

Ecolabeling in the Construction Sector.

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1. Summary

If you ask any architect what kind of environmental indicators he is keen to rely on, he will certainly choose a single indicator, i.e. a label. However a single environmental indicator for a building product is difficult to assess as the performance of the product is linked to its adequate installation in a system.

The eco-label does not currently make the link between the product (plasterboard) and the system (a wall made of plasterboards). Therefore, Eurogypsum questions the usability of the eco-label for construction products.

Certification schemes for the assessment of the sustainability of building are best suited at national level as in Europe, we have diverse construction methods according to traditions, history, climate, life styles which have led to specific national building regulations.

2. Key messages in relation to Eco-labeling for construction products

In July 2008, the European Commission submitted a proposal for a review of the regulation on a Community Eco label Scheme (COM (2008)401/3).

Eurogypsum would like to contribute to the debate with the following comments.

Eurogypsum encourages the EU institutions to understand better the role of the construction components in a building in order to assess the viability of eco-labeling schemes for construction products

Indeed, a construction product is always considered in relation to the works in which the construction products are installed. In other words, **the performance of the construction product in a building depends on how it is installed in the system.**

The performance means safety, environmental, mechanical, fire, acoustic, energy efficiency standards of the system (s). The performances of a construction products are given by the Construction Products Directive whose scope is the safety of the works (buildings) translated into essential characteristics of the products. The essential characteristics of the products are set in standards, which are **mandatory and published in the Official Journal. They are sufficient to ensure, health, safety and environment criteria.**

When a construction product is inadequately installed in a system, we have collapse, accidents, deaths and material damages. The eco-label criteria do not cover those important issues. The persons liable for such inadequate installation are the **architects, engineers, contractors (builders), sub-contractors.**

The eco-label criteria must take into account the installation of the construction products into the work.

The construction material producer's **liability is met by:**

- CE marking the product according to the mandatory standards of the CPD;
- Providing instruction manual for handling and placing the products;
- Providing instruction for mounting and installing the products when relevant
- Guaranteeing systems that he sells;
- Providing instructions on mounting, building and handling materials.

Furthermore, the system (s) or the works are regulated by national building regulations. So the EU eco-label might not be able to make the link between the product and all 27 building regulations.

On the other hand, a poorly installed construction product will reduce **the eco-performance of a system and thus the building;**

- ▶ **E.g.: insulation solutions not properly installed will not provide the energy efficiency performance foreseen for the building.**

How to ensure the environmental performance of the construction product?

- ▶ **Ensure that the contractor builds in accordance with the recommendations of the manufacturer and the national building regulation. This will give the required performance of the system with the specified products.**

Therefore, Eurogypsum questions the adequacy of the eco-label tool for ensuring the health, safety and environmental issues of a construction product. In annex I, you will find the principles of eco-labelling schemes taken from the position paper of Business Europe on the Sustainable Production and Consumption Action Plan (October 2008).

In conclusion, Eurogypsum can state the following:

- ▶ Accurate information can only be given on the end product = the building;
- ▶ Information on the performance of construction products is accurate if properly installed;
- ▶ The national building regulations dictate the required performances of the system;
- ▶ The national building regulations ensure the safety of the system;
- ▶ Builders and designers are liable for implementation of the national building regulations;
- ▶ The challenge is to devise criteria for construction products that are able to link the eco-label (European) with the building regulations (National).

3. EPD-Alternative (based on life-cycle assessment)

Type III environmental information provides the basis for Environmental Product Declarations (EPDs). Eurogypsum fully supports his approach as it is in line with the specificities of the construction product versus the building.

The following table summarizes the advantages/disadvantages of the two approaches:

EPDs	Eco-labels
○ Type III (ISO FDIS 14025)	○ Type I (ISO 14024)
○ Can be performed all products ○ No direct comparison or weighting against other products	○ Pass/fail award scheme (with cut-off points set on an arbitrary basis) ○ Scope restricted to single materials or attributes
○ Detailed information for B2B ¹ professionals	○ Brief, non-detailed information for end-consumer
○ Suitable for materials/products/components to be incorporated into final products, e.g. buildings, vehicles	○ Suitable for finished products but <u>not</u> for intermediate products such as building product that have to be installed in a building in order to delivered the required performance as part of the building

The European Gypsum Industry is a life cycle thinking industry and as such became a **member of the European Business Advisory Forum of the European Platform on life cycle assessment**. A European LCA on plasterboard will be soon inserted in the EU ILCD database. The results of this work will cover a significant part of an Environmental Product Declaration and will be the most significant communication tool on environmental issues accepted by our clients.

¹ **B2B** = Business to Business

4. International Standards-Type III labels: some thoughts

International standards are under development in ISO to develop the declaration of environmental information on a harmonised basis, viz. ISO/FDIS 14025 Environmental labels and declarations - type III environmental declarations, developed in ISO/TC 207 (See Annex II for the ISO standards in the construction sector).

This standard covers all products within CEN including construction products. A sector standard ISO 21930 specifically for construction products has also been developed.

The ISO standards do not currently provide a European basis for a harmonized declaration of products assessment due to lack of agreements between parties in relation to the following gaps:

- The categories/data to be reported in making and environmental declaration
- Definition of product group e.g. based on the product TC structure
- Definition of declared/functional unit
- Choice and description of system boundaries,
- Choice of allocation rules
- Choice of cut-off criteria.
- Data quality requirements (use of specific and generic data)
- Environmental indicators to be used in the declaration
- Description of information sources/databases to use for acquiring generic data
- Impact categories categorization factors for the EPD

Depending on the final level of consensus in ISO on the above-mentioned, CEN standard need to be developed to fill in the gaps.

5. European Standards

Sustainability is a key policy framework for sound industrial development and wealthy growth. It is a challenge but also a necessity to incorporate it in the life-cycle of the construction product and works. This is the task of TC 350 whose main aim is "the Development of horizontal standardized methods for the assessment of the integrated environmental performance of buildings". TC 350 will also include the evaluation of the other two aspects of sustainability (social, economical) to be incorporated in the evaluation of the building scheme.

6. An Eco Label for buildings?

A certification scheme for the sustainability of building is being undertaken at national and EU level.

Work has already progressed significantly **in Germany** with a certification scheme for assessing the sustainability of a building (DGNB-Gesellschaft für nachhaltiges Bauen e.V. <http://www.dgnb.de/>).

In the UK, **BRE Environmental Assessment Method (BREEAM)** is a voluntary measurement rating for green buildings that was established in the UK by the BRE (Building research establishment) in 1990 as a tool to measure the sustainability of new non-domestic buildings in the UK. It has been updated regularly in line with UK building regulations and underwent a significant facelift on 1 August 2008, called BREEAM 2008.

The United States has established several sustainable design organizations and programs.

The U.S. Green Building Council (USGBC) is a non-profit trade organization that promotes sustainability in how buildings are designed, built and operated. The USGBC is best known for the development of the Leadership in Energy and Environmental Design (LEED) rating system and Greenbuild, a green building conference that promotes the green building industry. As of September 2008, USGBC has more than 17,000 member organizations from every sector of the building industry and works to promote buildings that are environmentally responsible, profitable and healthy places to live and work. To achieve this it has developed a variety of programs and services, and works closely with key industry and research organizations and federal, state and local government agencies

In Europe, we have however diverse construction methods according to traditions, history, climate, life styles which have led to specific national building regulations. Therefore, a certification scheme for building is best suited at national level, though the work carried out within the TC 350 is valuable and should be taken into account, once finalised, for the national labeling schemes. The work currently carried out by the eco-label for buildings and led by the Italian Agency is complex but very useful in terms of members States exchanges of best practices. We wonder, however, if any tangible results will be possible in the short term due to the complexity of the subject.

Mutatis Mutandi, the same reasoning is valid for construction products. The Environmental Products Declarations for Construction Products under ISO FDIS 14025 are valid at national level but not at European level. You need to adapt the EPDs to each country methods of construction because of climate conditions, traditions, water use, flora, biodiversity conditions etc. For example, water consumption is an important issue in Southern Europe but not in the Nordic countries. Northern forests are very sensitive to acid rain, which is not the case for the typical Mediterranean flora. Land Use and planning is a problem in the Netherlands but not so in Northern countries, etc.

Thus having one European indicator without national specific weightings is hardly possible in the EPDs with the current construction methods and country history and environmental conditions.

ANNEX I: principles for eco-labels

1. Eco-label schemes need to **be voluntary**
2. Be **based on sound science**:
 - All forms of environmental labels must be supported by scientific evidence, using methods accepted widely across the scientific and technical community
 - There must be a traceable basis for verifying the claim made by the eco-label.
 - Environmental impact assessments should be easily repeatable and therefore easily measured.
3. Be **transparent**: the criteria or basis for claims or environmental labels should be clear and publicly available.
4. Be based on **lifecycle thinking**: environmental assessments and communication must cover of the most significant environment impacts along the product lifecycle
5. Pursue defined goals with **flexible means**: the underlying criteria for awarding an eco-label should define the desired direction for improvement, but not the means to get there.
6. Promote **innovation**: labels, claims, seals, or “trust-marks” that have criteria based on an evaluation of products that exist in the marketplace today tend to reward current technologies and may represent a barrier to future innovation if they do not holistically examine the product and contributions from all its life cycle phases. Approaches we would take or support should promote innovation.
7. Be **non-discriminatory**: environmental labeling schemes must not favour local products without scientific justification, nor deny equivalent competitive opportunities to imports.
8. Be **truthful**: environmental labels/claims must not be presented in a manner that overstates the environmental attribute or benefits, expressly or by implication.
9. Be **meaningful to consumers**: the information provided must be non-trivial and relevant to both the consumer/stakeholder and to environmental protection.
10. Promote **dialogue**: in designing eco-labels all parties must work towards solutions with all relevant stakeholders.
11. Safeguard **international trade**
 - Eco-labels should not deny equivalent competitive opportunities to imports.
 - Eco-labels must not favour national production without scientific justification

Annex II: ISO STANDARDS IN CONSTRUCTION

Standards published

[ISO 15392:2008](#) Sustainability in building construction -- General principles

[ISO 21930:2007](#) Sustainability in building construction -- Environmental declaration of building products

[ISO 16813:2006](#) Building environment design -- Indoor environment -- General principles

[ISO 16814:2008](#) Building environment design -- Indoor air quality -- Methods of expressing the quality of indoor air for human occupancy

[ISO 15686-1:2000](#) Buildings and constructed assets -- Service life planning -- Part 1: General principles

[ISO 15686-2:2001](#) Buildings and constructed assets -- Service life planning -- Part 2: Service life prediction procedures

[ISO 15686-3:2002](#) Buildings and constructed assets -- Service life planning -- Part 3: Performance audits and reviews

[ISO 15686-5:2008](#) Buildings and constructed assets -- Service-life planning -- Part 5: Life-cycle costing

[ISO 15686-6:2004](#) Buildings and constructed assets -- Service life planning -- Part 6: Procedures for considering environmental impacts

[ISO 15686-7:2006](#) Buildings and constructed assets -- Service life planning -- Part 7: Performance evaluation for feedback of service life data from practice

[ISO 15686-8:2008](#) Buildings and constructed assets -- Service-life planning -- Part 8: Reference service life and service-life estimation

Technical specification published

[ISO/TS 21929-1:2006](#) Sustainability in building construction -- Sustainability indicators -- Part 1: Framework for development of indicators for buildings

[ISO/TS 21931-1:2006](#) Sustainability in building construction -- Framework for methods of assessment for environmental performance of construction works -- Part 1: Buildings

[ISO/TS 15686-9:2008](#) Buildings and constructed assets -- Service-life planning -- Part 9: Guidance on assessment of service-life data

Under preparation

[ISO/AWI TR 21932](#) Buildings and constructed assets -- Sustainability in building construction -- Terminology

[ISO/CD 16815](#) Building environment design -- Design and evaluation of indoor thermal environment

[ISO/NP 16817](#) Building environment design -- Indoor environment -- Design process visual environment

[ISO/CD 15686-1](#) Buildings and constructed assets -- Service life planning -- Part 1: General principles

[ISO/NP 15686-2](#) Buildings and constructed assets -- Service life planning -- Part 2: Service life prediction procedures

[ISO/CD 15686-10](#) Buildings and constructed assets -- Service life planning -- Part 10: Ways to assess functional performance