

Communication in LCA according to ISO standards



52nd LCA Discussion Forum

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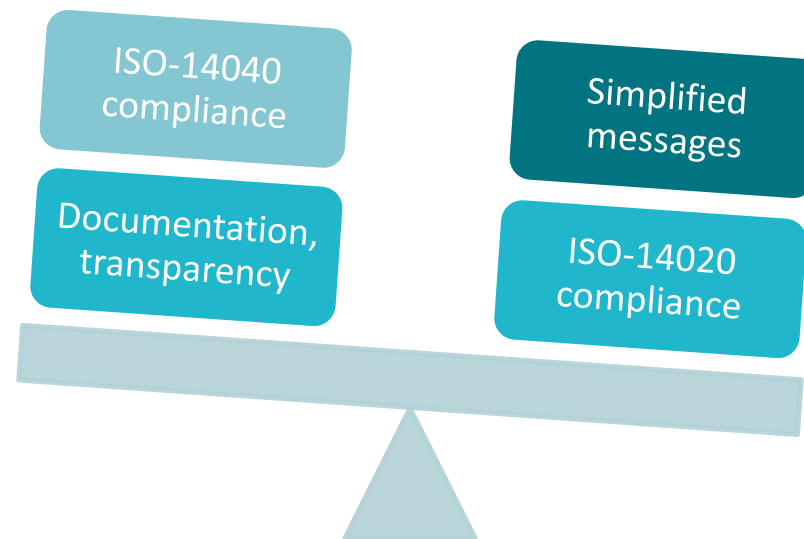
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How to find a balance in LCA communication?

Science ←

→ Customer



ISO on communication of LCA results

«The results, data, methods, assumptions and limitations shall be transparent and presented in sufficient detail to allow the reader to comprehend the complexities and trade-offs inherent in the LCA» (ISO 14044)

According to ISO, a third-party LCA report must contain:

- Complete description of goal & scope of the study (incl. function, functional unit, system boundary, cut-off criteria)
- Complete description of the life cycle inventory analysis
- Complete description of the life cycle impact assessment (incl. LCIA procedures, impact assessment categories, limitations of the chosen indicators)
- Life cycle interpretation (incl. Associated assumptions and limitations, data quality assessment)
- Critical review reports
- ...

Additionally needed, if it is a comparative LCA that should be disclosed to the public:

- Assessment of the precision, completeness and representativeness of data used
- Description of equivalence of the compared systems
- Statement if international acceptance exists for the selected category indicators
- Results of the uncertainty and sensitivity analyses
- Evaluation of the significance of the differences found
- ...

Additional conditions according to ISO 14044:

- When using graphics: it should be considered that they invite for implicate comparisons and conclusions.
- The LCA should address all relevant environmental impacts.
- Reducing the LCA results to a single overall environmental impact assessment score is not allowed.

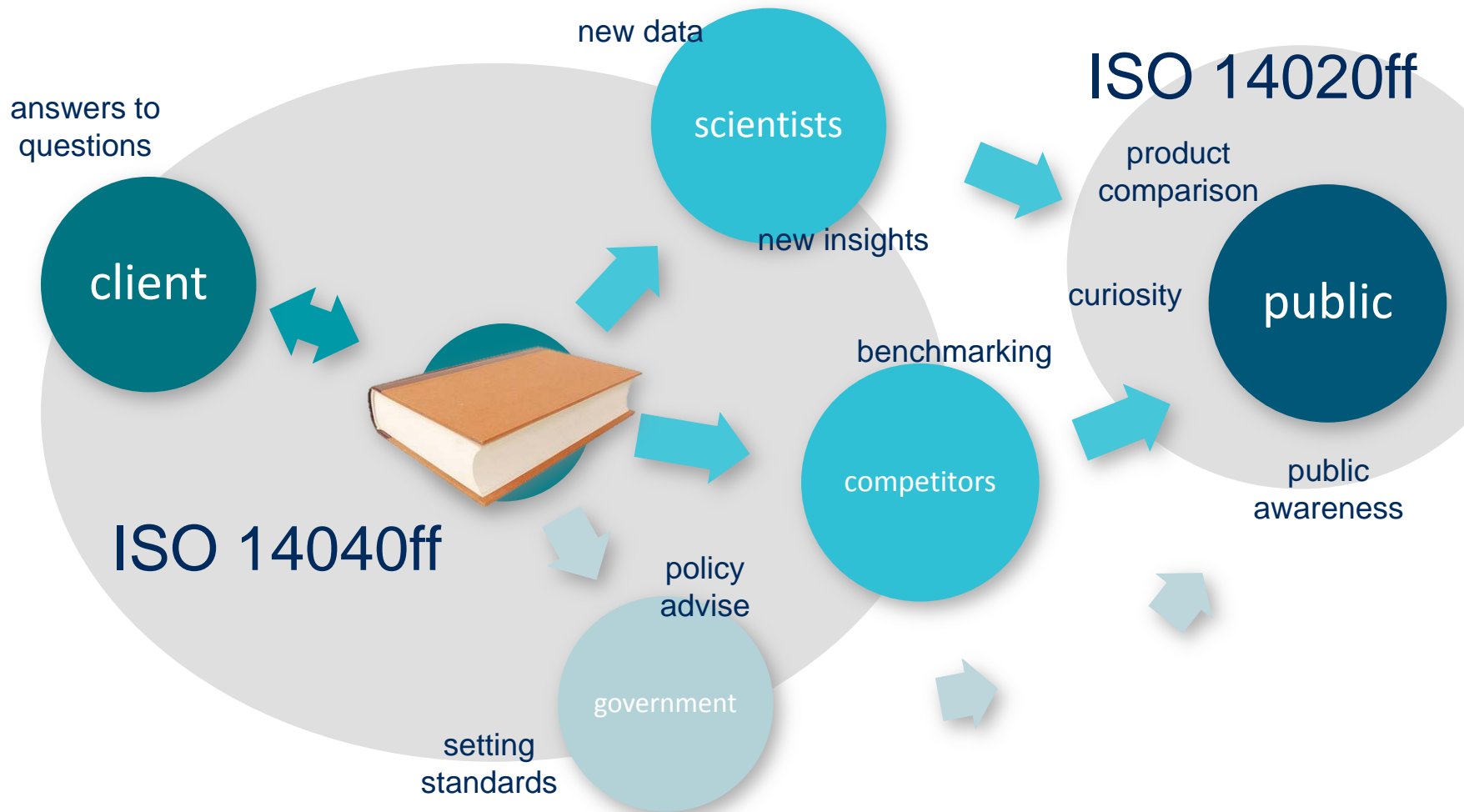
The ISO 14040-compliant LCA report

- Complete
- Scientifically grounded
- system-wide perspective
- Transparent

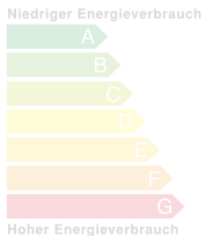


→ «thick book», heavy to digest

Target groups for LCA communication



Labels for environmental communication



A



Type I (ISO 14024): based on criteria set by a third party, multi-issue, certified, not being based on LCA



Type II (ISO 14021): self-declarations by manufacturers or retailers, certification not required, eg 'made from x% recycled material'

EPD[®]




Type III (ISO/TR 14025): quantified product information based on product-specific life cycle impacts.

Type III (ISO/TR 14025) - Labels

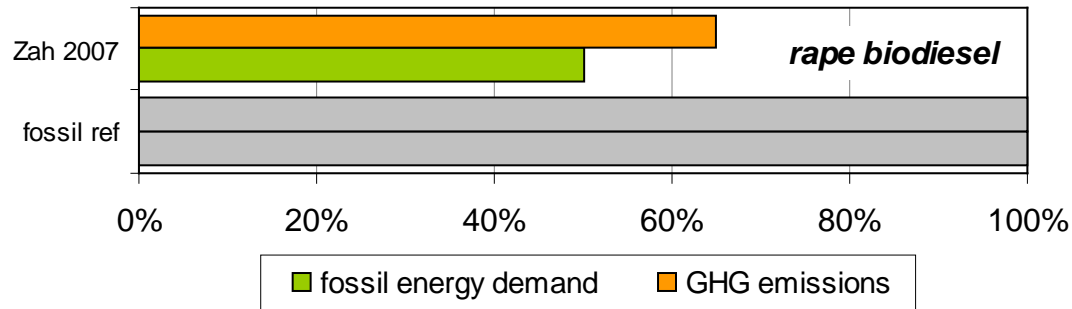


- High environmental relevance
- High credibility among stakeholders
- Generally usable for end user communication

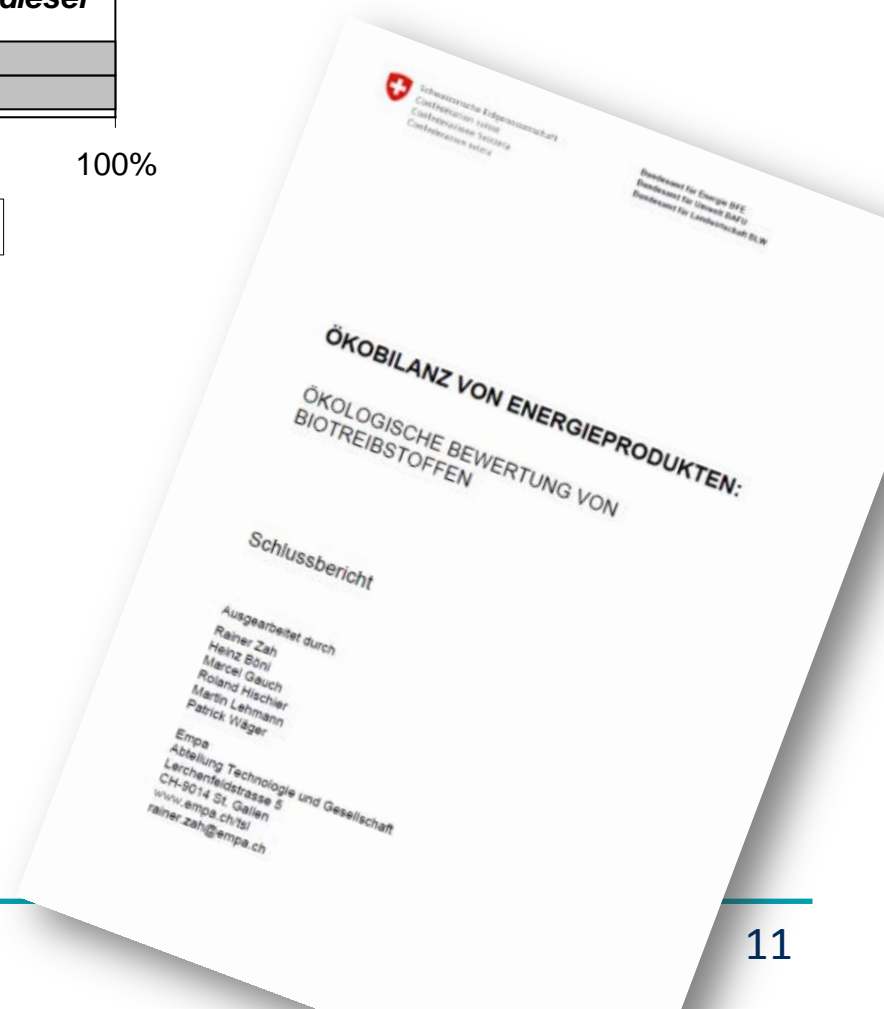
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- High costs
 - Disclosure of potentially sensitive data
 - For end users hardly understandable

adapted from: Allison & Carter 2000)

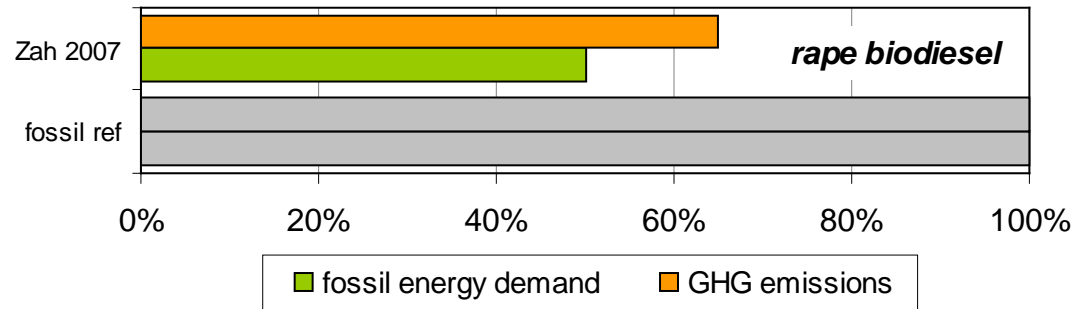
The biofuels example



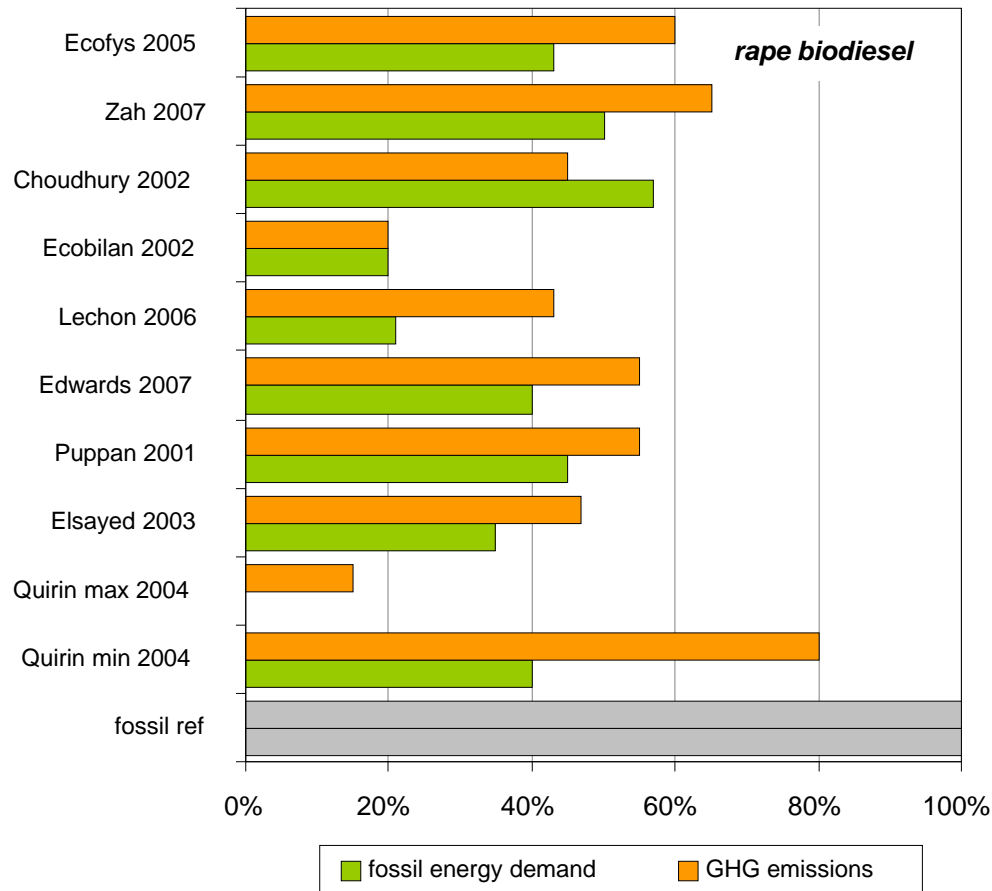
- Goal & Scope
- Documentation
- Interpretation



The biofuels example

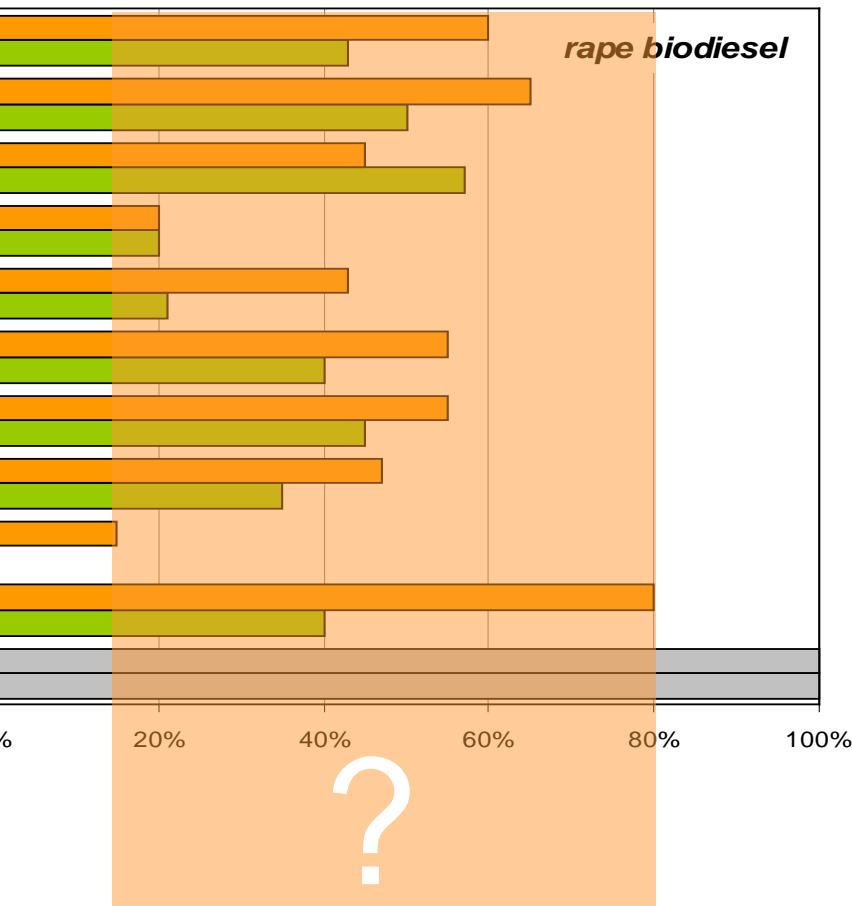


Trouble: big differences in results of (similar) LCA studies



What is the „real“ GHG reduction of rape biodiesel???

How to explain those differences?



Differences in value chains

- Study region
- Study period
- agricultural practice
- process technology

Different system boundaries

- Inclusion of infrastructure
- Inclusion of use phase

Different background data

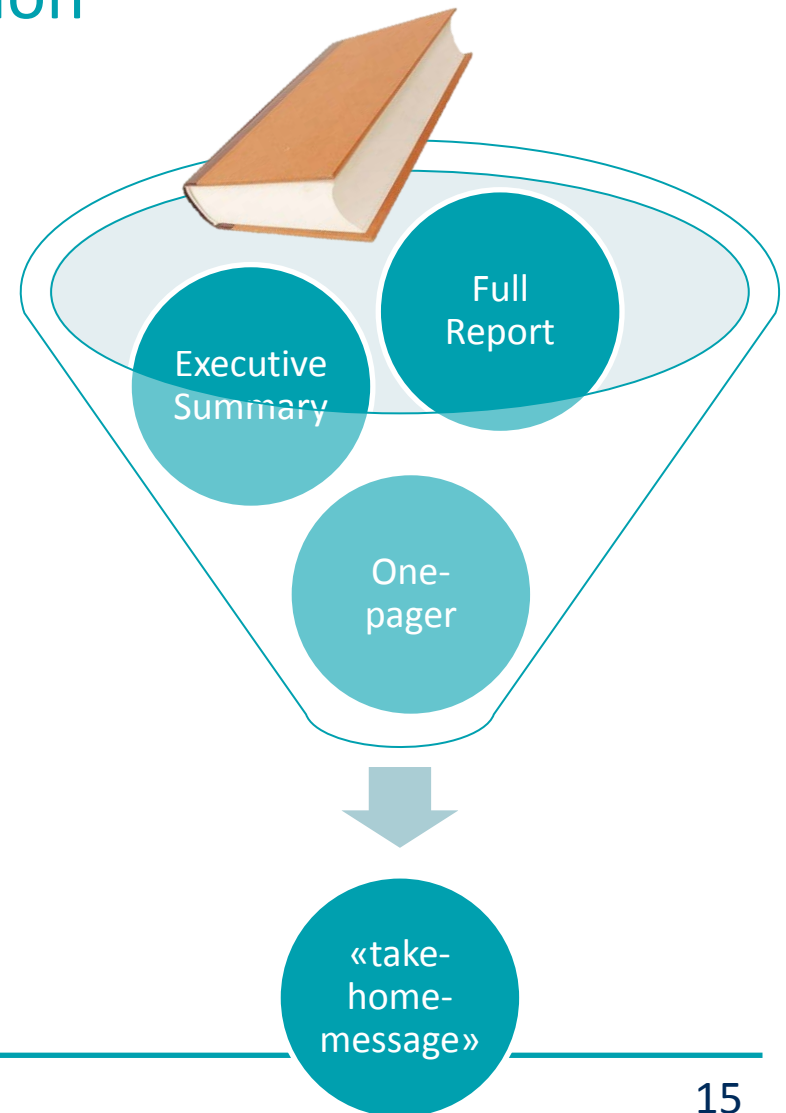
- Electricity mixes
- Fertilizer production
- Fossil reference data

Different allocation methods

- Economic allocation
- Energetic allocation
- System expansion
- Cosequential modelling

The chain of information reduction

- Different target groups need different bubbles of information
- Media tend towards reducing the complexity of the bubbles
- Often, only one key message reaches the broad public (e.g., «LCA of biofuels is bad»)
- This reduction of information is against the ISO 14040 principles
- Nevertheless, it is a fact that has to be dealt with!

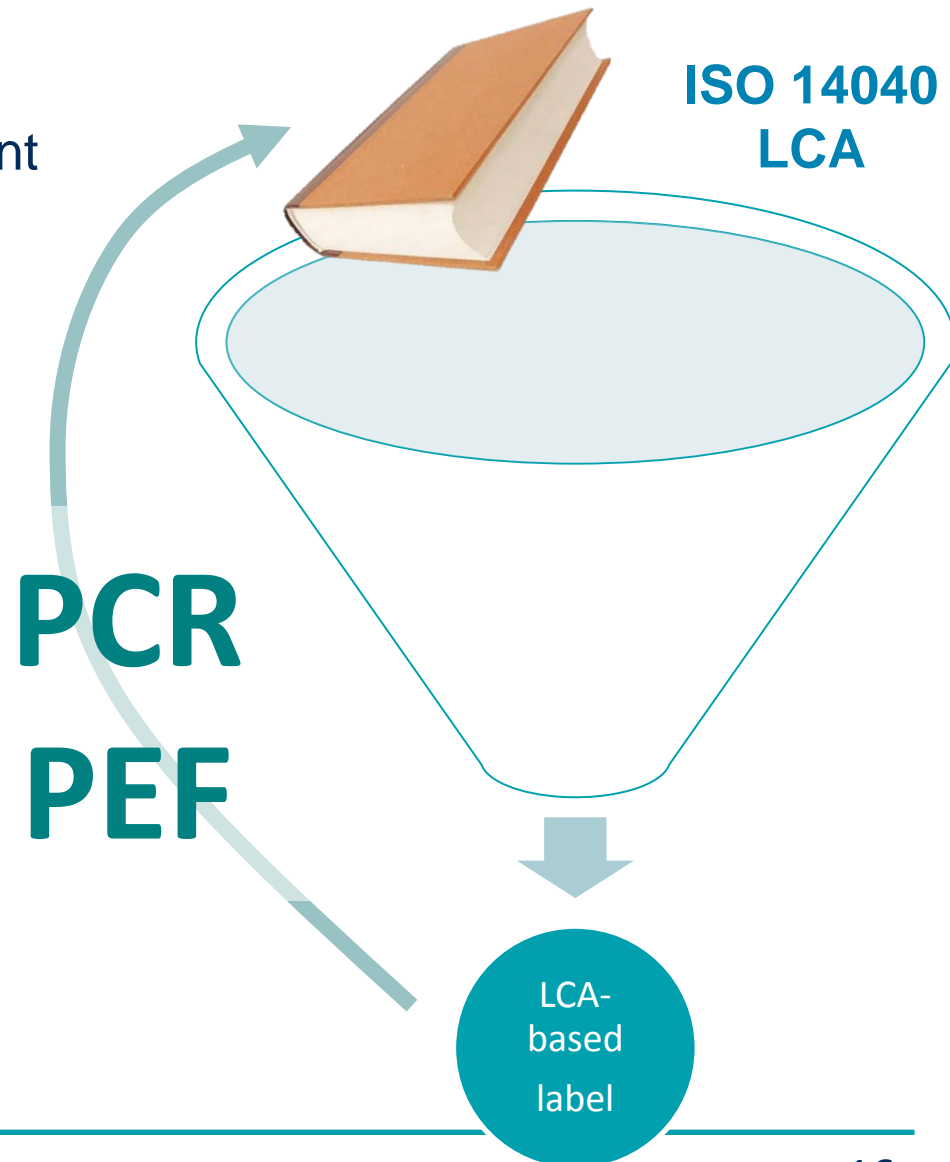


The role of PEF / PCR

PEF = Product Environmental Footprint

PCR = Product Category Rules

- Standardization
- Comparability
- «thin» report + product category rules
- However: PCRs have to be understood for a full interpretation of the results



Conclusions

- There is no free lunch for LCA communication
- The development of the PEF-guidelines, resp. of PCRs might bridge the gap between ISO 14040 (LCA) and ISO 14020 (env. labels)
- **Active participation of LCA experts on all levels of LCA communication is mandatory!**

Thank you for your
attention

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