

# **The Role of International Standards in LCA**

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# LCA in a Nutshell

- Life Cycle Assessment **is:**
- holistic
- not risk assessment
- Cradle-to-grave
- defined by a functional unit and
- System boundaries
- essentially comparative
- for products = goods and services

LCA Compendium – The Complete World of Life Cycle Assessment  
Series Editors: Walter Klöpffer · Mary Ann Curran



Walter Klöpffer *Editor*

# Background and Future Prospects in Life Cycle Assessment

 Springer

# Epistemology vs. Convention

- LCA is based on science, but there are some weak points (e.g. allocation)
- LCA studies cannot in general be falsified and are therefore not strictly scientific according to Karl Popper. The empiric epistemology by Thomas Kuhn may be more appropriate for LCA
- Conventions are helpful

# Finnveden about Kuhn and LCA

- *I think we have been part of a scientific paradigm shift in the sense that Thomas Kuhn wrote about it.*

Göran Finnveden

(21.09.2014 per email)

# Same topic

- **Matthias Finkbeiner** in the same volume of the LCA compendium: „the ISO standards (14040ff) are the ***constitution*** of LCA”
- A Constitution is also a Convention
- Klöpffer, W. (1998): Subjective is not Arbitrary. Editorial, Int. J. Life Cycle Assess 3 (2) 61-62: e.g. the great conventions by UNO

# Code of Practice

- Sesimbra (Portugal), April 1993, the first attempt to formalize and to describe LCA including the quality assurance (accompanying „peer review“)
- SETAC guideline based on the results of the workshop: August 1993
- Blue print for the beginning international Standardisation

# The first series of ISO-LCA Standards

Start: Autumn 1993, Paris

- ISO 14040: Principles and framework (1997)
- ISO 14041: Goal and scope definition and inventory analysis (1998)
- ISO 14042: Life cycle impact assessment (2000)
- ISO 14043: Interpretation (2000)



# Rahmen einer Ökobilanz

Festlegung des Ziels und des Untersuchungsrahmens



Sachbilanz



Wirkungsabschätzung



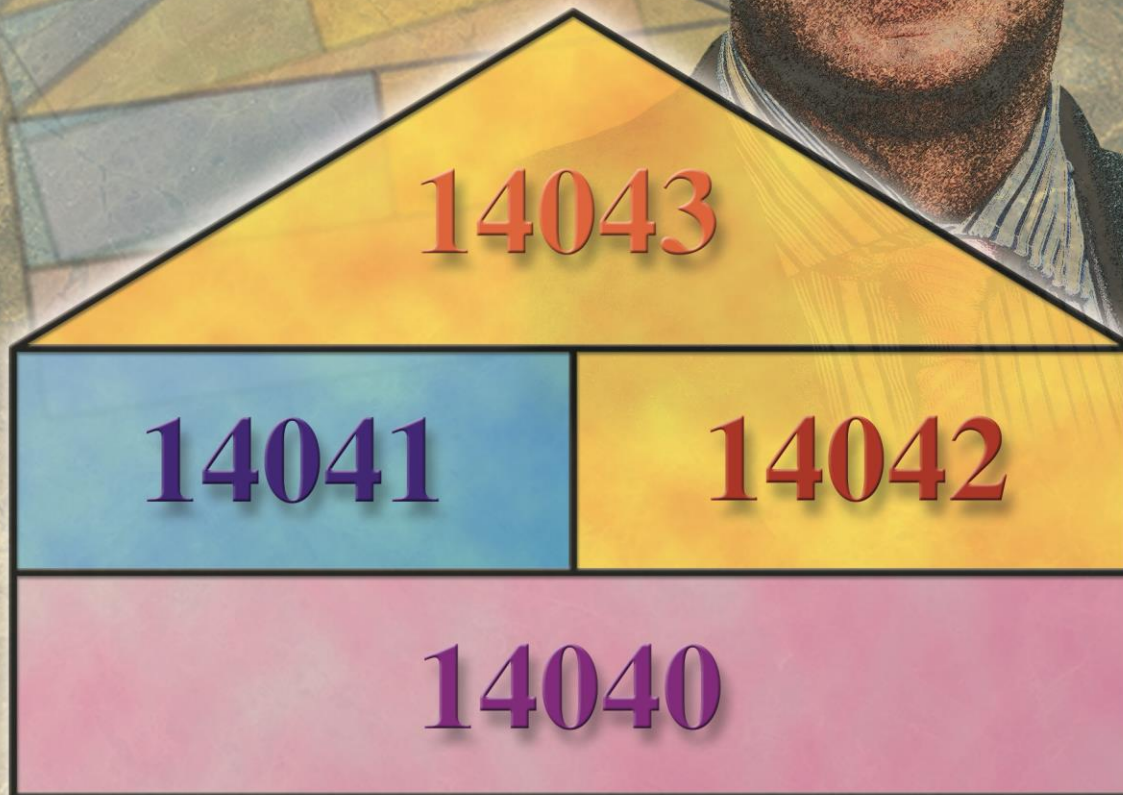
Auswertung

## Direkte Anwendungen:

- Entwicklung und Verbesserung von Produkten
- strategische Planung
- politische Entscheidungsprozesse
- Marketing
- sonstige



# ISO- Framework



# Revision 2006

- ISO 14040:2006 Principles and framework
- ISO 14044:2006 Requirements and guidelines
- The one and only actual version. The content largely corresponds to the one of the older series 14040-43:1997-2000
- The requirements for the „critical review“ have been **tightened**, especially for intended comparative assertions (panel method with at least 3 members including the chairperson).

# The Linking of ISO 14040 with 14044

The new standard 14040 is relatively open and could be – in combination with a non-ISO requirements and guidelines - softened

- This has been prevented by one „shall“ in 14040:
- 14040 5.1 General requirement:  
„When performing an LCA, the requirements of ISO 14044 **shall** apply“.