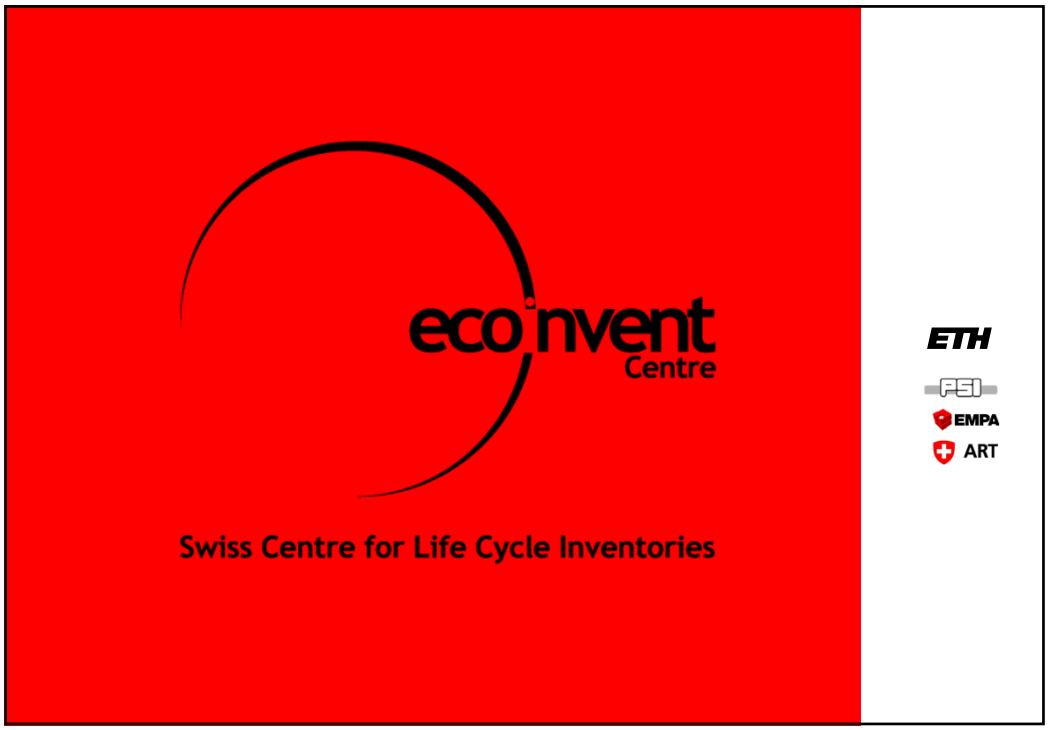

The ecoinvent database approach to consistency, transparency and completeness

Swiss Centre For Life Cycle Inventories

ETH PSI EMPA ART

Presentation to the METI LCA/CFP Database Development and International networking meeting, Tokyo, 2010.11.12

Bo Weidema

ecoinvent Centre

The objectives

Swiss Centre For Life Cycle Inventories

ETH PSI EMPA ART

- Consistency ➔ Reliability
  - Validation and review
  - All system models (attributional, consequential) based on the same transparent, unlinked unit process data
- Transparency
  - Quality of documentation
  - Accessibility
- Completeness ➔ Relevance
  - Coverage (technological and global completeness, temporal reach, environmental indicators)
  - Mass, water & carbon balances / monetary balances
  - Up-to-date data

Trust in Transparency!

Consistency ➔ Reliability

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ETH PSI EMPA ART

- Validation
  - New ecoEditor freeware with strict validation requirements
  - Continuously improved validation (plausibility) rules, based on explorative data analyses and statistical analyses
- Review
  - International editorial board with more than 50 subject and cross-cutting editors
  - All new datasets reviewed by at least 3 independent reviewers
  - Review procedure is software-guided and monitored, and all review comments and author responses are stored
  - Final review statements embedded in the datasets

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Consistency

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- One single, consistent data quality guideline for all data
- No overlaps, no double-counting, no cut-offs
- All system models (attributional, consequential) based on the same transparent, unlinked unit process data, so that the only difference is due to the system model. This is achived through the use of
  - Market datasets, which allows transforming datasets to be linked with different algorithms
  - Linking algorithms that depend on the activities' geographical location and technological level (e.g. old, current, modern), and a distinction between reference products and by-product/wastes
  - Product properties that can be used as universal allocation keys

Transparency

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- Quality of documentation
  - Data Quality Guideline
  - Use of formulas in datasets: Better documentation & easier maintenance
  - Independent review procedure
  - All documentation published with the dataset
- Accessibility
  - All documentation freely accessible via the Internet
  - Accumulated results free for non-commerical use in non-OECD universities

Completeness ➔ Relevance

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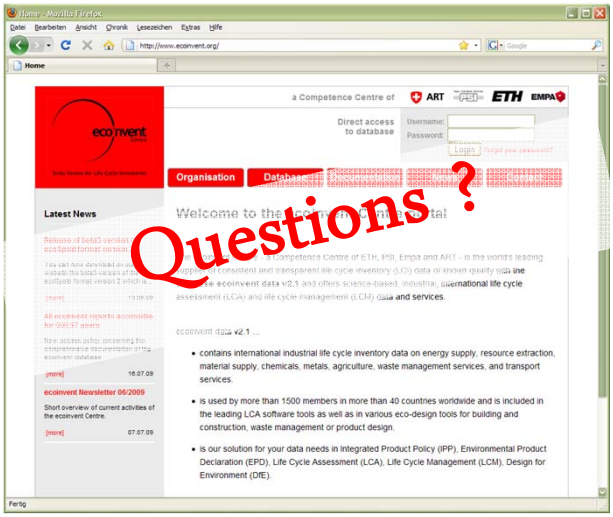
- Coverage
  - Technological reach (completeness of activities covered)
  - Geographical reach (global completeness, local child datasets)
  - in continuously increasing detail (each new dataset is a disaggregation of an existing dataset)
  - Temporal reach (future data and scenarios, using inheritance)
  - Environmental indicators (e.g. water, land, costs, noise, social)
- Mass, water & carbon balances, monetary balance
- Up-to-date data
  - Broader supplier base / National data collection initiatives
  - Unlinked datasets easier to embed → More frequent updates

Trust in Transparency!



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