



# Sector initiative: Implementing EN 15804 in a harmonized way with the ECO platform. International activities in ISO TC 207/59

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#### **ECO Platform**

- Vision, Mission & Reality
- Legal status
- Membership
- Work



#### Vision

A comprehensive information system showing the environmental performance of construction products based on LCA and other scientific methods applicable and accepted throughout Europe and

worldwide

# Reality

- fragmented European EPD landscape and in other world markets: e.g. PCR
   Initiative in North America, ISO TC 59/SC17
- Diverging assessment approaches for environmental performance of products (EPD, PEF)
- Regional fragmentation within EPD programs due to
  - voluntary nature of CEN TC 350 standards
  - Varying market expectations with branches
  - Product specific supplements needed in the standard (scenarios, specific allocation rules)
- Different experiences/experiments with simplified EPD:
   e.g. templates, calculation tools, averages...
- Varying progress, interpretation and implementation of the European standard EN 15804 in the commercial and publicly available national databases.
- Different implemetation in member states' regulation

#### Mission

ECO (The European Construction Organisation) enables mutual recognition of EPDs among all European EPD program operators

with respect to credibility, quality and comparability.

Mutual recognition means:

acceptance of EPD provided by ECO members

without further verification without restrictions in applicability



# ECO Platform legal status

- International non-profit association AISBL
- Members:
  - Full members: established program operators.
  - Supporting members: associations, LC practitioners, emerging PO, experts...
- Tasks:
  - Board: full members + CEPMC, strategic decisions, clearing house function
  - All Members: active in working groups.

#### **ECO Platform work**

June 4th 2013 the Association "ECO Platform" was founded and will have its seat in Brussels
There are 3 active working groups, WG I, WG II and WG III

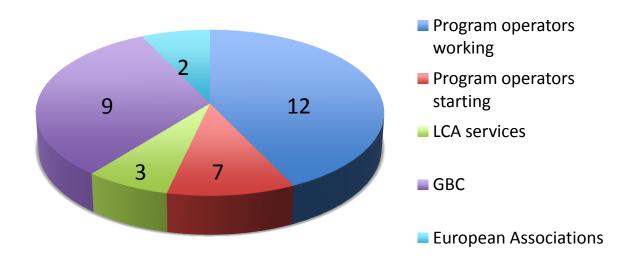
- President: Sven-Olof Ryding,
- CEO: Christian Donath, Treasurer: Burkhard Lehmann
- WG I: Chair Eva Schmincke "technical aspects"
- WG II: Chair Agnes Schuurmans "verification"
- WG III: Oscar Nieto"administration & communication"



#### **ECO Platform work**

- Any member may participate in the working groups.
   Contributions by industry and other experts, LC practitioners, etc. are very welcome
- Consensus based proposals by WGs shall be accepted by the Board
- If no consensus is achieved, the Board has the clearing function

# Program operators and supporting members presently involved in ECO Platform



Program operators, full members: France, Germany, Netherlands, Norway, Poland, Portugal, Slowenia, 2xSpain, Sweden, UK, CEPMC.

# WG I "technical aspects"

- Mutual recognition means ideally that the environmental information in an EPD can be drawn from any program on the ECO Platform and applied without restrictions concerning data quality and reliability.
- There are inherent restrictions to comparability not to be confused with data quality deficits:
  - Missing context to function in a building, e.g. different use scenarios
  - Representation has to be considered for:
    - *geographic* conditions: EPD of average insulation material cannot be interchanged if it is calculated for Germany or France e.g.
    - An average product EPD from members of an association or from a company with many sites
    - A typical product or a specific product

# WG I "technical aspects"

- There are also technical barriers to equivalence of data quality
  - Inconsistent databases for background data
  - Varying interpretation of calculation rules, e.g.
    - definition of end-of-waste status,
    - allocation of processes to the modules A, B, C and D
    - definition of limit values for economic allocation of co-products
    - Green energy certificates
  - Different integration into national databases
- WG I ECO Platform addresses the technical barriers, also considering the work of CEN TC 350 WG3
- The handling of inherent barriers is a question of education

#### WG II "verification"



- Mutual recognition implies a common data quality control
- Common verification procedures and rules are finalised,
- Audits are under way.
- All member POs shall integrate the common procedures and rules into their program rules
- Member POs may then use first generation ECO-logo on their EPD representing an agreed common declaration quality. First mutually recognised EPD with respect to data quality will be published at the general assembly in October



#### WG III "communication"

- So far WG III organised the legal and administrative work
- Co-ordination and administration is now handled by the managing director, Christian Donath
- WG III focuses on communication (newsletter, homepage, events, cooperation with other institutions e.g. CEN, EOTA etc.) with a new chair
- September 24<sup>th</sup> 2013 was the official founding event where WGs presented their results
- http://www.eco-platform.org





Task-force: a total of 25 organisations representing 17 European countries are involved in establishing the European ECO Platform. Signing the letter of intent

# Common Implementation of EN 15804+A1 via Product TCs

- Product TCs are developing PCR documents for their product groups (sawn timber TC 175 EN 16485, insulation TC 88, concrete and related products CEN TC 104)
- A common workshop was held June 20<sup>th</sup> 2013 at CEN
  - Product specific application of allocation rules, e.g. allocation of processes to especially C or D
  - Specific issues e.g. carbonation in concrete, carbon in bio-based products...
  - Scenarios e.g. for transports, installation, use and end of life,
- Co-operation between CEN TC 350, Product TCs and ECO Platform via liaison, CEN BT resolves process
- CEN TC 350 WG3 is working on a guidance document for the interpretation of EN 15804+A1 based on questions put to the TC after publication of the standard

# Comparability between EPD based on EN 15804+A1 and PEF

#### Main differences are:

- in the system boundary to the product system that follows the system under study:
  - EN 15804+A1 is a cut-off approach. EN 15804 sets rules with little flexibility. Recycling potentials for the next system can be declared in module D. It functions as a core PCR for construction products
  - PEF as a framework leaves more room for different approaches. PCR for specified branches are being developed.
- In the selection of indicators and characterisation models:

#### Comparison of idicators EN 15804, PEF and new

| PEF impact category                       | Impact assessment  | Impact indicators                            | Source   | New<br>TC 350 |
|---|--|--|--|---------------|
| Climate Change                            | Bern model – Global<br>Warming Potentials<br>(GWP) 100 year time<br>horizon. | kg CO2<br>equivalent                         | Intergovernmen-<br>tal Panel on<br>Climate Change,<br>2007 |               |
| Ozone Depletion                           | EDIP model based on the ODPs of the WMO infinite time horizon.               | kg CFC-11<br>equivalent                      | World Metero-<br>logical Orga-<br>nisation, 1999           |               |
| Ecotoxicity for aquatic fresh water       | USEtox model   | CTUe (Comp.<br>Toxic Unit for<br>ecosystems) | Rosenbaum et al., 2008                                     |               |
| Human Toxicity - cancer effects           | USEtox model   | CTUh (Comp.<br>Toxic Unit for<br>humans)     | Rosenbaum et al., 2008                                     |               |
| Human Toxicity – non-cancer effects       | USEtox model   | CTUh (Comp.<br>Toxic Unit for<br>humans)     | Rosenbaum et al., 2008                                     |               |
| Particulate Matter/Respiratory Inorganics | RiskPoll model   | kg PM2.5<br>equivalent                       | Humbert, 2009  |               |
| Land<br>Transformation                    | Soil Organic Matter  | SOM model                                    | Kg (deficit) Milà i<br>Canals et al 2007                   |               |
| Radioactivity                             |  |  |  |               |

### Comparison of idicators EN 15804, PEF and new

| PEF Impact category                  | Impact assessment                          | Impact indicator                                | Source   | Neu<br>TC 350 |
|--------------------------------------|--|---|--|---------------|
| Photochemical Ozone Formation        | LOTOS-EUROS model                          | kg NMVOC<br>equivalent                          | Van Zelm et al.,<br>2008 as applied<br>in ReCiPe       |               |
| Acidification                        | Accumulated Exceedance model               | mol H+ eq                                       | Seppälä et<br>al.,2006; Posch<br>et al., 2008          |               |
| Eutrophication – terrestrial         | Accumulated Exceedance model               | mol N eq  | Seppälä et<br>al.,2006; Posch<br>et al., 2008          |               |
| Eutrophication – aquatic             | EUTREND model fresh water: kg P equivalent | marine: kg N<br>equivalent                      | Struijs et al.,<br>2009 as<br>implemented in<br>ReCiPe |               |
| Resource Depletion  – water          | Swiss Ecoscarcity model                    | m3 water use related to local scarcity of water | Frischknecht et al., 2008                              |               |
| Resource Depletion – mineral, fossil | CML2002 model                              | kg antimony (Sb) equivalent                     | van Oers et al.,<br>2002                               |               |
| Resource Depletion – abiotic         | CML2002 model                              | kg antimony (Sb) equivalent                     | van Oers et al.,<br>2002                               |               |

- NP ISO/TS 14027 "Environmental labels and declarations - Type III environmental declarations -Product Category Rule (PCR) development".
- An important reason for providing this TS is the different quality of PCR available on the market which reduces their usefulness and credibility.
- PCR should be specific for a product group on one hand and on the other equivalent on procedural terms as well as in the interpretation of the underlying basic standards ISO 14025 and ISO 14040/44.

- ISO DIS 21930 (under revision): Sustainability in buildings and civil engineering works — Core rules for environmental declaration of construction products and services used in any type of construction works
- ISO 21930: 2007 and EN 15804+A1:2013 are seed documents

 ISO DIS 21930 provides guidance for PCR development in the construction sector

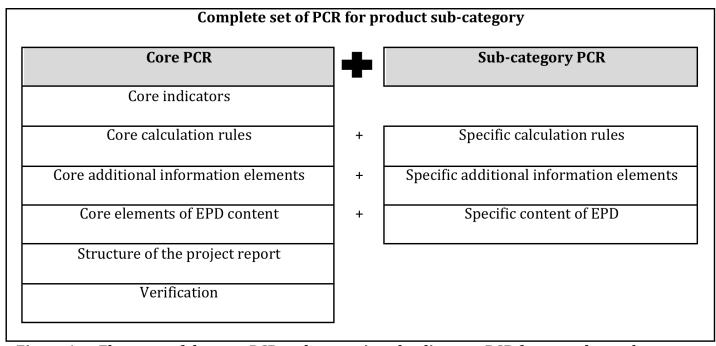


Figure 1 — Elements of the core PCR and expansions leading to a PCR for a product sub-category

- ISO DIS 21930 proposes as additional, non LCA based information for
  - declaration of emissions to indoor air, Release of dangerous substances to soil and water
  - Particulate matter
- Discussion of calculation rules
  - for biogenic carbon
  - for land use change in the context of biobased materials
  - For carbonation in concrete