By Resolution BT C50/2004, CEN/BT accepted the Mandate M/350 on 'Development of horizontal standardized methods for the assessment of the integrated environmental performance of buildings'.

Subsequently by Resolution BT C14/2005, CEN/BT agreed with the establishment of a Technical Committee (CEN/TC 350 ‘Sustainability of construction works’) and with the business plan and draft work programme established by CEN/BT/WG 174 ‘Integrated environmental performance of buildings’.

During the following years, CEN/TC 350 continued the development of the established work programme and in January 2012, finalised EN 15804 ‘Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products’ as well as EN 15978 "Sustainability of construction works — Assessment of environmental performance of buildings — Calculation method" which governs the scope and the requirements for the application of EPD in Building Assessment.

EN 15804 provides core product category rules (PCR) for Type III environmental declarations for any construction product and construction service. The standard defines amongst others:

— parameters to be declared and the way in which they are collated and reported;
— describes which stages of a product life cycle are to be considered in the environmental product declaration (EPD);
— includes the rules for reporting predetermined environmental and health related information, that is not covered by Life Cycle Assessment for a product, construction process and construction service where necessary;
— the conditions under which construction products can be compared based on the information provided by the EPD.
EN 15804 provides the horizontal rules and gives the possibility to product TCs in the construction sector, to implement EN 15804 in their standards (by direct reference) and if needed to develop their own additional rules following the horizontal rules and principles of EN 15804. Several product TCs in the construction sector started the development of their specific PCRs standards based on EN 15804.

However, CEN/TC 350 saw a need to ensure coherent implementation of the horizontal rules described in EN 15804 and therefore took Decision 160/2012 asking CEN/BT to establish procedural rules to ensure that the technical content of product-specific PCRs are fully in line with EN 15804. It should be noted that if the principles of EN 15804 are not followed (e.g. the correct definition of the life cycle stages, end of waste state, etc) there is a risk of distortion of the market and of affecting the credibility of the standardization system. Indeed, this will result in EPDs prepared with different principles and therefore affecting the comparability of the results and usefulness for building assessment.

In parallel, the CSNPE, held two workshops in April and June 2012 in order to support Product TCs that started to develop product specific PCR. It has been identified the need for an Implementation Guide of EN 15804. The necessity of involving EPD programme operators to collect their feedback regarding a consistent implementation of EN 15804 was highlighted as well.

The request from CEN/TC 350 was discussed in the Construction Core Group meeting that took place on 13th March 2013, resulting in a recommendation to CEN BT, which was discussed at the last meeting CEN/BT held in Brussels on April 11th-12th where the following decision was taken:

**Decision BT 3/2013**

Subject: Product Category Rules (PCRs) based on EN 15804 from CEN/TC350 "Sustainable of construction work"

BT,

- noting the request of CEN/TC 350 as in Annex 1 BT N 9216;
- noting the concerns and recommendation of the Construction Core Group as in Annex 2 to BT N 9216;
- endorses the Construction Core Group recommendation 165/2013;
- asks CEN/TCs developing product standards to apply the horizontal rules of EN 15804;
- requests product TC's preparing specific Product Category Rules based on EN 15804 to liaise closely with CEN/TC 350;
- requests product TCs in the construction sector and CEN/TC 350 to consult the Construction Core Group, should issues be identified;
- Requests CEN/TC350 to finalise the technical Report "Guidance for the implementation of EN 15804" as soon as possible.

This decision is applicable as from: 2013-04-12
## CEN TC350 Seminar
### Implementation of EN 15804
#### Draft Agenda (updated)
#### On 2013-06-20

<table>
<thead>
<tr>
<th>Item</th>
<th>Subject</th>
<th>Speaker</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Opening of the workshop (9H30)</td>
<td>Dr. John Moore - Construction Sector Rapporteur.</td>
</tr>
<tr>
<td>2</td>
<td>Introduction words and recall of the objectives of the seminar</td>
<td>M. Ari Ilomäki – CEN TC350 Chairman</td>
</tr>
<tr>
<td>3</td>
<td>Recall of the conclusions of CSNPE workshops</td>
<td>M. Vicard – Chairman CSNPE or Mrs. Raimbault – Secretary CSNPE</td>
</tr>
<tr>
<td>4</td>
<td>Overview of CEN/TC350 standards for implementation of EN 15804</td>
<td>M. Ari Ilomäki – CEN TC350 Chairman</td>
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<tr>
<td>5</td>
<td>Presentation of the decision taken by CEN/BT</td>
<td>M. Gonçalo Ascensão - CCMC</td>
</tr>
<tr>
<td>6</td>
<td>Presentation of the main principles to be applied when developing Product Category Rules (PCRs) based on EN 15804</td>
<td>Dr. Eva Schmincke – CEN TC350 WG3 convenor</td>
</tr>
</tbody>
</table>
| 7    | Presentations from product TCs implementing EN 15804 on the possible difficulties and other experiences during implementation | Presentations confirmed from:  
- CEN/TC 88 Thermal insulating materials and products  
- CEN/TC 104 Concrete and related product  
- CEN/TC 155 Plastic piping systems and ducting systems  
- CEN/TC 175 Round and sawn timber  
Other reports from other TC are expected. |
| 8    | Building the Single Market for Green Products: PEF and construction products | Pavel Misiga  
Head of Unit  
DG Environment – |
<p>| | | |</p>
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<tr>
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<tbody>
<tr>
<td>9</td>
<td>Presentation of programme operators regarding the use of EN 15804 on their experiences during implementation and typical difficulties they encountered.</td>
<td>Representatives from ECO-platform and National Programme operators</td>
</tr>
</tbody>
</table>
| 10 | Conclusion (16h00) | M. Ari Ilomäki  
Dr. Eva Schmincke |
CEN/TC350 – Sustainability of construction works – Objectives of the seminar

Ari Ilomäki
Chairman CEN/TC350
Aims of the seminar

• GOAL: Coherent implementation of the horizontal rules described in EN 15804

• Help CEN/TC350 to provide GUIDANCE:
  • Identify the main issues to be handled in the future Technical Report "Guidance for the implementation of EN 15804”
  • Collect feedback, experts’ opinions, from those product TCs implementing EN 15804

• Raise awareness of the principles applied in CEN/TC350 and EN 15804
  • IF a product TC is providing rules for declaring environmental information on their products in their documents; USE HORIZONTAL STANDARD EN 15804

20.6.2013 Ari Ilomäki, chairman, CEN/TC 350
Main benefits from the implementation of EN 15804 into product standards

1. Avoidance of potential technical trade barriers related to environmental information within the Internal Market and Global Market (ISO 21930:2007 has been used as the framework)

2. GOAL: European rules will become Global rules; Currently alignment of ISO 21930:2007 with the content of EN 15804 has been started in ISO/TC59/SC17

3. Intended uses (use stage scenarios) as a default list should be listed in the product standard also when CPR BRCW #7b (durability of the works) is being implemented
CEN/TC350 – Sustainability of construction works – Overview of CEN/TC350 standards for implementation of EN 15804

Ari Ilomäki
Chairman CEN/TC350

20.6.2013 Ari Ilomäki, chairman, CEN/TC 350
CEN/TC 350 “Sustainability of construction works”

- European horizontal standards for sustainability assessment of construction works (buildings and civil engineering works) with the PERFORMANCE BASED APPROACH in terms of:
  - Environmental performance (Mandate M/350)
  - Social performance
  - Economic performance
- Life cycle approach with the quantifiable indicators
- Development of CEN/TC350 standards has taken into account the needs of the relevant EU policies related to the construction products and buildings
  - Roadmaps: Resource Efficiency, Low Carbon Economy
  - Construction Products Regulation,
  - Directives: Waste Framework, Eco-design
- Construction products are intermediate products → no product to product comparisons

20.6.2013 Ari Ilomäki, chairman, CEN/TC 350
<table>
<thead>
<tr>
<th>Framework level</th>
<th>EN 15643-1 Sustainability Assessment of Buildings (and Civil Engineering Works) - General Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EN 15643-2 Framework for Environmental Performance of Buildings</td>
</tr>
<tr>
<td></td>
<td>EN 15643-3 Framework for Social Performance of Buildings</td>
</tr>
<tr>
<td></td>
<td>EN 15643-4 Framework for Economic Performance of Buildings</td>
</tr>
<tr>
<td></td>
<td>Technical Characteristics</td>
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<td></td>
<td>Functionality</td>
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<tr>
<td>Building level</td>
<td>EN 15978 Assessment of Environmental Performance</td>
</tr>
<tr>
<td></td>
<td>FprEN 16309 Assessment of Social Performance</td>
</tr>
<tr>
<td></td>
<td>prEN 16627 Assessment of Economic Performance</td>
</tr>
<tr>
<td>Product level</td>
<td>EN 15804 Environmental Product Declarations</td>
</tr>
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<td>(see Note below)</td>
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<tr>
<td></td>
<td>(see Note below)</td>
</tr>
<tr>
<td></td>
<td>Service Life Prediction (ISO 15686-2), Feedback from Practice (ISO 15686-7), Reference Service Life (ISO 15686-8)</td>
</tr>
</tbody>
</table>

**Note:** At present, technical information related to some aspects of social and economic performance are included under the provisions of EN 15804 to form part of EPD.
Building life cycle and modular information = the same rules for the product and building level

Figure 6 — Display of modular information for the different stages of the building assessment

20.6.2013 Ari Ilomäki, chairman, CEN/TC 350
Main common issue to be handled by product TCs: Specific rules for development of use stage scenarios and determination of Reference Service Life

• Rules for estimating the Reference Service Life according to EN 15804 (in line with the framework of ISO 15686 series) =>
  • Test standards in accordance with ISO 15686-2,
  • Feedback from practice in accordance with ISO 15686-7
• Description of a set of default use conditions for the covered intended uses
• Maintenance and repair scenarios for the default use conditions and the Reference Service Life
• Default Reference Service Life(s) TOGETHER WITH the related default use conditions

20.6.2013 Ari Ilomäki, chairman, CEN/TC 350
CSNPE outputs from the two CSNPE Workshops held in March and June and 2012
CSNPE Workshops (March and June 2012) on EPD - Objectives

● To give guidance to construction product CEN/TCs to implement EN 15804 in their TCs objectives and work programmes

● Challenges and benefits for the CEN/TCs:
  ◆ To keep the control of their own PCR (product category rules) if some needed
  ◆ to investigate the “normative route” to implement EN 15804
  ◆ To implement EN 15804 on a voluntary basis, and then to be ready if it becomes mandatory in the future
  ◆ To take into account the scope of CEN/TCs (material oriented, functionality oriented, …) to identify the relevant levels of implementation
Examples of specific PCR (standardized or not) should be collected and investigated to identify common guidelines.

Different steps of implementation could apply:
- From a “no-need” PCR to a dedicated one
  - The product CEN/TCs should investigate the relevance of the implementation of EN 15804 for their product families.

To develop guidance on how to draft EN 15804 implementation standards (CEN/TC 350 action) including the common questions:
  - In course within CEN/TC 350/WG3
To establish a process for the validation and verification of standards developing specific PCR

→ CEN/BT resolution 3/2013

Links with PCR developed by EPD program owners

→ The reason why program operators are involved in the present seminar
CEN BT Decision 3/2013

Gonçalo Ascensão

20th June 2013

CEN/TC 350 Seminar: Implementation of EN 15804
- endorses the Construction Core Group recommendation 165/2013;

- asks CEN/TCs developing product standards to apply the horizontal rules of EN 15804;

- requests product TC’s preparing specific Product Category Rules based on EN 15804 to liaise closely with CEN/TC 350;

- requests product TCs in the construction sector and CEN/TC 350 to consult the Construction Core Group, should issues be identified;

- requests CEN/TC 350 to finalise the Technical Report "Guidance for the implementation of EN 15804" as soon as possible.
CEN TC350 Seminar
Implementation of EN 15804

The main principles to be applied when developing specific Product Category Rules (PCRs) based on EN 15804

Eva Schmincke
CEN TC 350/WG 3
The objective of the core PCR is to provide consistent and verifiable data for the assessment of the environmental performance of buildings (EN 15978). The documents:

<table>
<thead>
<tr>
<th>PCR</th>
<th>EN 15804</th>
<th>Sustainability of construction works - Environmental product declarations - Product category rules</th>
<th>Textbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td>CEN/TR 15941</td>
<td>Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data</td>
<td>Support</td>
</tr>
<tr>
<td>Communication B2B</td>
<td>EN 15942</td>
<td>Sustainability of construction works - Environmental product declarations communication format – Business to Business</td>
<td>Communication</td>
</tr>
<tr>
<td>Communication B2C</td>
<td>on hold</td>
<td>Sustainability of construction works Environmental product declarations communication format – Business to Consumer</td>
<td>Communication</td>
</tr>
</tbody>
</table>
Role of EN 15804

- EN 15804 is a voluntary standard
- It is part of a series of standards dedicated to the assessment of the sustainability of construction works
- It provides core product category rules for European EPDs of construction products:
  - general calculation rules for the LCA based indicators across the Life Cycle of a product
  - “core” because it addresses only the rules where a horizontal consensus could be found
Role of EN 15804

• When a product can be installed, used and e.g. recycled in many ways, the LC stages of installation, use, end of life and/or recycling potentials have to build on scenarios or models.

• Scenarios for calculating the actual LCA indicator results should be developed by product TCs providing the specific technical knowhow.

• In order to keep scenarios consistent they shall be based on the technical characteristics provided by EN 15804:

   A scenario shall be based on the relevant technical information defined in this standard (see 5.4 and 7.3, for additional information). The kind of technical information the scenario is based on, is described in 7.3. With the help of the scenario, the predetermined parameters of the EPD are derived by applying the calculation rules given in this standard.
Role of EN 15804

- Principles are:
  - LCA based on ISO 14040ff,
  - Modularity – strictly specified system boundaries
  - Polluter pays – all processes up to end of waste stay within the system
  - Quantifiable, verifiable indicators
Guidance for Product TCs when developing product-group-specific PCR

- TCs shall stick to the structure of EN 15804, e.g. template like:

<table>
<thead>
<tr>
<th>Clause nr</th>
<th>Text for new PCR</th>
<th>EN 25804</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 general aspects, 5.1 Objective of the PCR</td>
<td>As in EN 15804, in addition: xxxxxxxx</td>
<td>An EPD according to this standard provides quantified environmental information for a construction product or service ......</td>
<td></td>
</tr>
<tr>
<td>5.2 Types of EPD with respect to life cycle stages covered</td>
<td>As in EN 15804</td>
<td>The LCA based information in an EPD may cover (see Figure 1):......</td>
<td></td>
</tr>
<tr>
<td>6.2.3 A4-A5, Construction process stage, information modules</td>
<td>As in EN 15804 In addition: A description of installing the product shall be given, including ancillary materials used for installation e.g. glues..</td>
<td>The construction process stage includes: -A4, transport to the building site; -A5, installation into the building;</td>
<td></td>
</tr>
<tr>
<td>6.2.4 B1-B5, Use stage, information modules related to the building fabric</td>
<td>As in EN 15804</td>
<td>The use stage, related to the building fabric includes: -B1, use or application of the installed product; -B2, maintenance; -B3, repair; -B4, replacement; -B5, refurbishment</td>
<td></td>
</tr>
</tbody>
</table>
Guidance for Product TCs when developing product-group-specific PCR

- Product TCs shall inform TC 350 at the earliest stage if a PCR document will be developed (according to BT resolution)
- do not develop any rules, requirements and recommendations that are conflicting with the horizontal ones but requirements can be more specific
- no new indicators as part of the EN 15804 implementation (new indicators have to go through a horizontal standardization process)
- if additional LCA-based indicators are needed by a product TC this shall be identified as outside of the standard (e.g. informative annex)
- if a module is not relevant for a product ⇒ define them as not relevant but mention them
- focus on allocation specifics and on scenarios for all information modules
Guidance for product TCs and program operators

• A guidance document will be developed
  – To address specific questions from product TCs
  – To address specific questions from program operators
    • E.g. to close interpretation gaps
    • E.g. to improve the description of system boundary from end-of-waste state to next product system and recycling potentials
  – To list issues that could be relevant for simultaneously for a number of product TCs
    • e.g requirements for carbon neutrality of wood, TC 175 for other wood other biobased based products or other biobased materials.
Ceramic tiling vs Sustainability

CLARA MIRAMONTI – Technical Officer Standardization Area

CEN/TC 350 Seminar – Implementation of EN 15804 (Brussels, 2013-06-20)
The scope of this TC is to establish European Standards concerning terminology, technical characteristics, dimensional characteristics and tolerances, test and control methods, design and installation of ceramic tiles.

WG 1 Test methods

WG 2 Specifications for tiles

WG 3 Installation materials (adhesives, grouts, liquid applied water impermeable products)

WG 4 Design and installation of ceramic tiling

Since many years producers are taking care of the environment and the sustainability.
Producers

According to the evolution of products, manufacturing processes and technologies, producers took care of the:

- Durability and safety of products
- Energy Consumption
- Emissions into the atmosphere
- Water consumption and wastewater production and discharge
- Raw materials consumption and waste materials production and discharge
Drivers vs sustainability

For the reduction of impacts and improvement of sustainability:

- **Laws and Regulations** – National and European – on permit conditions about environmental impact from manufacturing industries.

- **Voluntary tools:**
  - The European Ecological Mark: ECOLABEL (ceramic tiles)
  - Ceramic tiles stated as regards their contribution to the LEED Green Building Rating System (ceramic tiles and installation materials)
  - Environmental Management Schemes: EMAS, ISO 14001 (manufacturing of ceramic tiles and installation materials)
The development of PCR for ceramic tiles for the EPD is an ongoing initiative of the European Ceramic Tile Manufacturers’ Federation in collaboration with different national associations.
The aim of CEN/TC 67 is to work in the basis of the experience of these last years on sustainability issues, taking into due account the content of available documents according to the instructions given into EN 15804.
Thanks for the attention

clara.miramonti@uni.com
Relevant context for TC88 work

• Task given to CEN TC88 WG2
  – Decision 589 (Vienna 9, 2013-03-20/21): WG 2 – Request for PWI on "Thermal insulation products – Product category rules (PCR) for factory made and in-situ formed products for preparing environmental product declarations"

• Actually only 3 intended uses defined in CEN TC88
  – Thermal insulation products for buildings
  – Thermal insulation products for building equipment and industrial installations
  – Thermal insulation and light weight fill products for civil engineering applications

• Function of thermal insulation = insulating → saving energy in buildings
  – Energy savings have a great impact on final building performance
  – Optimal environmental solutions by good design and application, NOT by material choice
  – All insulation EPDs lie within the LCA confidence limit
Case study 1

The relative contribution of insulation materials to the environmental impact of a building

http://www.filmm.org/catalogues/qeb/qualite_environemental_batiment.htm
Case study 2: Internal lining for thermal renovation

LCA Results expressed as characterized data
Analysis of energy and material contribution

Characterized data (relative to maximum value in each impact category)
Example temperate oceanic climate

The greater saving achieved with solution 2 offsets its higher environmental impacts as a material

All insulation solutions within the 20% LCA confidence
Message to CEN/TC 350

Given the importance of the building application in the life cycle of insulation materials:

• No need to be more specific at material level than necessary and adequate for environmental optimization of buildings

• Establishing EPDs should be made easier and accessible to all rather than detailed and specific and costly and reviewed in much details but with limited impact on the end result
Questions / suggestions from experts discussions:

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<thead>
<tr>
<th>Topic</th>
<th>For TC350</th>
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<tbody>
<tr>
<td>1</td>
<td>Making average EPDs for product groups</td>
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<tr>
<td>2</td>
<td>Use of generic background data, eg for energy mix</td>
</tr>
<tr>
<td>3</td>
<td>Mandatory and optional modules</td>
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<td>4</td>
<td>Transport to site (module A4)</td>
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<td>5</td>
<td>Reference service life</td>
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<td>6</td>
<td>Scenarios for the optional modules</td>
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<td>7</td>
<td>Declared unit</td>
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<td>8</td>
<td>Verification</td>
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<td>9</td>
<td>Additional info</td>
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<td>10</td>
<td>Overlap between product standards</td>
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<tr>
<td>Stage</td>
<td>Process</td>
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<tr>
<td>Product stage</td>
<td>Use stage</td>
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<td>Construction process stage</td>
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<td>Raw material supply</td>
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<td>Transport</td>
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<td>Manufacturing</td>
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<td>Construction - installation</td>
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**Operational energy use**

- Factory made: m
- In situ products before installation: m
- Installed in situ products: m

**Operational water use**

- EPD cradle to gate
- EPD cradle to grave

<table>
<thead>
<tr>
<th>EPD Stage</th>
<th>Process</th>
<th>Use</th>
<th>End of Life</th>
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<tbody>
<tr>
<td></td>
<td>Use stage</td>
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<tr>
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**Benefits and load beyond system boundary**

**Reuse, recovery, recycling potential**

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<tr>
<th>D</th>
<th>Benefits and load beyond system boundary</th>
<th>Reuse, recovery, recycling potential</th>
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<tbody>
<tr>
<td>C1</td>
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<td>C4</td>
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</table>

**Information Note:**
m = mandatory; o = optional; i = information needed
Conclusions

• There are many product-specific issues in the details

• Liaison from TC350 in product TC can help to clarify

• Feedback product TCs should be taken into account by TC350
(1) Averaging within a product group expert proposal -

- Averaging within a product group remains possible with the implementation of EN15804 in product standards
  - Specific producer of specific product must proof that EPD applies to the product (within the technological, geographical and time-related area)

- **Product group definition in product standard is leading**
  - Mineral wool – EPS – XPS - PU – ... 

- Clear description of representativeness required
  - Variation
  - Type of products covered
  - Type of processes / technologies covered in which geographical area and time period
(1) Averaging within product group
- small and big manufacturer examples -

Examples
- Producer X in country Z1 calculates an average of his products in one factory and applies these data to the products, which he sells in country Z1, Z2 and Z3
- Producer Y uses the average branch EPD data since this EPD covers his technology and his geographical area
(1) Averaging within a product group
- message for TC350 -

To be declared in the EPD

EN15804 ch.7.1

To be declared in the EPD

- information on which stages are not considered, if the declaration is not based on an LCA covering all life cycle stages;

- a statement that EPD of construction products may not be comparable if they do not comply with this standard, see also Clause 5.3;

- in the case where an EPD is declared as an average environmental performance for a number of products a statement to that effect shall be included in the declaration together with a description of the range/variability of the LCIA results if significant;

- the site(s), manufacturer or group of manufacturers or those representing them for whom the EPD is representative;

To be clarified: What is a ‘description’?

- Qualitative? / Quantitative?
- Per parameter?
- Statistics?
- What is significant? → within uncertainties in LCA (± 20%)
(1) Averaging within a product group
- message for TC350 -

EN15804 ch.9

9 Verification and validity of an EPD

After verification an EPD is valid for a 5 year period from the date of issue, after which it shall be reviewed and verified. An EPD shall only be reassessed and updated as necessary to reflect changes in technology or other circumstances that could alter the content and accuracy of the declaration. An EPD does not have to be recalculated after 5 years, if the underlying data has not changed significantly.

The process for verification and establishing the validity of an EPD shall be in accordance with EN ISO 14025 and ISO 21930.

NOTE A reasonable change in the environmental performance of a product to be reported to the verifier is +/- 10% on any one of the declared parameters of the EPD (see Clause 7). Such a change may require an update of the EPD.

This applies to updates of EPD, not to averaging → clarify!
(2) Generic background data
- expert proposal -

• 15804:
  – An EPD describing an average product shall be calculated using representative average data of the products declared by the EPD;
  – An EPD describing a specific product shall be calculated using specific data for at least the processes the producer of the specific product has influence over. Generic data may be used for the processes the producer cannot influence e.g. processes dealing with the production of input commodities, e.g. raw material extraction or electricity generation, often referred to as upstream data

<table>
<thead>
<tr>
<th>Modules</th>
<th>Module A1-A3</th>
<th>A4 and A5</th>
<th>B1-B7</th>
<th>C1-C4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production of commodities, raw materials</td>
<td>Product manufacture</td>
<td>Installation processes</td>
<td>Use processes</td>
<td>End-of-life processes</td>
</tr>
<tr>
<td>Process type</td>
<td>Upstream processes</td>
<td>Processes the manufacturer has influence over</td>
<td>Downstream processes</td>
<td></td>
</tr>
<tr>
<td>Data type</td>
<td>Generic data</td>
<td>Manufacturer's average or specific data</td>
<td>Generic data</td>
<td></td>
</tr>
</tbody>
</table>

• Experts:
  – generic background data, such as average European energy mix, can be chosen if it is considered to be representative for the specific product group:
  – Product supplied to country A supplied from various production sites across various countries: average more representative than site/ product specific - **Representativeness should reflect market realities rather than production specificities**
(2) Generic background data
- message for TC350 -

- Allow the use of generic data where justified by EPD producer (clarify)
(3) Mandatory and optional modules
- expert proposal -

• Function of thermal insulation products = insulating
  – Function is described by R-value (thermal resistance)

• TC88 covers:
  – Factory made insulation products (boards, slabs etc) with a R-value when they are placed on the market
  – In situ insulation products (spray foam, loose wool, beads etc) that obtain their R-value when they are installed in the building

• Mandatory modules: until R-value is achieved
  Cradle-to-gate:
  – Factory made: A1-A3
  – In situ components before installation: A1-A3 + scenarios (information) for A4 + A5
  – In situ products after installation: A1-A3 + A4 + A5
  – A4 + A5 based on the same installation scenario as applied for declaring the thermal resistance through the product standard

• To be elaborated / considered later: ETICS (= kit)
<table>
<thead>
<tr>
<th></th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>A5</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw material</td>
<td>Transport</td>
<td>Manufacturing</td>
<td>Transport</td>
<td>Installation</td>
<td>Use</td>
<td>Maintenance</td>
<td>Repair</td>
<td>Replacement</td>
<td>Refurbishment</td>
<td>Deconstruction - demolition</td>
<td>Transport</td>
<td>Waste processing</td>
<td>Disposal</td>
</tr>
<tr>
<td>A1 A2 A3</td>
<td>Product stage</td>
<td>Construction process stage</td>
<td>Use stage</td>
<td>End of life stage</td>
<td>Benefits and load beyond system boundary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EPD cradle to gate</td>
<td>EPD cradle to grave</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Factory made</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
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<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>In situ products before installation</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>Installed in situ products</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>Any product</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
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<td>m</td>
</tr>
</tbody>
</table>

m = mandatory; o = optional; i = information needed
(3) Mandatory and optional modules
- message for TC350 -

• Provide more guidance how to handle the “gate” of in situ products
  – Cases for which A4 + A5 can be mandatory

• Provide more guidance on how to handle kits
  – How to deal with data responsibility if different manufacturers are involved
  – Who is providing the EPD?
  – Etc (…)

(4) Transport to site (module A4) - expert proposal -

• 15804:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit (expressed per functional unit or per declared unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel type and consumption of vehicle or vehicle type used for transport</td>
<td>Litre of fuel type per distance</td>
</tr>
<tr>
<td>e.g. long distance truck, boat etc.</td>
<td>or vehicle type, Commission Directive 2007/37/EC</td>
</tr>
<tr>
<td>Distance</td>
<td>km</td>
</tr>
<tr>
<td>Capacity utilisation (including empty returns)</td>
<td>%</td>
</tr>
<tr>
<td>Bulk density of transported products</td>
<td>kg/m³</td>
</tr>
<tr>
<td>Volume capacity utilisation factor (factor: =1 or &lt;1 or ≥1 for compressed</td>
<td>Not applicable</td>
</tr>
<tr>
<td>or nested packaged products)</td>
<td></td>
</tr>
</tbody>
</table>

NOTE 1 As an alternative to the bulk density the weight and volume of transported products may be specified.

NOTE 2 With the bulk density and the volume capacity utilisation factor, (complex) logistic scenarios (e.g. taking onto account the type of vehicle, transport distance, empty returns) at the building level can be considered.

NOTE 3 For the assessment at the building level more complex logistics may have to be considered.

• Experts:
  – The truck loaded with insulation material is assumed to be fully loaded on volume basis
  – Transport impact to be calculated based on real fuel consumption
(4) Transport to site (module A4) - message for TC350 -

- Guidance on how to apply volume based transport and fuel consumption
- Guidance on fuel consumption as function of load factor e.g.:

![Fuel consumption depending on load factor](image)

\[ y = 0.7262x + 166.84 \]

[Graph of fuel consumption vs load factor]
(5) Reference service life
(6) Scenarios
- expert proposal -

• Actually only 3 intended uses defined in CEN TC88
  – Thermal insulation products for buildings
  – Thermal insulation products for building equipment and industrial installations
  – Thermal insulation and light weight fill products for civil engineering applications

• Scenario’s needs detailed intended uses:
  – The 3 existing defined intended uses are general and covers many different applications
  – Several standards exist on detailed applications for buildings (ISO and national, no EN)
  – Only some extra mentions of applications exists in some standards but without definition
  – More detailed definitions should be needed to define scenarios for the life cycle and RSL.

• focus on Modules A1-A3
(5) Reference service life
(6) Scenarios
- message for TC350 -

• Is there more guidance related to scenarios that can be defined in a product standard PCR?
(7) Declared unit
- expert proposal -

• Function of thermal insulation products = insulating
  – Function is described by R-value (thermal resistance)

• Declared unit:
  – 1 m² thermal insulation product for a specific $R_D$-value of the product as placed on the market

• TC88 standards do not cover specific application (only generic)
  – Not possible to define a functional unit in the PCR
(7) Declared unit
- message for TC350 -

• Functional / declared units shall be related to the function as described in product standards
  – Product standards are leading
  – No mandatory “kg” approach

• Provide examples how ‘per R-value’ units can be used for building calculations (together with product TCs)
(8) Verification
- expert proposal -

- As long as EPDs are voluntary, 3rd party verification can be required by EPD programs
(8) Verification
- message for TC350 -

• Any provisions if mandatory verification may not be appropriate anymore?
(9) Additional information

- expert proposal -

• Function of thermal insulation products = insulating
  – Benefits can only be shown on building level – EN15978

• There should be a possibility to provide additional information in Module B on energy savings when applying the EPD in a building assessment according to EN15978
  – E.g. by providing a default scenario: default building, default climate conditions, default R-values to be compared etc.
(9) Additional information
- message for TC350 -

• Provide more guidance on the allowed additional (technical) information and clarify if examples of building assessment using the EPD may be included in the EPD
(10) Overlap between product standards - experts observations -

• Experts identified a potential overlap between product standards developed by several committees, esp. wood based insulation products:
  – EN 13168 Wood Wool
  – EN 13171 Wood Fibre
These could be affected by prEN 16485 developed by TC 175 and PCR developed by TC 88.

• Hot issue is “Carbon sequestration” / “Temporary carbon storage” / “Delayed emissions”/ ....
  – It must be treated coherently in all EPD concerned by these issues.
(10) Overlap between product standards
- message for TC350 -

• No figures on carbon sequestration etc in the modular information from EN 15804
• Allow to include such information as additional information. (similar approach used for avoided impacts due to energy savings for insulation products)
• A common approach will be needed!
Sustainability of construction works
Environmental product declarations

Core rules for concrete and concrete products

CEN/TC 104
"Concrete and related products"
TC 104 Plenary meeting

• DECISION 420 CEN/TC 104/SC1 (Paris 4)
  – Subject: PCR-document (Product Category Rules) for concrete
• CEN/TC 104/SC 1
  – decides to adopt a new preliminary WI on Product Category Rules for concrete and asks TG 20 to prepare a draft document intended to be a Standard complementary to EN 15804.
  – supports the proposal from TG 20 to attempt to prepare a PCR-document applicable to ready mixed concrete, site mixed concrete and concrete products. Appropriate liaisons should be established.

• Adopted by unanimity.
Objectives of the PCR

- This European Standard provides additional rules for Environmental Product Declarations (EPD) specifically for concrete and concrete products. It complements the core product category rules for all construction products and services as established in EN 15804.
- In order to enable the assessment of the environmental performance of construction works during their life cycle, it is recommended to provide an EPD based on a cradle to grave assessment.
Products covered by this PCR

• First, this PCR will cover concrete conforming to EN 206 (TC 104):
  Concrete - Specification, performance, production and conformity
  “This European Standard applies to concrete for structures cast in situ, precast structures, and structural precast products for buildings and civil engineering structures.”

• But the goal will be also to try to cover products related to the following committees
  – CEN/TC 50 "Lighting columns" covered by EN 40-4
  – CEN/TC 125/WG 1 "Masonry Units"
  – CEN/TC 165/WG 9 "Concrete Pipes"
  – CEN/TC 178/WG 1 "Concrete Paving units and kerbs"
  – CEN/TC 226 "Road Equipment"
  – CEN/TC 229 "Precast Concrete Products“

CEN/TC 104
"Concrete and related products"
Why a PCR for concrete from TC 104

- Concrete PCRs had already been elaborated by different parties (at national levels or by private interests), so that it is now time to harmonise information.
Why a PCR for concrete from TC 104

- This PCR should give rules to fix characterisation factors missing in EN 15804 for example for aggregates (the exact chemical composition of sand or gravel is not known).
- It should give definition of a Functional Unit and of a Declared Unit, and especially the definition of a Declared Unit of Ready-mix concrete with or without steel reinforcement and how to manage a cradle to grave EPD for this declared unit (Typical scenarios).
Why a PCR for concrete from TC 104

- This PCR should also provide typical orders of magnitude for processes in the life cycle of concrete (e.g. typical transport distances for ready mix and precast concrete, typical fuel or energy consumption of a concrete pump and concrete crushers)
- It will also give a precise description of each life cycle phase
  - This description will be different in the case of ready mix and site mix concrete on one side and precast concrete products in the other site
  - Example:
    - For Ready mix and site mix concrete, the impact of formworks are part of phase A5
    - For precast products, formworks are in phase A3

CEN/TC 104
"Concrete and related products"
Liaison with TC 350

- TC 104 SC1 TG20 is the task group in charge of drafting the concrete PCR
- The convenor of the group and 2 members are also members of TC 350 WG3
- The future drafts of this PCR will be submitted in the same time to TC 104 SC1 and TC 350 WG3 to ensure coherence with EN 15804
"Sustainability of construction works” CEN/TC 350 Seminar Implementation of EN 15804

PCR For Precast Concrete

Odile CAILLAT-MAGNABOSCO, AFNOR CEN/TC 229 Secretary
CEN/TC 229 Precast concrete products

- **Precast concrete product**: *product made of concrete and manufactured in accordance with this standard or a specific product standard in a place different from the final destination of use, protected from adverse weather conditions during production. The product is the result of an industrial process under a factory production control system and with the possibility of sorting before delivery*
  
  ◆ **Product category**: *all precast concrete products for buildings and other construction works*

- **PCR for Precast concrete products**: proposed by BIBM, European Federation for Precast Concrete, liaison organization with CEN/TC 229

- **Aim**: to provide rules for Environmental Product Declarations (EPD) specifically for precast concrete products; to complement the core product category rules for all construction products and services as established in EN 15804.

- **Preliminary work item adopted in April 2013**;
  
  **Technical body in charge**: WG4; **kick-off meeting**: in the last quarter of 2013
PCR for Precast Concrete Products
Scope of the pwi

- This document offers Product Category Rules (PCR) guidance for the development of Type III Environmental Product Declarations (EPD) for precast concrete products according to EN 15804. This document defines what parameters to be reported, what EPD types (and life cycle stages) to be covered, what rules to be followed in order to generate Life Cycle Inventories and conduct Life Cycle Impact Assessment and what quality data to be used in the development of EPDs.

- Additional to the common parts of EN 15804, this European Standard for precast concrete products:
- defines the system boundaries,
- defines the modelling and assessment of material-specific characteristics;
- defines allocation procedures for multi-output processes along the production chain,
- defines allocation procedures for reuse and recycling;
- includes the rules for calculating the LCI and the LCIA underlying the EPD;
- provides guidance/specific rules for the determination of the reference service life (RSL).

- This standard is intended to be used either for cradle to gate, cradle to gate with options or cradle to grave assessment, provided the intention is properly stated in the system boundary description.
PCR for Precast Concrete (pwi 00229134)

1 Scope - 2 Normative References - 3 Terms & definitions - 4 Abbreviations

5 General aspects

5.1 Objective of the PCR
5.2 Types of PCR with respect to life cycle stages covered
5.3 Comparability of EPDs for construction products
5.4 Communication formats

6 Product Category Rules for LCA

6.1 Product category
6.2 Life cycle stages
6.3 Calculation rules for the LCA
6.4 Inventory analysis (allocation of input flows & output emissions)
6.5 Impact assessment

7 Content of the EPD
CEN/TC 155 – *Plastics Piping systems and Ducting Systems*

Road to implementation of EN 15804

20 June 2013
CEN/TC 350 workshop, Brussels

Sándor Aranyi
• Decision to introduce CEN/TC 350 documents in CEN/TC 155
• CEN/TC 155 WG 27
  – History/present/future PCR’s
  – Founding WG 27
  – Membership
  – Application areas to be covered
  – Priorities
  – 1st draft
  – Way forward
  – Question marks
History

- Environmental studies within TEPPFA
- CEN/TC 155, Resolution 1111

PRESENT ACTIVITY

- Creating PCRs to align:
  - the ideas of CEN/TC 155
  - with EN 15084

FUTURE IDEAS

- Integrate CEN/TC 155 documents in horizontal PCRs covering all possible materials for the same application field. (In cooperation with functional TCs)
Resolution for development of European product specific PCR's & creation of associated JWG's

RESOLUTION 1111 (OPORTO 14) taken by CEN/TC 155 on 2011-11-24 (agenda item 11.6)

Subject: CEN/TC 155 - WG for environmental aspects

CEN/TC Plastics piping systems and ducting systems considering that:
- that CEN/TC 350 worked out a horizontal European Standard on PCR,
  noting that:
- certain member States have started with their own national PCRs
- Industry needs a European version for all products specific PCR's
  decides to
- Create a WG for environmental aspects
  Appoint Mr Sándor Aranyi of Hungary as convenor

The decision was taken by unanimity
CEN/TC 155 WG 27

- Based on the TC 155 resolution 1111, WG 27 started its activity in Budapest 13th March
CEN/TC 155 WG 27 - membership

- 29 members from several countries
  - Austria; Belgium; Croatia; Czech Republic; Denmark; France; Germany; Hungary; Italy; the Netherlands; Norway; Poland; Spain; Turkey;

- 5-6 active members only
Application areas to be covered

- Buried pressure piping systems
- Buried non-pressure piping system
- Inhouse pressure piping systems (hot & cold)
- Inhouse non-pressure piping systems (soil & waste)
Priorities

• 1st priority
  – Buried pressure piping systems
  – 2nd priority?
  – Buried non-pressure piping system

• 2nd priority
  – Inhouse pressure piping systems (hot & cold)
  – 3rd priority?
  – Inhouse non-pressure piping systems (soil & waste)
1st draft PCR of WG 27 - general

- Buried plastic piping systems
  - Covers both pressure and non-pressure buried applications
  - Covers both thermoplastic and thermoset product ranges
  - Based on EN 15804, but in the body of this EN
    > Some selections were done
    > Some additional information, requirements introduced to fulfil the product specialities

- Product and system descriptive data involved in a normative annex, Annex C
1st draft CPR of WG 27 - specific

- Additions to the body text of EN 15804 (examples)
  - 3 Terms and definitions
    > Construction
    > Buried plastic pressure piping systems
  - 5.2 Types of EPD with respect to life cycle stages covered
    > Only from cradle to grave
  - 6.3.1 Functional unit
    > A pipe specific definition added
• Deviations to the body text of EN 15804 (example)
  – 6.3.4.5 End-of-life stage
    > Secondary material having left the system can be declared as substituting primary production in module D
    > If however this process generates energy such as heat and power from waste incineration or landfill the potential benefits from utilisation of such energy in the next product system are assigned to module D

• This kind differentiation is disadvantageous for plastics and in general for combustable materials
  – WG 27 deleted this role for the plastic piping systems
Module D

• CEN/TC 155 WG 27’s request to TC 350:
  
  – Module D must be changed for combustable products
  – Reporting credits coming from incineration in Module D is a disadvantage for plastics
  
  – Module D cannot influence the understanding of data provided in EPDs, cannot create advantages for one or the other group of (combustable/non-combustable) raw materials
1st draft CPR of WG 27 – specific 3

• System scenarios in Annex C
  – descriptive data on,
    > raw materials
    > products
    > installation, etc.

• Data requirements for
  – all the relevant life cycle stages,
    > production,
    > installation possibilities,
    > etc.
Way forward

- Starting with inhouse plastic piping systems
- Stand alone document for in-hose products?
- Stand alone documents for pressure and non-pressure applications?
- Separate Annex (D)?
Question marks

- What kind of EPDs has to be developed?
  - Product specific?
  - System specific
  - Investment specific?

- Can the users of EPDs be satisfied by a general EPD per product range and per application?

- Can the industry develop „UNIFIED” EPDs for a certain application just for characterization; benchmark?

- Is it feasible to develop EPDs per investment?

- How can we provide EPDs for construction designers?
Is an EN the possible deliverable for a PCR
Our draft (European Standard) is based on EN15804, specifies the Product Category Rules for Environmental Product Declarations (EPD) of buried pressure and non-pressure plastic piping systems.

What is the status of (national) EPDs developed outside CEN on basis of EN 15084?
When we asked Norwegian experts in which way the Norwegian PCR could influence on our work in TC155 WG27, they answered as follows:

- A PCR is a guidance how to develop a EPD.
- The Norwegian PCR is following EN 15804 100%.
- When others, like TC155 or other countries, develop their own PCR they must make a check if there are other documents which may limiting their work. This is normal practice.
- Because our “PCR’s” /”standards” is/will be developed 100% in line with EN 15804, we do not have any limitations.

How should cooperation work between Functional and Product TC’s?
Thank you for your attention!
Experiences during implementation of EN 15804 in specific product category rules

TC 175 – ROUND AND SAWN TIMBER
Framework (I): Letter by John Moore

TC Chairmen/Secretaries
Brussels, 18 April 2012

Reference: CORR/EPD/JM

Subject: Environmental Product Declarations

Dear Colleagues

(1) EN 15804:2012 "Sustainability of construction works — Environmental product declarations — Core rules for the product category of construction products" is now available and it is timely for TCs to consider the introduction of relevant provisions in their standards.

(2) The main requirement is the provision of the appropriate PCR (Product Category Rules) in accordance with the horizontal rules in EN 15804. TCs should consider the advantages of implementing EN 15804 in their standards and of developing their own additional rules without further delay, as opposed to relying on those prepared in the market, over which they would have less control.

(3) The benefit of early implementation of EN 15804 in product standards is to ensure that they can meet market requirements as the need for EPDs becomes more widespread.

(4) The method of implementation in a standard could be through normative or informative provisions, either in the main body of the standard or as an Annex.

(5) CSNPE held a first workshop on the 8th of March, with a few CEN/TCs that were already working on the implementation of EN 15804. CSNPE will be holding a further workshop on 11 June 2012 to assist TCs in this work and to determine the needs for more detailed guidance for TCs. Assistance is also available from TC 350. Contact addresses are below.

All good wishes
Dr. John Moore
Motivation

- EN 15804 does only generally address or does not address several aspects that are relevant for LCA of wood and wood-based products, e.g.:
  - the system boundary between nature and the product system,
  - the consistent modelling of biogenic carbon flows across the modularized product system
  - modelling of end-of-life processes
  - reference service life
- EPD programs are currently adapting their PCRs to harmonized rules and a harmonized approach is key for industries
- The sector has the experiences, the knowledge and the competence to refine EN 15804 for its application to wood products.
Getting started

- Decision by TC plenary to develop a standard on how to treat wood specific aspects in LCA several years ago
- Development of EN 15804 gave new push to this activity
- Formation of a task force within TC 175 WG 1, including experts who had attended TC 350 WG 3 meetings
- Elaboration of first draft by experts
- Discussion and finalization of draft in task force

⇒ a very high level of detailed knowledge on LCA and EN 15804 is required
⇒ finally, only a relatively small group of people could actively contribute
Drafting

• First draft used the original EN 15804 and inserted additional text where deemed necessary to facilitate discussion:

   6.4.2 Calculation procedures

   The calculation procedures described in ISO 14044 shall apply. The same calculation procedures shall be applied consistently throughout the study.

   When transforming the inputs and outputs of combustible material into inputs and outputs of energy the net calorific value of fuels shall be applied according to scientifically-based and accepted values specific to the combustible material.

   The amount of CO₂ uptake of biomass considered as biogenic carbon content and the equivalent amount of CO₂ emissions from this biomass at the point of complete oxidation results in zero net emissions for biogenic CO₂ when the biogenic carbon is not converted into methane. NMVOC or other precursor gases that are not converted to CO₂. These flows of biogenic carbon shall be inventoried separately from fossil carbon flows and shall be documented separately in the project report.

• In the final draft, most text from EN 15804 was deleted to avoid inconsistencies with eventual revisions of EN 15804:

   6.4.2 Calculation procedures

   As EN 15804 other than

   The fluxes of biogenic carbon expressed in CO₂-eq. shall be inventoried separately from fossil carbon fluxes expressed in CO₂-eq. and shall be documented separately in the project report.
Aspects covered (I)

• Definition of system boundary between nature and product system
• Modelling of biogenic carbon flows across modularized product system to reflect biogenic character and renewability of resource
• Specification of functional/declared units
• Specification of calculation procedures related to biogenic/fossil carbon
• Specifications related to co-product allocation
• Definition of default end-of-waste states
Aspects covered (II)

- Attribution of typical end-of-life processes to modules C1-C4/D, distinguishing different scenarios
- Clarification on characterisation of biogenic carbon
- Some aspects related to reporting
- Adaptation of EN 15804 to reflect hierarchy of documents
- New definitions and references
Limitations

- It was not possible to provide additional guidance on the determination of reference service life
- In some aspects, only examples could be provided in a consensus process
Involvement of CEN TC 350 WG 3

Formally:
• Invitation of expert of WG 3
• Nomination of an official liaison officer

Involvement of TC 350 WG 3 during enquiry:
• Announcement of a questions & answer session (London, 26 September 2012)
• Questions & answers session (Madrid, 20 November, 2012)
• Discussion of collected comments by WG 3 members in the presence of 3 experts of TC 175 (Berlin, 21 January, 2013)
• Submission of technical comments by WG 3
• Consideration of technical comments by TC 175 WG 1
General aspects to be treated in a „guidance document“

- Practical application of the criteria for the definition of the „end-of-waste state“ as legal and economic status can differ for „waste“ flows
- Modelling of end-of-life processes (modules C1-C4, D), depending on whether a material has reached the end-of-waste status and depending on the R1-value of the plant; quantification of related LCI indicators
- Practical examples on the determination of reference service life
- Consistent treatment of process “waste”/scrap in modules A1-A3 and determination of net flows to be considered in module D.
Building the Single Market for Green Products

Pavel Misiga
Head of Unit
DG Environment – Eco-Innovation and circular economy
WHY?

More than 400 environmental labels in the world
- Only for GHGs, 80 leading reporting methods and initiatives

Issues:
- What is green?
- How do I prove that my product or company is green?
- If I choose one approach, will it be accepted by everyone?
- Do I have to prove I'm green in different ways to different clients?
- Will consumers and business partners understand my claim?
- Does green mean more expensive?

Confusion, mistrust
Free-riders win
Costs
A world of “similar-but-different” requirements for green products
The pilot/testing for PEF and OEF

- Objectives are to:
  - development of product group and sector specific rules, including performance benchmarks;
  - test different compliance and verification systems
  - test different communication vehicles

- Engagement of key stakeholders, including from outside EU

- Focus on simplification and applicability

- Call for volunteers is open at (until 26 July):
  http://ec.europa.eu/environment/eussd/smgp/index.htm
Challenges

Why a pilot phase?

• Life Cycle data (quality & availability)
• Need to develop consistent product and sector-specific rules
• Involvement of stakeholders (particularly SMEs and developing countries)
• Simplification
• The verification system
• Convergence of methods at EU level and internationally
Timeline

- Deadline of applications: 26 July, 12:00 CET
- Selection of product groups and sectors: September 2013
- Start of the pilots (October/November 2013)
- End of the pilots (end 2016)
Product Environmental Footprint and Construction Products

Michele Galatola
Product team leader
DG Environment – Eco-Innovation and circular economy
PEF vs 15804 ??
PEF vs 15804
Different methods for different scopes

**EN 15804:2012**

- Provides core product category rules for all construction products and services. It provides a structure to ensure that all EPD are derived, verified and presented in a harmonised way.

- It is organised in modules covering different life cycle stages. Some modules are mandatory, others are optional. The indicators declared in the individual information modules of a product life cycle shall not be added up in any combination of the individual information modules into a total or sub-total of the life cycle stages.

- Declarations based on 15804 are not comparative assertions.

**Product Environmental Footprint Category Rules (PEFCRs)**

- Provide specific rules to calculate the environmental footprint for a certain product group, including benchmark and, if appropriate, performance grades.

- Each PEFCR focuses on the most relevant life cycle stages, processes and impact categories for the product group in scope.

- A declaration compliant with a PEFCR can be used to make comparisons and comparative assertions.
End of Life

- according to 15804 the system boundary is defined as “until the end-of-waste state is reached”. Furthermore the 15804 standard states: “Materials from which energy is recovered with an efficiency rate below 60% are not considered materials for energy recovery.”

- The PEF method does include recycling and energy recovery at End of Life within the system boundaries.

Impact categories and assessment methods

- the PEF method comprises a more extended list of impact categories. These might indeed be reduced to the 15804 list in future PEFCRs for construction products if proven to be justified

- Some measurement units are different in 15804 compared to PEF.
Other minor issues

• PEF has clear nomenclature rules
• 15804 allows cut-offs whilst no cut-offs are allowed in the PEF
• PEF includes more stringent requirements related to data quality
• PEFCRs requires normalization and weighting
• In 15804 there are no requirements for reviewer qualifications
The way forward

• Based on preliminary analysis of some existing EPDs prepared in line with 15804, the work to be done to align the two methods would not be too difficult

• The European pilot phase would be an excellent chance to work collaboratively so that, at the end of it, the 15804 might be modified to align to PEF and PEF could be modified to take into account the lessons learnt from the pilot phase

• We invite companies and trade associations active in the construction sector to openly and “constructively” participate in the European pilot phase, possibly leading some pilots on construction products of higher relevance or maturity in terms of EPDs.
Thank you for your attention

For any further information

http://ec.europa.eu/environment/eussd/smgp/

env-environmental-footprint@ec.europa.eu
ECO Platform
An overview

Christian Donath
20.06.2013, CEN Seminar
Motivation for the ECO Platform
ECO Platform
Motivation

• support the provision of unbiased, credible, consistent and scientifically sound information in form of a type III Environmental Product Declaration for construction products

• reduce EPDs’ production cost to a minimum for manufacturers across Europe
Founding of the ECO Platform
ECO Platform
Founding

- MoU was signed in September 2011 in Brussels
- 26 parties from 16 European nations
- Founding of three Working Groups
ECO Platform
Founding – Established as an AISBL on June 4, 2013

Established Programs participating as Founding Members:

1. INIES (France)
2. IBU (Germany)
3. MRPI (Netherlands)
4. EPD Norge (Norway)
5. ITB (Poland)
6. DAP Habitat (Portugal)
7. ZAG EPD (Slovenia)
8. DAPc (CATEEB, Spain)
9. Global EPD (AENOR, Spain)
10. Environdec System (Sweden)
11. BRE Global (UK)
Objectives and activities of the ECO Platform
ECO Platform
Objectives – Actual Situation

EPDs

Green Building Rating Schemes
ECO Platform
Objectives – aspired solution
Objectives should be achieved by the following steps

- Development of a common core EPD for construction products through a consistent implementation of EPD according to EN 15804 (no additional requirements on the ECO level, but additional requirements are allowed for satisfying national requirements)
- Development of a common European format for EPDs’ core-data
- Definition of rules for mutual recognition across Europe of this EPDs’ core-data
- Development of a common quality management and verification procedures
The ECO Platform...

- will function as umbrella organization of European EPD Programs
- is open for members from European Trade Associations, LCA Practitioners and Green Building Councils
- is a European non-profit organization (AISBL)
- does not act as EPD Program itself
- is based on voluntary support and has a very lean structure to cause minimum effort
ECO Platform
Organization

Members
• European EPD Programs
• European (Trade) Associations
• Green Building Councils
• LCA Practitioners

Communication with
• European Commission
• CEN (especially interaction with Product TCs)
ECO Platform Organization

The ECO Platform consists of:

• **General Assembly / Board** (established EPD programs + Construction Products Europe) legal representation, general principles

• **Managing Director** (external, part time only) administration

• **Working Group I** (open for all members) responsible for content, format and technical background of EPDs

• **Working Group II** (open for all members) responsible for common quality system

• **Working Group III** (open for all members) responsible for communication (e.g. with EC and industry)
ECO Platform
Opening Event

24/09/2013  Launching event of ECO Platform in Brussels

Please register for newsletter and invitation!
ECO Platform
Contact Details

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ECO Platform
Experiences and mutual recognition of EPDs

Agnes Schuurmans (convenor ECO WGII on behalf of MRPI)
20.06.2013, CEN Seminar
EPD Program operators – national PCRs – correlation with product TC work
Use

Manufacturing

Transport

Construction - installation

Use

Maintenance

Repair

Replacement

Refurbishment

Deconstruction - demolition

Transport

Waste processing

Disposal

Benefits and loads beyond system boundary

Operational energy use

Operational water use

Raw material supply

EN15804 + product TCs: rules for making scenarios

EPD programs: default scenarios for national application of EPD
Product TCs and national PCRs

• Product TCs could help in defining rules for making a scenario
  – For example: a transport-to-site scenario must be volume-based transport
  – National PCRs may define how transport distance to the country should be established, e.g. to one central location

• In some cases product TCs may be able to define scenarios
  – National PCRs will (have to) take over this scenario
Complementary role

EN15804

Generic rules for all – umbrella

Product specific rules

National default scenarios

EPD

EPD of program operator
Example – Norwegian EPD program

• The PCR is written for use all over Europe (EN15804), but with an Appendix for Norwegian specific requirements

• Scenarios are described with a reference to SINTEF Building Design Sheets (common practice in Norway)
APPENDIX A1 (informative)

Norwegian requirements

This appendix describes Norwegian requirements given by the program operator The Norwegian EPD Foundation.

1  Communication format and content of the Norwegian EPD

The communication format of the EPD shall be in accordance to EN 15942:2011 and the presentation template shown in www.epd-norge.no.

2  Treatment of electricity

The electricity mix used shall be shown in the EPD as emissions of g CO₂ equivalents per kWh or g CO₂ equivalents per MJ.

3  Transport

Transport from Production site to central warehouse in Norway shall be shown. For Norwegian manufacturer this is set to 50 km.

4  Reference service life

Roof waterproofing systems shall be planned and constructed for a reference service life given by the manufacturer. If no information is given the reference service life shall be based on the figures given in SINTEF Building Design Sheets 700.320 part II.
6 Laying scenarios

6.1 Plastic and rubber sheets
The plastic and rubber sheets shall be installed in accordance with the guidelines from the manufacturer and the principles shown in SINTEF Building Design Sheets 544.202 and 544.206.

6.2 Reinforced bitumen sheets and shingles
The membrane shall be installed in accordance with the guidelines from the manufacturer and the principles shown in SINTEF Building Design Sheets 544.203, 544.204 and 544.206.
For welding, performed by hot air automatic welding equipment an average roof surface may be applied.

6.3 Metal
The metal roofs shall be installed in accordance with the guidelines from the manufacturer and 544.103.

6.4 Tiles
Roofs tiles shall be installed in accordance with the manufacturer and 544.101.
Role of ECO

Proposal; growing cooperation

ECO as intermediary: consistent implementation, discussions, gaps

EN15804
Generic rules for all – umbrella

Product specific rules

National PCR
National default scenarios

ECO verification and mutual recognition

EPD of program operator

EPD of program operator
ECO mutual recognition

Recognition of EPD without further verification based on 15804
Verification: quality of EPD

• Promoting quality
  – “The ECO members strive for the highest accepted level of quality of EPD based on EN15804 that can currently be expected on the market which can be mutually recognized.”

• Acknowledging quality
  – “EPD program operators that are ECO members commit themselves to recognize the core EPD part of other ECO member EPD program operators. This core part is that part of the EPD that is in accordance with EN15804 and verified according to the ECO verification guidelines of this Guidance Paper”

*Mutual recognition of EPDs deals at this point in time with recognition of the quality level.*
Verification: common quality language

• Helping to establish quality within EPD program
  – Independency of the verifier
  – Qualifications of verifier
  – Quality of the verification
  – Implementation of mutual recognition

  – Minimum verification checklist
  – Documents to be provided in English
  – Examples

• Knowledge and experience exchange within ECO Platform
Mutual recognition ≠ comparable EPDs

• Different LCA background databases
  – may result in EPDs that cannot be summed in a building assessment
  – building assessment databases may not accept different – good quality - EPDs

Modules A1-A3 inherently correct

• Other modules may need different scenarios per country / region
  – For example: transport distance, installation scenario, end-of-life scenario, climate dependent service life

• Manufacturer decides which scenarios to present
  – but the user of the EPD decides if scenario is applicable in building assessment (cf. EN15978)
  – national PCRs may provide national default scenarios
Recognition of core EPD

An ECO member EPD program operator shall

• have a procedure in place on how mutually recognized core EPD data from other ECO member EPD program operators are communicated
• how they have to be adapted to be applicable in the national EPD program

ECO core EPDs must be made available through the program operators, including a remark to the reader that the representativeness has to be checked before use.
Mutual recognition so far

Challenges and answers so far:
• Common quality of information
• Common language, terminology, English
• Meta level: Common procedures for verification, e.g. what is verified and qualification of verifier

Next steps:
• EPD interchangeable throughout Europe?

Challenges and identification of problem so far
• Inherent restraints on comparability / see EN 15804
• Upstream and downstream data / databases
• Scenarios different
• Geographic specification
• Others..
Example – additional info in EPDs

Example for France

• All EPDs listed in INIES have to and will have to present additional information regarding health and sanitary aspects
  – Specific data to communicate and ways to do it are mentioned in the actual French global PCR for EPD (NF P 01-010) and will be mentioned in the annex to the Fr EN 15804

• But these aspects (health/sanitary) are out of the scope of the Eco “core” data
  – Not part of the ECO verification guidelines
  – No mutual recognition
Example
MRPI – the Netherlands

Part I
Info + parameters according to national method + req.

Part II
Core EPD acc. to EN15804

Part III
Additional information
- Carbon footprint
- Sustainable sourcing

National database
Envisaged role of ECO

- **Intermediary** between EN15804-product TCs and individual Program Operators
- **Common** verification guidelines – common quality
- **Facilitating** mutual recognition
- **Platform for clarifying** practical issues

**ECO Platform is there to help**