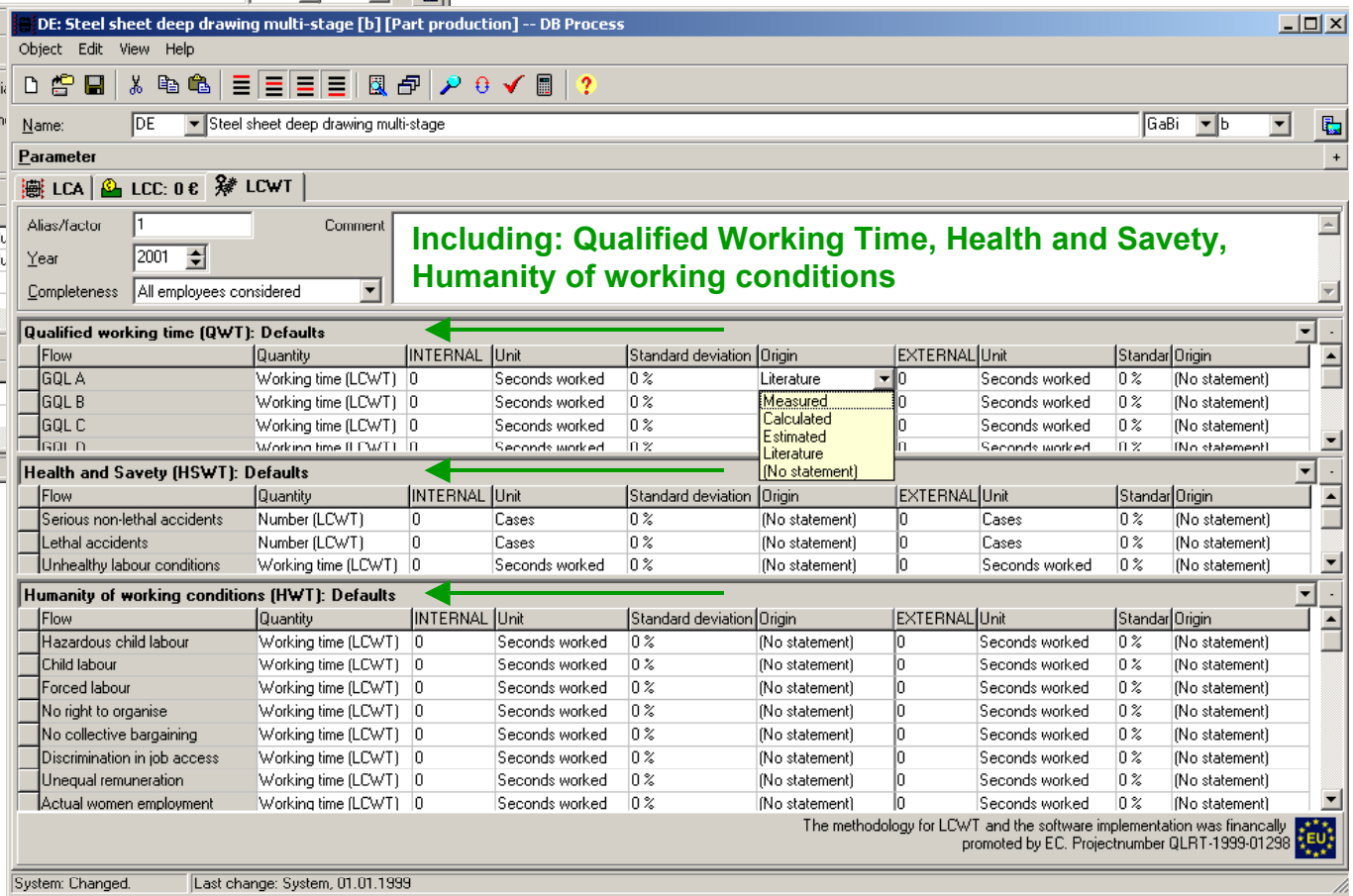
Global sustainability reporting

Example for integration of the socio-economic dimension in an LCA software tool



Life Cycle Assessment

Life Cycle Working Time



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Global sustainability reporting
Summary

- Global sustainability reporting as a tool to report on company's effort in the field of sustainability development (marketing, communication with shareholders/stakeholders, economic benefits e.g. Dow Jones Sustainability Index…)
- Trends in terms of sustainable development go towards product view, inclusion of indirect effects, analysis of results on impact level and automation of data administration
- The LCA methodology provides product-oriented life cycle analysis on inventory and impact level
- The social or socio-economic dimension of sustainability can at the moment be analyzed and reported in LCA environment using the same system boundaries, system model and tools - on inventory level
- The analysis and reporting on impact level of the social or socio-economic dimension in view of a sustainable corporate development is currently not state of the art

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