EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY

Directorate C - Renewables, Research and Innovation, Energy Efficiency
C.3 - Energy efficiency

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Working Document

on Thermal Insulation Products (Lot 36) – Results from exploratory study and suggested way forward

- Agenda Point 10 –

This Working Document will be discussed with the Members of the Ecodesign Consultation Forum at the meeting of 5 May 2014 (agenda point 10).

In the Ecodesign Working Plan 2012-2014, thermal insulation products for buildings were included in a list of conditional products groups, because it remained to be seen whether these product groups could usefully be covered by dedicated ecodesign and/or energy labelling implementing measures. For this purpose, an exploratory study was undertaken between May and December 2013 by the Flemish Institute for Technological Research (VITO) and the Wuppertal Institute for Climate, Environment and Energy (WIKUE), on the basis of desk research and consultation of experts and stakeholders. The study implemented Tasks 0, 1 and part of task 7 of the Methodology for the Ecodesign of Energy-Related Products (MEErP), in an effort to clarify the possible scope for the product group and to provide a first estimate of the likely environmental improvement potential on the basis of existing research (Task 0 and 1), to survey existing legislation and standards (Task 1), and to examine what type of policy options would be meaningful in light of the existing context and the specific characteristics of the product group (Task 7).

The study concluded that requirements on the energy labelling or the minimum efficiency (through ecodesign) of thermal insulation products are not possible. Even though saving energy is the very function of the product group, performance requirements are too varied and dependent on the installation of the products to be set at product level.[1] The appropriate level of introducing requirements on the performance of insulation is at the level of the building envelope, which is covered by the Energy Performance of Buildings Directive (EPBD, 2010/31/EU).

The durability of thermal insulation could be relevant from the point of view of energy savings, because if the thermal resistance of the insulation decreases with aging, gradually more energy will be needed to heat the building. Less durable insulation also needs to be

[1] For example, it might well be that a certain width of insulation is used filling a particular cavity. If the thermal performance of the product used is very high, then applying it in the required width would result in over-insulation. In that particular location, a product with lower thermal conductivity is necessary, as it has to provide no more and no less than the required thermal resistance, while at the same time filling in the cavity.

replaced more often causing the insulation system to have a higher overall environmental impact. However, the study could not find sufficient information on the durability of thermal insulation to conclude whether it is a parameter with significant improvement potential, even though the durability of the thermal resistance/conductivity against ageing and degradation is covered in the current harmonised product standards on several thermal insulation products (e.g. EN 13162, EN 13163, etc.).

Production-phase and end-of-life environmental impacts of thermal insulation products are for now marginal compared to the environmental benefits they bring in the use phase by lowering building energy consumption.

The emission of harmful substances during the use phase is a relevant parameter for installers of thermal insulation and building users. Measurement standards for all construction products are currently developed in response to Commission mandate M/103 under the Construction Products Regulation. From this respect, there is no reason to single out thermal insulation products among other construction products.

The Commission services conclude from the study that a specific ecodesign or energy labelling implementing measure should not be developed for this product group. It would not be appropriate either to adopt an ecodesign implementing measure only addressing product information requirements. It would be disproportionate administrative burden both for the authorities and institutions involved to carry such a measure through the adoption process, and for the manufacturers to implement it.

There is, however, a need for more clarity and information on the durability of thermal insulation products with a view to informing national and EU policy whether it is advisable to introduce product- or system-level requirements on this aspect. The Commission services therefore intend to explore, by the end of 2014, with the assistance of the European Standardisation Organisations, to what extent already existing EN standards and ongoing standardisation work cover durability appropriately for the purposes of collecting this information.

The Commission services will subsequently decide what action (if any) needs to be undertaken to obtain the appropriate information on the durability of thermal insulation products necessary to assess the need for further policy measures (if any) on this aspect.

It should be further noted that the Commission services plan to launch in June 2014 a three-year pilot study to develop Product Environmental Footprint Category Rules (PEFCR) for thermal insulation.[2] The aim of the PEFCRs is to provide specific rules to calculate the environmental footprint for thermal insulation products, including benchmark and, if appropriate, performance grades. The PEFCR might become relevant in the future, when all buildings in the EU will be near-zero energy buildings, and further environmental improvements can only be achieved by addressing the entire lifecycle of thermal insulation products.

[2] http://ec.europa.eu/environment/eussd/smgp/pef_pilots.htm