Consultation Response

Brussels, 31 October 2008

Subject: Technical specifications for Green Public Procurement of Thermal Insulation (Background Report and Product Sheet)

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Eurima Response to the European Commission Consultation

Given the important role that public authorities play within the building market, Eurima believes that a well designed Green Public Procurement approach can help to move Europe towards a more sustainable building stock. In addition, given the internal market considerations, a common and well designed European approach to product criteria certainly has many advantages.

Eurima wishes to make the following fundamental remarks:

First, development of criteria (be it aspects, impacts, indicators or methodologies) shall NOT be implemented where they already exist or where they are already mandated in regulations, directives or standards. The multiplication of criteria is unacceptable for Eurima, and does not respond to the aim of achieving consistency and coherence. Therefore, clarification is needed on the fact that most of the criteria proposed are already specified in existing or future rules and regulations.

For example, as can be seen from the analysis in Annex I, the work carried out in CEN/TC 350 allows addressing most of the criteria proposed in the Green Public Procurement consultation documents. Eurima, which heavily participates in the work of CEN/TC 350, asks to have criteria and methods of testing based on the work of this CEN/TC. It is also worth noticing that CEN/TC 350 offers much more than the proposed criteria. For instance, information on emissions to indoor air, soil and water will be mandatory for the use phase. Methods are being prepared by CEN/TC 351.

Eurima suggests allowing a transition period for the gradual replacement of national procurement tools until the CEN TC350 standards for assessing performances of buildings and construction products are available. Once this is the case a total withdrawal from national tools and methodologies is required to assure a level playing field and for preventing barriers to trade for construction products and services.
Second, in the new proposal of the CPR (Construction Product Regulation), the basic requirements are given for works and from those, essential product characteristics are derived. Therefore, requirements for sustainability shall be given for works. Products contribute to the building environmental performance via their declared characteristics, and as recognised in the report by ICLEI\(^1\) carried out for DG Environment within the field of Green Public Procurement, by far the most important action to improve the environment in the area of construction is to move towards very low energy buildings. The positive environmental contribution of insulation products far outweigh impacts from their production and therefore when designing product guidelines it is essential to strike a balance that will truly promote a better environment.

Third, in their current form, both the background report and the product sheet are, on numerous points, either incomplete or incorrect which needs to be addressed.

**In annex:**

1. Detailed comments on the core criteria and the comprehensive criteria in the Product Sheet;
2. Some specific remarks on key elements of the Background Report

As previously stated by Eurima, in exercises such as Green Public Procurement, aimed at steering markets, and therefore influencing market conditions for individual products, correct framework conditions and boundaries are essential, as well as coherence with existing initiatives in the same field with similar objectives.

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\(^1\) European Commission Green Public Procurement (GPP) Training Toolkit - Module 3: Purchasing Recommendations; Construction Background Product Report, ICLEI - Local Governments for Sustainability, 2008
ANNEX I:
The core criteria and the comprehensive criteria in the GPP Product Sheet: How existing and future EU standards and regulations already give a support to the selection of indicators and criteria. This background information should be used in the establishment of the criteria.

1. CORE CRITERIA

1.1. Thermal conductivity inferior to 0.044 W/mK

Document answering the criteria:

- **CPD** (Construction Products Directive) 89/106/EEC, ER 6 on energy economy and heat retention. This Essential Requirement leads to mandatory CE Marking on R value and thermal conductivity λ (based on the 90/90 statistical guarantee).

1.2. Absence of hazardous materials &

1.3. Blowing agent with zero ozone depletion potential

Documents answering the criteria:

- **CEN/TC 350 "Sustainability of construction works", PrEN 15804: 9.2 Declaration of the material content, mandatory:*
  "The material content declaration is intended to enable the user of the EPD to understand the material composition of the product in delivery condition and thereby support a safe and effective installation, use and disposal of the product. It shall include the specification of materials and substances that can adversely affect human health and the environment, in all stages of the life cycle".

  "Table 2 – Sources for information on material content of product in delivery condition"

<table>
<thead>
<tr>
<th>Reference title</th>
<th>Reference source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety data sheet</td>
<td><a href="http://......or">http://......or</a> contact</td>
</tr>
<tr>
<td>Substances considered under REACH</td>
<td><a href="http://......or">http://......or</a> contact</td>
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- **REACH Regulation 1907/2006:** Manufacturers are required to register the details of the properties of their chemical substances on a central database, which is run by the European Chemicals Agency in Helsinki. The Regulation also requires the most dangerous chemicals to be progressively replaced as suitable alternatives develop.

1.4. Wood coming from non protected areas

No comment: Mineral Wool industry is not concerned.

1.5. Energy consumption during manufacture and transportation

Document answering the criteria:

- **CEN/TC 350 "Sustainability of construction works", PrEN 15804:
6.4.4.1 Product stage
The product stage is a mandatory life cycle stage. It includes:
- Extraction of raw materials and biomass production;
- Manufacturing of the product;
- Generation of the energy input, including the production of the energy itself;
- Production of ancillary materials or pre-products;
- Packaging;
- Transportation up to the production gate and internal transport;
- Recycling of materials, including their collection and transport from the system border of the previous system to the production site;
- Waste management processes during the product stage until final waste deposition.

6.4.4.2 Construction stage
The construction stage is an optional life cycle stage. It includes:
- Transportation from the production gate to the construction site;
- Storage of products, including the provision of heating, cooling, humidity etc.;
- Installation of the product into the building (including ancillary materials) and on site transformation of the product;
- Waste management processes of the waste on the construction site until final waste deposition.

9.3.2 Indicators based on LCI and not assigned to the impact categories of LCIA
"The following environmental information on use of renewable material resources and primary energy (data derived from LCI and not assigned to the impact categories of LCIA) shall be included in the EPD as follows:

Table 5 – Indicators based on LCI and not assigned to the impact categories of LCIA
Indicator expressed as unit per functional/declared unit
- (use of renewable material resources other than primary energy; Kg)
- use of renewable energy resources, primary energy, MJ
- Use of non renewable energy resources, primary energy split into use of coal, lignite, natural gas, uranium, secondary fuels, MJ"

It should be noted that the criteria mentioned in CEN/TC 350 are much more comprehensive than the request of energy consumption during manufacture/transportation.

2. AWARD CRITERIA

2.1. Wood based materials: at least 30% coming from forests verified as respecting sustainable forest management.
No comment: the Mineral Wool industry is not concerned.

2.2. Points will be awarded according the levels and amount of information provided by the manufacturer to the purchaser, covering the following items:

2.2.1. Manufacturer and date of manufacture/ batch no. &
2.2.2. Product R-values

Documents answering the criteria:
- **EN 13162, Product standard for Mineral Wool**, imposes the name or identifying mark and registered address of the producer in CE Marking. Also integrated in CE marking are the last 2 digits of the year in which marking is affixed. Thermal resistance and thermal conductivity are also part of CE marking.

- **CEN/TC 350 “Sustainability of construction works”, PrEN 15804:**

  **9.1 Declaration of general information, mandatory**
  a) The name and address of the manufacturer(s);
  b) The description of the construction product’s use and the functional or declared unit of the construction product to which the data relates;
  c) Construction product identification by name (including e.g. production code) and a simple visual representation of the construction product to which the data relates;
  d) Description of the product components where relevant;
  e) Name of the programme and the programme operator’s address and, if relevant the logo and website;
  f) The date the declaration was issued and the 5 year period of validity;
  g) Information on which stages are not considered, if the declaration is not based on an LCA covering all life cycle stages;
  h) A statement that environmental declarations from different programmes may not be comparable;
  i) 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.
  j) The site(s), manufacturer or group of manufacturers or those representing them for whom the EPD is representative;
  k) Content of the product as identified in c) above, covering materials and substances to be declared as specified in clause 9.2
  l) Information on where explanatory material may be obtained;

In addition to the above, Figure 4 shall be completed and reproduced in the EPD. CEN standard 350004 serves as PCR”. See original document for Figure 4.

### 2.2.3. The material that the product is manufactured from.

*Documents answering the criteria:*

- CE marking coming from the CPD requires description of the product.
- See also comments on content in 1.2 and 1.3 above.

### 2.2.4. Weight and thickness.

*Document answering the criteria:*

- Thickness is part of the CE marking according to EN 13162.
- Weight is not considered as a critical criterion as the product is sold on performance, measured by the declared R value under the CE Marking.
2.2.5. **Percentage recycled content:** for composite materials, the percentage of each material must be clearly labelled by mass or volume.

*Document answering the criteria:*

- **CEN/TC 350** "Sustainability of construction works", PrEN 15804:
  
  6.4.4.1 **Product stage**
  The product stage is a mandatory life cycle stage. It includes:
  - Recycling of materials, including their collection and transport from the system border of the previous system to the production site.

  **“9.3.2 Indicators based on LCI and not assigned to the impact categories of LCIA**
  Table 5 – Indicators based on LCI and not assigned to the impact categories of LCIA
  Indicator expressed as unit per functional/declared unit
  - use of renewable material resources other than primary energy; Kg.

2.2.6. **Maximum storage time or install-by date.**

An inherent property of Mineral Wool is that there is no limit in storage time nor requirement on installation date.

2.2.7. **Time after installation at which the product will have re-lofted to its nominal thickness.**

This inherent characteristics of Mineral Wool is covered by the harmonised product standard EN 13162.

2.2.8. **Transportation and installation instructions.**

*Document answering the criteria:*

- **For transportation:**
  CEN/TC 350 "Sustainability of construction works", PrEN 15804:
  **“9.4.1. Construction process stage**
  **9.4.1.1 Transport**
  The following information shall be provided to support scenarios on the building level for all construction products for transports from the production gate to the construction site:

  **Table 7 – Transport**
  Information declared, expressed as unit per functional/declared unit
  - Fuel consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat etc. in l fuel/km
  - Capacity utilisation (including empty returns) in %
  - Bulk density kg/m³
  - Volume capacity utilisation factor (≥ 1)

  **NOTE 1** As an alternative for 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) on the building level can be considered. 

NOTE 3 For the assessment on the building level more complex logistic may have to be considered."

- **For installation:**
  - **CEN/TC 350 "Sustainability of construction works", PrEN 15804:**
  - **“9.4.1.2 Installation in the building**

The following information shall be provided to support installation scenarios on building level:

**Table 8 — Installation of the product in the building**
Information declared, expressed as unit per functional/declared unit
- Ancillary materials for installation; e.g. kg, or number of pieces etc.
- Other resource consumption kg
- Quantitative description of energy carrier (regional mix) and consumption during the installation process kWh
- Waste on the building site, generated by the product’s installation, kg
- Waste management processes of building site e.g. collection for recycling, for energy recovery, final disposal kg waste for recovery (recycling, as source for energy) kg waste for final disposal
- Emissions to air, soil and water kg" 

“NOTE Guidance on safe and effective installation, use and disposal of the product is supplied by the manufacturers in their technical product literature”.

2.2.9. **Written storage instructions.**

See above.

3. **COMPREHENSIVE CRITERIA**

**Recycled content**

See point 2.2.5. above.

4. **AWARD CRITERIA**

4.1 Material has been produced by a manufacturer which has in place effective policies and procedures to minimise:
   - a. Energy use during manufacture.
   - b. Water use during manufacture.
   - c. Waste produced during manufacture through waste reduction and recycling.

*Document answering the criteria:*

- Either EMAS or ISO 14000 series answer these criteria.
4.2 The manufacturer provides a minimum of 20-year warranty against defects in workmanship and materials.

For workmanship, the manufacturer cannot take the liability for installation of the product as this is beyond his control. Furthermore, in most of the cases, the manufacturer is not aware of the destination and application of the product as the product is handled in a building chain.

For the product, the manufacturer is subject to the legal requirements.

4.3 Percentage of recyclable, recoverable and recycled content of the materials in the packaging used for insulation products

This information is included in the environmental declaration of the product according to PrEN 15804.
Annex II:
Some specific remarks on key elements of the Background Report


The most important problems with the scheme.

3.1 Applications

The list of 6 applications is too limited - ISO FDIS 9774 lists 29 insulation applications. Different products will perform differently in different applications.

3.2 Materials

All types of products are divided into these two main categories:
- Factory made products
- In-situ made products

The report fails to recognize this and the very different distribution of lifecycle impacts in these two product groups.

3.2.2 Organic oil derived

The report misses reference to a number of products like polyethylene foam, flexible elastomeric foam, polypropylene fibers (wool).

4.2.1 Manufacturing Impacts - Energy and Water Use

A major problem in the report is the use of embodied energy as a measure for sustainability, as this only includes a part of the actual impact on nature.

Embodied energy in building materials is defined as the non-renewable energy consumed in the acquisition of raw materials, their processing, manufacturing, transportation to site, and construction. The data presented in table 2 includes only energy from fossil fuels, i.e. neither renewable resources used for process energy nor inherent energy (energy that can be recovered by appropriate end-of-life processes) is included.

This approach is in strong contradiction with the recommendations in the ISO standards on Life Cycle Assessment (ISO 14040 /f) aiming at providing the full life cycle perspective of materials, products and services. The approach also neglects the documentation format suggested by CEPMC, allowing a distinction between, on the one hand, fuels used for processes and fuels used as feedstock, and on the other hand a distinction between non-renewable and renewable fuels.

The result of the approach is therefore useless at best, but it may also be misleading if over-interpreted by non-experts. Cellulose (or paper wool) insulation is a typical example of this.
The risk of misinterpretation is judged to increase because the data quality is rather poor. Secondary sources are used, e.g. the study by Ardente et al. (2008), and it is obvious that neither Ardente et al. nor the author of the background report have given much consideration to the figures. This is evident from the fact that both documents distinguish between cellulose and paper wool insulation and stone wool and mineral wool, without any definitions or discussion of differences in properties. Using primary data sources or extracting data from a secondary data source with a consistent approach to data treatment would most probably give very different results, irrespective of the general approach.

The following actions are recommended:

- **Rewrite section 4.2.1 in the Background Document, focusing on life cycle energy consumption instead of embodied energy or primary energy**

4.2.2 Energy Saved In-use

The numbers given in table 3 are UK references. CE marking is still not compulsory in the UK. There are European methods for the declaration of data for thermal conductivity. These methods are not always used in the UK. Another problem with the data in table 3 is that they seem to be industrial in origin as the range of temperature and densities are not representative for building products.

4.2.3 Hazardous Materials

This section is entirely misleading, some products and substances are not mentioned and some substances are not taken into account by the expert group. Reference should be made to the work underway in CEN/TC 351. Here emissions of hazardous materials are considered and not their content. A proposal from EGDS (expert group dangerous substances) from the Commission Construction Unit is currently under discussion with CEN/TC 351 and CEN/TC 88.

4.2.4 End of Life Management

Table 5 is incomplete - only some of the materials which has been mentioned previously are included and new have been included e.g. melamine foam. The mentioned recycling possibilities are incomplete.

7. Existing Standards & Ecolabels relevant to Thermal Insulation

Thermal insulation products are construction products and relevant work is being made in CEN/TC 350 regarding the declaration of environmental indicators.

7.2.1 Product characteristics

The basis of comparison (functional unit) should be the thermal resistance of the product (R value). This varies with the application. Thickness is not always a limit, e.g. for a wall, the calculation of the required thickness will be different for timber and masonry constructions.
7.2.2.1 Recycled content

Table 9 - there are practical limitations on availability in some European countries. Discussion on recycled content is necessary with European manufacturers in order to determine feasible European recycled content. For some products the characteristics are changed in the recycling process.

7.2.4.1 Prohibited substances

CEN/TC 351 is preparing rules for release to ground water/soil and emission to indoor air for Construction Products. Limits and levels shall be determined on a European or national basis. In the countries mentioned in table 10 this job was not done.

7.2.6. Product information

Basic product labelling information is provided on all CEN product thermal insulation standards. In two places (main text and Annex ZA). In the new CPR a seventh essential requirement will be added on sustainability including information on LCA.

7.2.7 Warranty

The CEN/TC 88 thermal insulation standards are based on the principle of general lifetime of the buildings of 50 years.