The new International Standards for Life Cycle Assessment: ISO 14040 and ISO 14044

Matthias Finkbeiner, Atsushi Inaba,
Reginald B.H. Tan, **Kim Christiansen**
and Hans-Jürgen Klüppel

2.0 LCA consultants

Grøn Guide

Lokal miljøvejleder

2.0

Key objectives

- Increase readability by compiling
- Address applications of LCA
- Inclusion of economic and social aspects are beyond the scope
- Give guidance / training for application

Seoul June 2000

- TC 207/SC 5 welcomes the offer given by the Denmark to investigate needs and potential consequences for the use of the ISO 14040'series if a decision is taken at the next SC5 meeting in Stockholm, June 2000, to start a New Work Item on a merge of the 4 standards and the technical reports from SC5 into one specification ("ISO 14040") and one guideline ("ISO 14044"). SC5 expects Denmark to collect experiences and viewpoints from P-members, O-members and Liaison members of SC5 as part of the project.

VERTICAL

Ad hoc group/NWIP

- gather all requirements (“shalls”) in one new standard, keeping the structure
- maintain 14040 as a framework document, but transferring all requirements (“shalls”) to the new standard
- 14040 = Principles and Framework
- 14044 = Requirements and Guidelines

WG 6

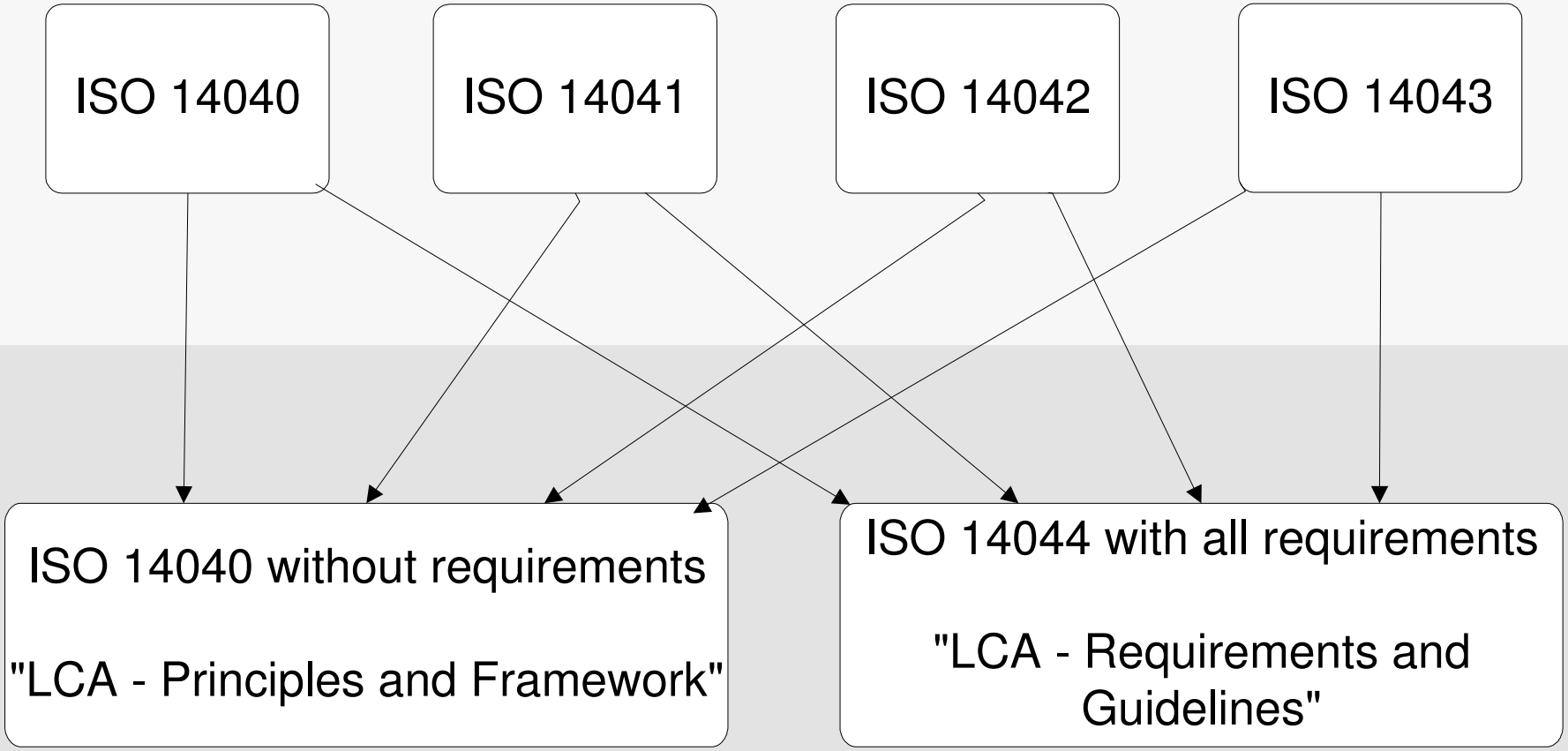
- More than 50 international experts
- Co-chaired by Finkbeiner, Inaba and Tan
- Secretariat provided by Christiansen

1. Rearrange
2. Change
3. Enhance

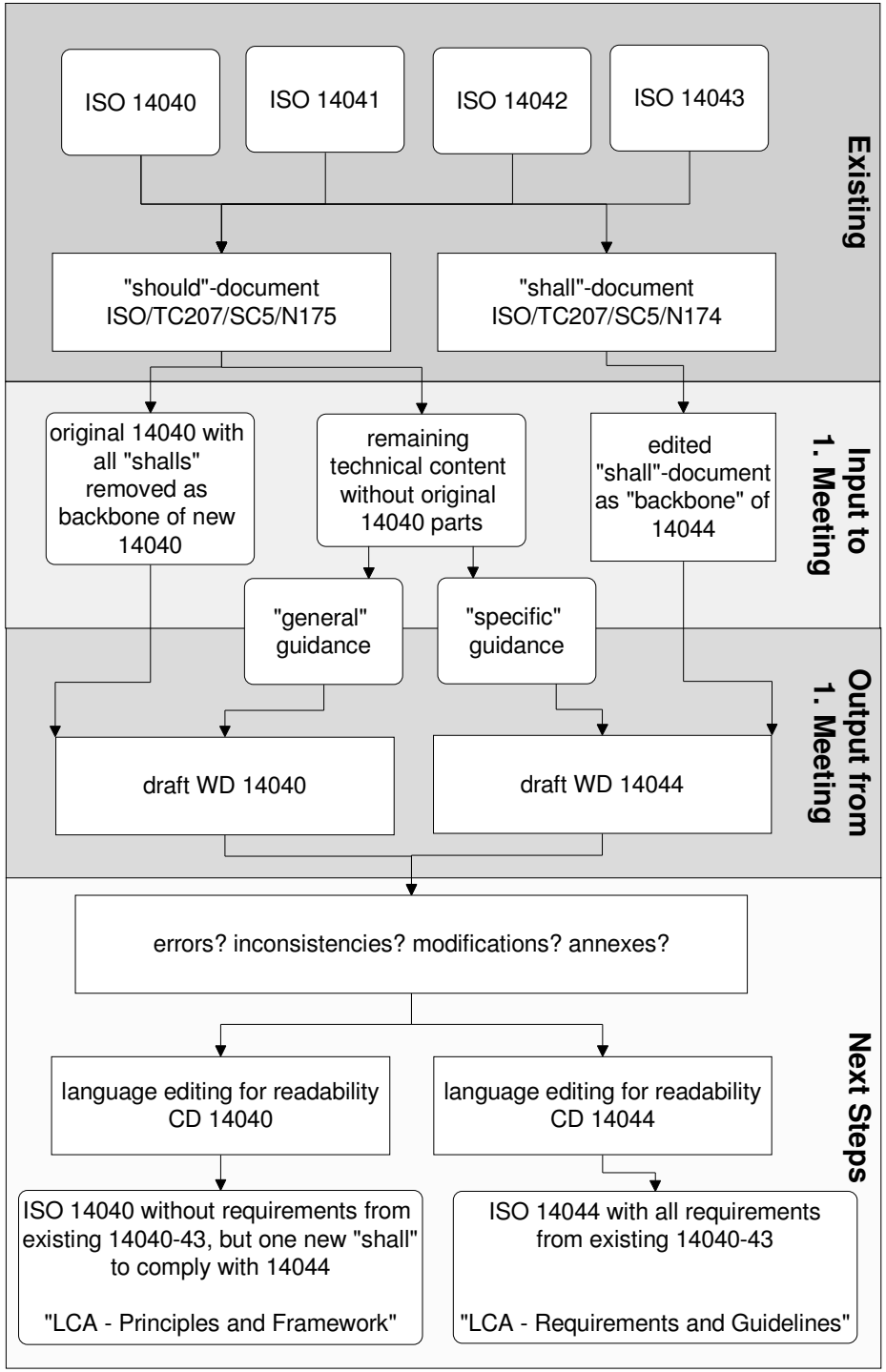
Schedule

1. Meeting: Geneva 1-2.12.2003
   - backbone documents -> WD.1
2. Meeting: Washington 29-31.3.2004
   - WD.1 -> CD.1
3. Meeting: Buenos Aires 30-31.8 and 2.9.2004
   - CD.1 -> CD.2
4. Meeting: Mexico City 27-29.1.2005
   - CD.2 -> DIS
5. Meeting: Madrid 11-13.9.2005
   - DIS -> FDIS

Structure of current ISO 14040-43 standards (all contain requirements)



Structure of the new standards ISO 14040 / 14044



Rearrange (DK)

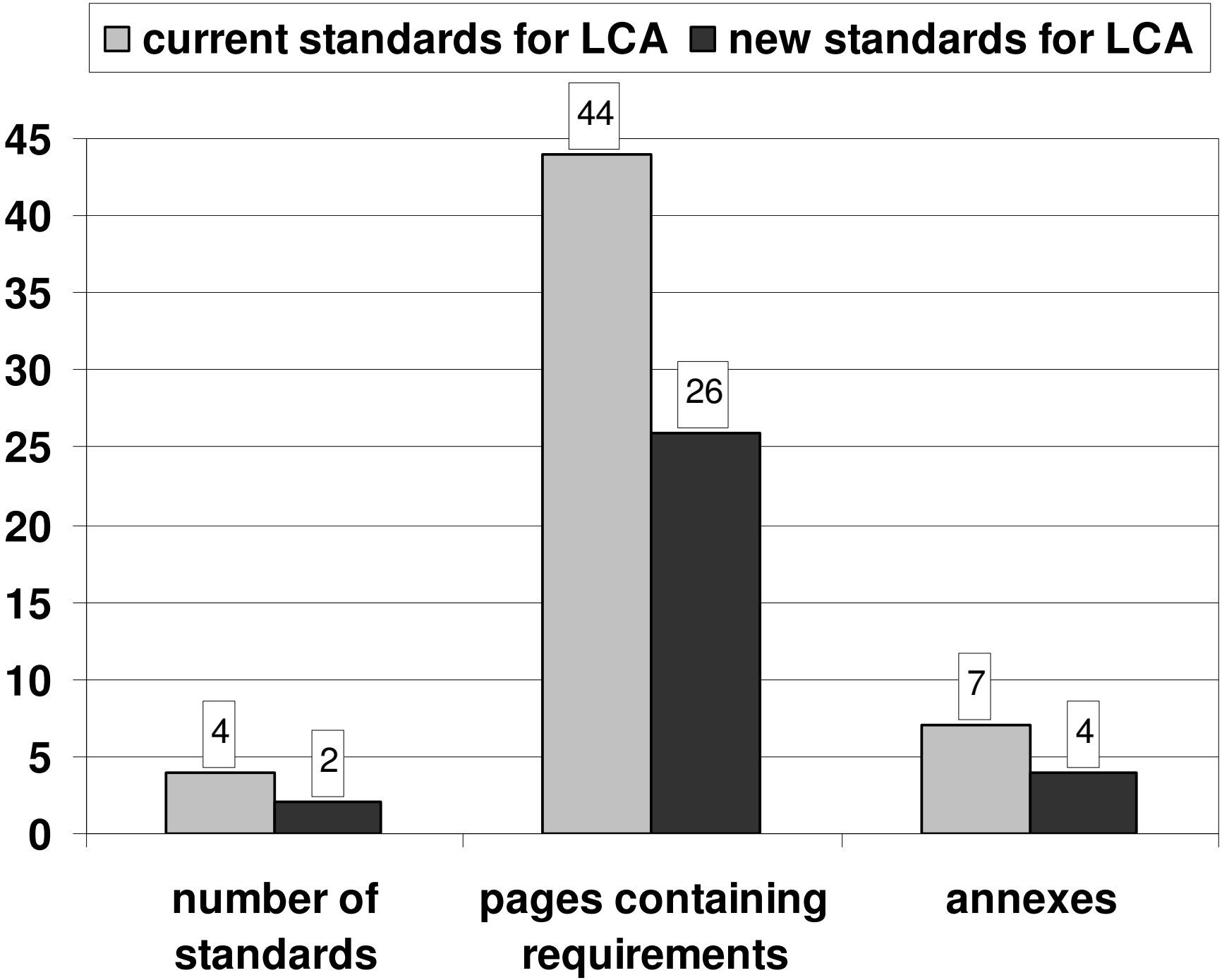
Should – maybe shall – shall

WD

Errors etc.

Language

1 ”shall” All ”shalls”


current standards for LCA
new standards for LCA
45
40
35
30
25
20
15
10
5
0
4
2
44
26
7
4
number of standards
pages containing requirements
annexes

Changes

- Definitions – new and revised
- Principles of LCA
- LCA intended to be used for a comparative assertion intended to be disclosed to the public
- Life cycle impact assessment
- Life cycle interpretation
- Critical review and reporting
- Informative annex on applications of LCA

Definitions

- New
  - Product (14021 and 9000)
  - Process (9000)
- Revised
  - System boundary
  - Waste

CHAIRMAN
Hans-Jürgen KLÜPPEL (Germany)
SECRETARY
Emilie BRUN (France)

Principles

- Life cycle perspective
- Environmental focus
- Relative approach and functional unit
- Iterative approach
- Transparency
- Comprehensiveness
- Priority of scientific approach

Intended * intended

- intention for the use for a comparative assertion
- intention to disclose it to the public

  comparative assertion

  environmental claim regarding the superiority or equivalence of one product versus a competing product that performs the same function

- ”new” requirement for the goal definition

Life cycle impact assessment

- No scientific basis for reducing LCA results to a single overall score
- Weighting is not allowed for LCA intended to be used for a comparative assertion intended to be disclosed to the public
- A new section was added between the mandatory and optional elements of LCIA that addresses resulting data after characterization
  - a set of impact category indicator results
  - a set of inventory results that are elementary flows but have not been assigned to impact categories
  - a set of data that do not represent elementary flows

SWEDEN

Life cycle interpretation

- A clarification added in the new standards is the requirement to identify limitations when drawing conclusions and making recommendations
- Methodological and study limitations were also added to the list of items that need to be checked for consistency
- Another inconsistency that has been removed was the missing link between the requirements for conclusions and recommendations

Critical review and reporting

- The section for internal critical review and external critical review were merged
- The level of expertise of the reviewers needs to be justified in the scope definition
- Review panels, especially for the review by interested parties, consist of at least three members
- A third party report can be based on study documentation that contains confidential information that may not be included in the third party report

Informative annex on applications

- environmental management systems and environmental performance evaluation
- environmental labels and declarations
- integration of environmental aspects into product design and development
- inclusion of environmental aspects in product standards
- environmental communication
- quantification, monitoring and reporting of entity and project emissions and removals and validation, verification and certification of greenhouse gas emissions

There is no single solution as to how LCA can best be applied within the decision-making context.

Not LCA or LCI studies

- cradle-to-gate studies
- gate-to-gate studies
- specific parts of the life cycle (e.g. waste management, components of a product)

For those studies most requirements of ISO 14040 and ISO 14044 are applicable e.g. data quality, collection and calculation as well as allocation and critical review, but not all requirements for system boundary.

TEQUILA
ENTRADA

A.2 Application approach

”Therefore the products and processes studied in an LCA are those affected byt the decision that the LCA intends to support.”

a) one which assigns elementary flows and potential environmental impacts to a specific product system typically as an account of the history of the product

b) one which studies the environmental consequences of possible (future) changes between alternative product systems

Conclusions

- Errors and inconsistencies were removed and the readability was improved.
- The added technical content is in line with the previous requirements and serves mainly as a clarification of the technical content.
- For the sake of the international and stakeholder acceptance of LCA, it is recommended that the new standards serve as core reference documents for the users and practitioners of LCA.

Acknowledgement

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