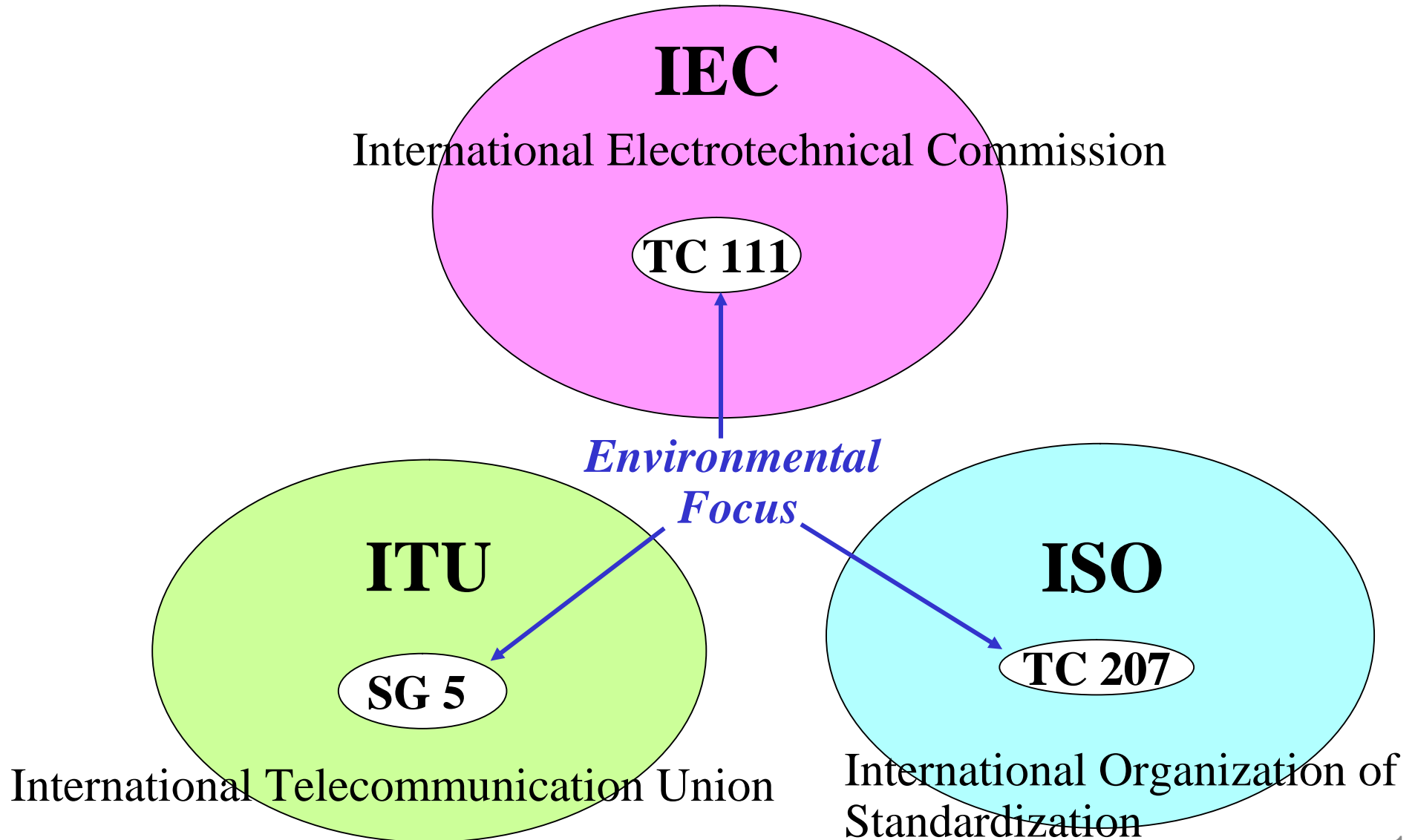


Recycling and Relevant Emerging Issues for Near-future Environmental Standardization

8 July 2010

Yoshiaki (Yoshi) ICHIKAWA
IEC TC111 Chair
Hitachi, Ltd, Environmental Strategy Office

Three major international standardisation bodies



Outline of TC111

- **Established:** October, 2004
- **Title:** Environmental Standardization for Electrical and Electronic Products and Systems
- **Secretary:** Andrea Legnani (Italy)
- **Chairman:** Yoshiaki Ichikawa (Japan)
- **Technical Officer:** Matei Cocimarov(IEC)
- **Member Countries:**
 - ◆ **P-members:** AU, BE, CA, CN, CZ, DK, FI, FR, DE, IN, IL, IT, JP, KR, MY, MX, NL, NO, RO, SG, ZA, ES, SE, TH, GB, US, BR, PK
 - ◆ **O-Members:** PL, SK, SI, CH, AT

Outline of TC111 - Scope -

Standardization of environmental aspects concerning:

- To prepare the necessary guidelines, *basic and horizontal* standards, including technical reports, in the environmental area, in close cooperation with product committees of IEC, which remain autonomous in dealing with the environmental aspects relevant to their products;
- *To liaise with product committees* in the elaboration of environmental requirements of product standards in order to foster common technical approaches and solutions for similar problems and thus *assure consistency in IEC standards*;
- *To liaise with ACEA and ISO/TC 207*;
- To monitor closely the corresponding regional standardization *activities worldwide* in order to *become a focal point for discussions concerning standardization*;
- EMC and EMF aspects are excluded from the scope.

Outline of TC111 - Plenary meetings -



May 2005 Milan



Oct 2005 Cape Town



Jun 2006 Redmond



Mar 2007 Tokyo



Oct 2007 Paris



Oct 2008 Jeju



Oct 2009 at Tel Aviv

Overview of TC111 projects

TC111

WG1: Material declaration IEC 62474 (CD2)

WG2: Environmentally conscious design (disbanded) IEC 62430 Ed.1.0

WG3: Test procedures of regulated substances IEC 62321 Ed.1.0

PT 62476: Guidance for evaluation of product with respect to substance use restrictions TR 62476 (DTR)

PT 62542: Terminology IEC 62542 (CD2)

PT 62635: Recyclability evaluation

PT 62650: Information exchange

AHG 5: Green House Gasses

AHG 6: Environmentally Conscious Design

PAS 62596 Ed.1.0: Sampling procedure

PAS 62545 Ed.1: Environmental Information of products



IEC 62321
Edition 1.0 2008-12

INTERNATIONAL
STANDARD

NORME
INTERNATIONALE

Electrotechnical products – Determination of levels of six regulated substances
(lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls,
polybrominated diphenyl ethers)



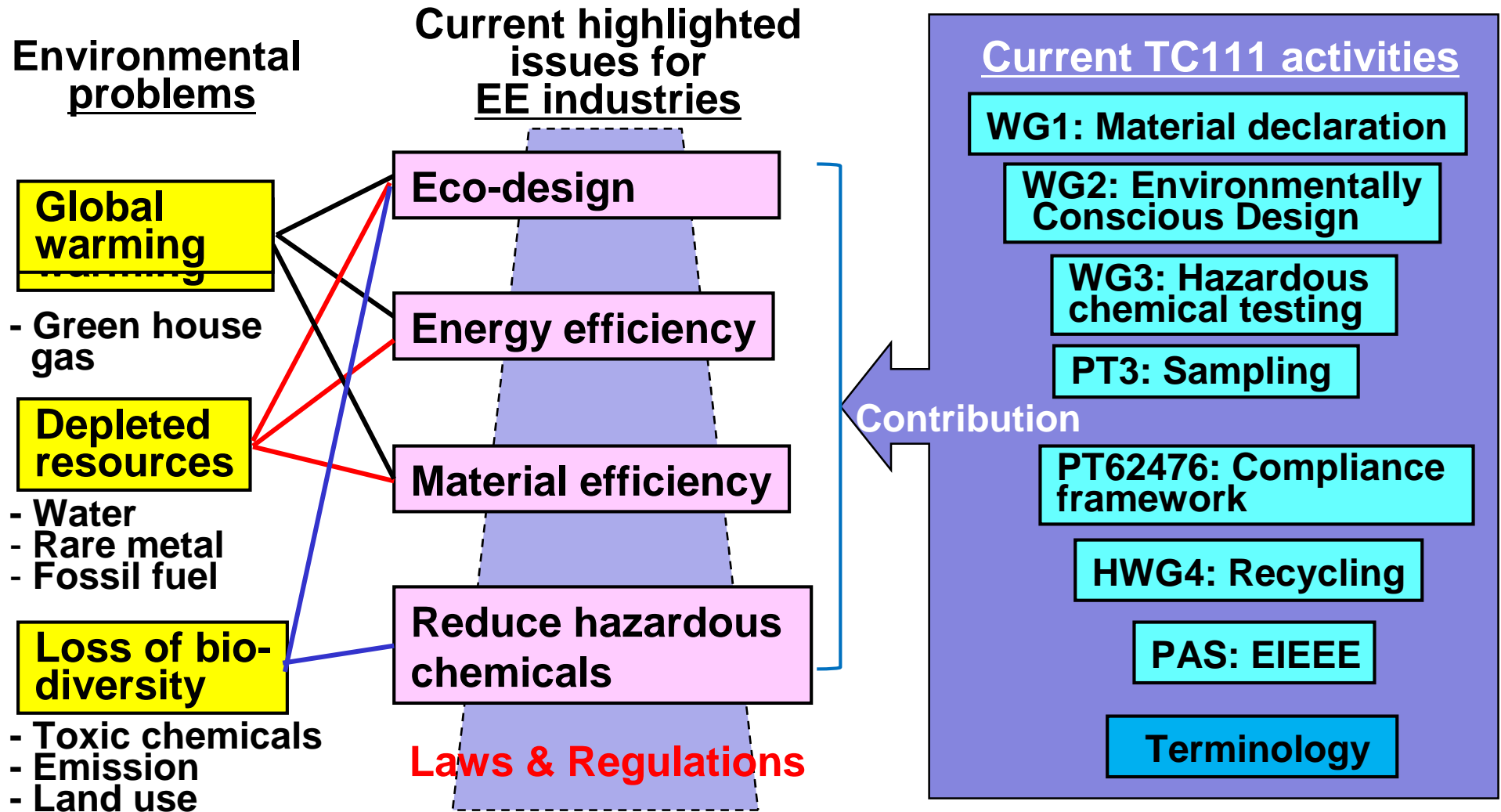
IEC 62430
Edition 1.0 2009-02

INTERNATIONAL
STANDARD

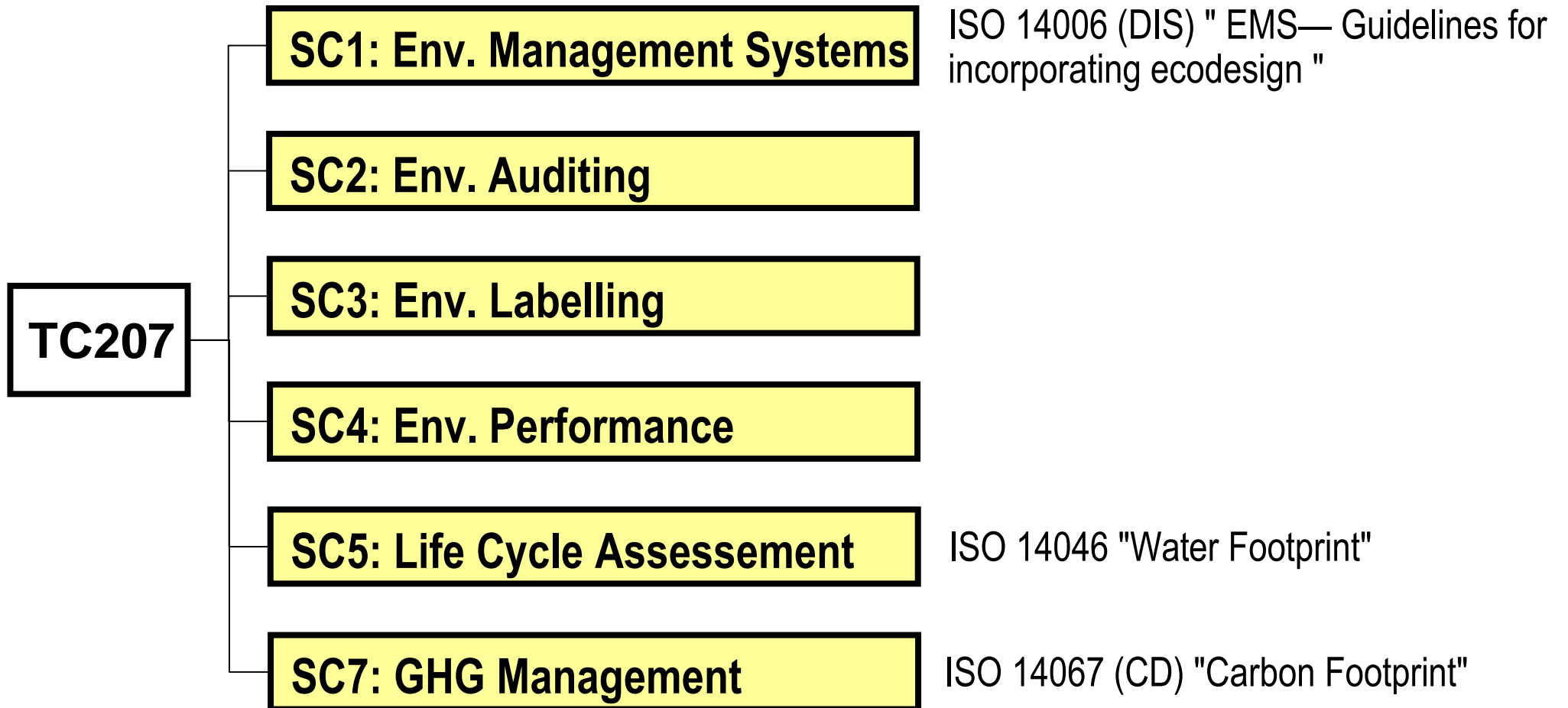
NORME
INTERNATIONALE

Environmentally conscious design for electrical and electronic products

Relationships of environmental issues and TC111 projects so far



Overview of ISO TC207 subjects



New emerging issues seemingly more vital in the future

- Issues with the interest of many stakeholders, and being addressed by industries worldwide:

- ◆ Ecodesign
- ◆ Carbon foot print
- ◆ Biodiversity
- ◆ Responsible Recycling

Roughly speaking, a transition to *life cycle thinking* (LCT)

Ecodesign

1. Ecodesign Directive in EU (2009/125/EC, EuP recast) published in 2009.
2. EU needs "Harmonised standard" for defining Ecodesign process not in Electrical but also other industry areas.
3. This legislative approach for Ecodesign is expected to spread worldwide.
4. IEC TC 111 has already published its horizontal Standard for Ecodesign (IEC 62430) which may be a starting point to establish generic standard in ISO as well.

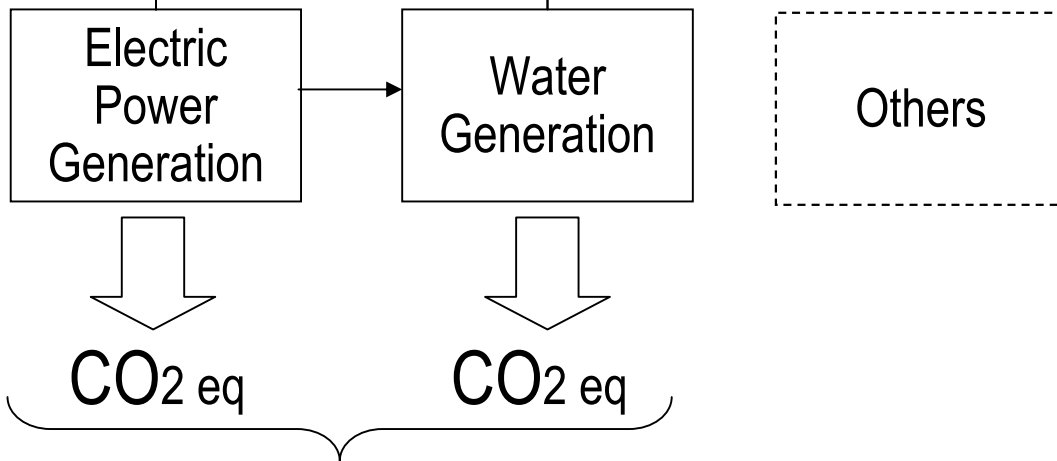
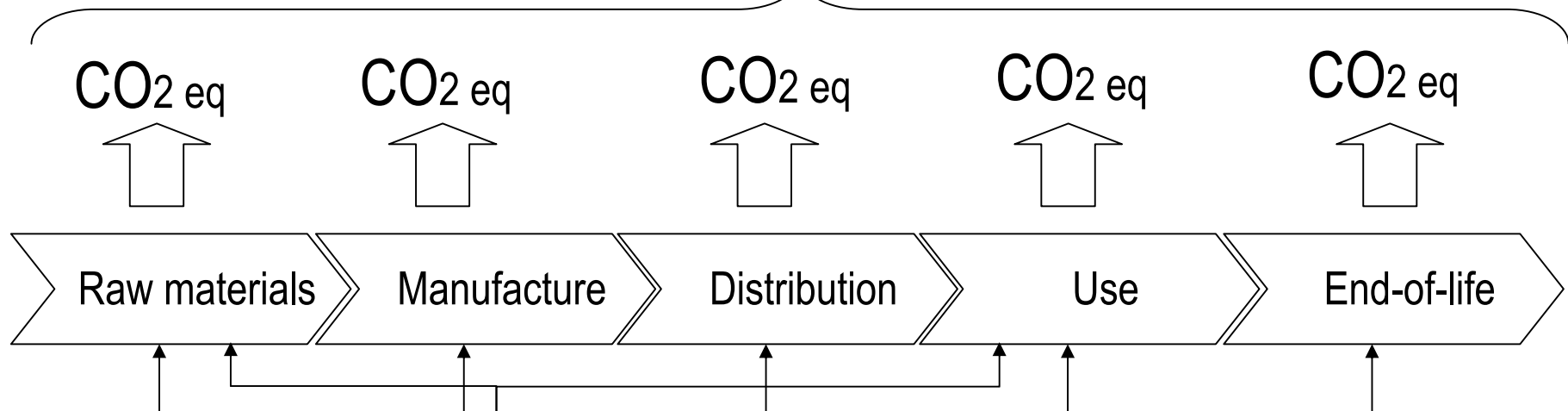


INTERNATIONAL
STANDARD

NORME
INTERNATIONALE

Carbon footprint of product (CFP)

Direct emissions in a product's lifecycle

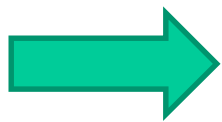


CFP: total sum of those emissions including indirect ones in a product's lifecycle.

Indirect emissions in a product's lifecycle

Why CFP is so important

1. Reporting for direct energy use in a company (Scope 1 & 2) is almost "market and/or legal requirements everywhere".
 - ✓ "GHG reporting act" in US and Japan
 - ✓ Carbon Disclosure Project (CDP) is spreading worldwide as a green supply-chain management scheme
2. "Scope 3" encompassing an entire supply-chain of a company including indirect emissions is being introduced, which is anticipated to become mandatory in the near future.



All customers will **request CFPs** to suppliers in order to report their own Scope 3

IEC established a new AHG on GHG issues

- In TC 111 plenary meeting on 21st October at Tel Aviv, we decided to establish a new ad-hoc working group “GHG”



STANDARDS DEVELOPMENT

[List of TC/SCs](#) > [TC 111](#) > [AHG 5](#)

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GHG (Greenhouse gases)

Convenor :

Mr Yoshiaki Ichikawa (JP)
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Task :

- Prepare recommendations for possible future works within IEC TC111 on GHG and product Carbon Footprint matters, considering the analysis of ISO 14067-1 and ISO 14067-2 projects and SMB SG1 Recommendation 23.
- The AHG "GHG" will be responsible, in collaboration with TC 111 Officers, for providing comments to ISO TC 207 related WG on ISO 14067-1 and ISO 14067-2 projects (and also provide information with INF documents to TC 111, if necessary).

Worldwide bodies addressing GHG in a product life cycle perspective

PUBLICLY AVAILABLE SPECIFICATION

PAS 2050:2008

Specification for the assessment of the life cycle greenhouse gas emissions of goods and services



BSI & Carbon Trust
PAS 2050

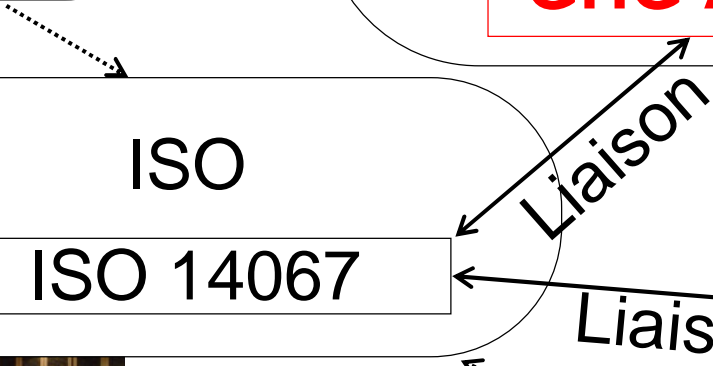
ITU-T
SG5

IEC
GHG AHG

ISO
ISO 14067

GHG Protocol
 (WBCSD & WRI)
CFP standard

JIS
CFP standard



Biodiversity

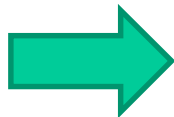
1. Started from the Convention on Biological Diversity (CBD) in 1992.
2. There are two distinct approaches to address this issue.
 - Habitat and animals (HEP; Habitat Evaluation Procedure)
 - Ecosystem service (TEEB; The Economics of Ecosystems and Biodiversity)
3. Both cases are leading to monetary trading, market. mechanism, and product certification.
 - Offset, Marine certificate, Forest certificate, etc.
 - Payment for Ecosystem Service value
4. However, no internationally standardised rule for quantification of Biodiversity loss, nor certification scheme exist.



A huge risk for corporate management

Responsible recycling

1. WEEE in EU, E-waste in US, Recycling law in Japan, and legislation or systems in other areas experienced critical issues.
 - Regional deviations in recycling processes while end-of-life chain encompasses multiple nations.
 - Insufficient information exchanged to demonstrate eco-sound treatment throughout the entire end-of-life chain.
2. Recycler certification schemes are regionally in place but yet no formal international standards for certification.
3. Some standardisation activities have recently started in IEC, ITU-T, and JTC1 but **not sufficiently coordinated each other.**

 International end-of-life chain needs to be more ensured and transparent to be environmentally sound

IEC TC 111 started two works on recycling (1)

List of TC/SCs > TC 111 > PT 62635

End of life recyclability calculation for electrotechnical equipment

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- Ms Anna Christianova (CZ)
- Mr Yuzo HIROSHIGE (JP)
- Mr Bill Hoffman (US)
- Mr Thomas Quentin Hogye (US)
- Ms Manxue Huang (CN)
- Mr Kenneth Jennings (US)

- Mr KI JEONG KIM (KR)
- Mr Jin-Han KIM (KR)
- Mr Yves Kraus (FR)
- Mr Sang-Yong LEE (KR)
- Mr Michael E Loch (US)
- Mr Xiaochun Mei (CN)
- Mr Kenichi NAKAJIMA (JP)
- Mr Yuzo NAKANE (JP)
- Mr Chi-Young OH (KR)
- Mr Haruo Okamura (JP)
- Mr Takao Sato (JP)
- Mr Lein Tange (NL)
- Mr Serge Theoleyre (FR)
- Mr Hiroshi URAMOTO (JP)
- Mr dongfeng gao (CN)

IEC TC 111 started two works on recycling (2)

List of TC/SCs > TC 111 > PT 62650

Communication formats on recycling for electrotechnical recyclers

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- Mr Lein Tange (NL)
- Mr Hiroshi URAMOTO (JP)
- Mr Hwa-Cho Yi (KR)



7 May 2010
(Amsterdam)

Proposed future strategy

1. Ecodesign standards

Possible new work in ISO based on IEC 62430 standard and cover entire industry areas by both of them.

2. Carbon foot print

- Possible new work in IEC and other standardization bodies to develop their industry specific rules based on ISO 14067.

- But to avoidance inconsistent standards having overlapped scopes

3. Biodiversity

Possible future work may be discussed in ISO level.

4. Responsible Recycling

- Possible future work for global harmonisation

- But to avoid unconcerted overlapping works in multiple standardisation bodies (JTC1, IEC, ITU-T)

END

Thank you very much for your attention

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