

CEMEP position on material efficiency standardization (M/543) supporting Ecodesign

For public use

Overview

On 2nd December 2015, the EU Commission announced a major new initiative: The Circular Economy Strategy “Closing the loop - An EU action plan for the Circular Economy”. The Ecodesign directive will be used for addressing circular economy issues, such as material efficiency aspects of energy related products, including electric motors, variable speed drives and UPS’ (uninterruptible power supplies). To prepare for implementation, the EU commission issued the Ecodesign standardization request M/543 on Material Efficiency, by the end of 2015.

CEMEP and its member companies are clearly aware of our environmental responsibilities and are strongly engaged in supporting the EU circular economy initiative. However, CEMEP companies see several challenges in the ongoing Material Efficiency standardization that should be considered carefully:

- B2C (consumer) products, businesses and organisations have attracted the main attention and focus in the standardization work, due to short innovation cycles and corresponding short service life of B2C products. This focus may result in a set of horizontal standards biased towards correcting market failures in B2C markets.
- Despite large differences between the characteristics of consumer and industrial products and businesses, the intention is to apply the same set of horizontal standards. Many CEMEP industrial products are already very well adapted to material efficiency principles, but are not recognized for this. Topics such as upgradeability, reparability and serviceability are already well reflected in the B2B market to ensure long service life of the products and their target applications. Horizontal standards must protect and support already well-functioning circular business models.
- Further these topics are vital to the manufacturers’ customer relationship management and can even be a market differentiator (value proposition) for CEMEP member companies. Too much standardization in this area may negatively affect competition.
- EU may decide to use horizontal standards directly without waiting for product specific standards. Applying these standards without adapting to the specific context, will only place an administrative burden on manufacturers without supporting the aim of correcting market failures regarding material efficiency.
- The focus on material efficiency is threatening energy efficiency as a very important policy area within Ecodesign. In most cases of CEMEP’s targeted applications, the use stage of the products is the dominating driver for environmental impacts. Often a reduction of these results in the utilization of more material at the manufacturing stage. Hence, regulation in material efficiency may face the dilemma of conflicting with climate related targets, e.g. by energy efficiency regulation [source: e.g. Auer et al., 2016; Auer et al., 2017]

CEMEP position on material efficiency standardization (M/543) supporting Ecodesign

To address these challenges and to provide real benefits to society while insuring the sustainability of CEMEP industries, CEMEP wants to express its position on material efficiency standardization activities:

1. CEN-CLC/JTC 10 standardization committee and attached Working Groups should consider and address the large differences between consumer products/B2C businesses and industrial products/B2B businesses, to secure adequate and fair frame conditions.
2. Horizontal standards must be designed to recognize the characteristics of industrial products and their use. If not possible, CEMEP calls for separate standards for industrial products.
3. Material efficiency standardization and regulation must protect and support existing, successful circular business models. A B2C biased material efficiency standardization may harm existing successful circular economy business models for CEMEP products.
4. Lifetime and durability requirements by regulation are not suitable for industrial products, due to the wide variability in end application requirements. If necessary, lifetime and durability requirements should be set only for the end application, which then will guide the selection of suitable components.
5. Existing voluntary initiatives regarding Ecodesign, such as the EN 50598-3 environmental standard, should be recognized and used for reflecting material efficiency aspects.
6. The principle of only regulating the market in case of market failures must be respected. Many industrial businesses already have a high degree of circularity i.e. the market already works well in terms of circular economy.
7. Maintain a high focus on Energy Efficiency in Ecodesign regulation. There are still a lot of energy savings to be gained for a large share of CEMEP products, especially by introducing Ecodesign regulation to whole systems, applying the “Extended Product Approach”. Possible conflicting requirements for energy efficiency and material efficiency must be addressed.

Comments in detail

1. **CEN-CLC/JTC 10 standardization committee and attached Working Groups should consider and address the large differences between consumer products/B2C businesses and industrial products/B2B businesses (table 1).**
 - Almost 300 experts have registered for participating in this standardization work. Considering which companies, EU authorities and NGO’s they represent, the main attention is on business to consumer(B2C) industries. Despite strong involvement of business to business(B2B) industries, including CEMEP member companies, this unbalance will obviously focus the work on B2C issues.
 - This dominance by consumer products and related industries has caused great concern in CEMEP. There is a risk that the final standards are much more adapted to consumer

CEMEP position on material efficiency standardization (M/543) supporting Ecodesign

industries, among other reasons to prevent “planned or programmed obsolescence”, which is being more and more discussed in the media.

- **This phenomenon is not relevant for CEMEP products** and may lead to requirements unacceptable or even harmful for CEMEP businesses. Keeping in mind that these generic and horizontal standards will lay the foundation for future assessment of compliance to requirements from future regulation, as well as for product specific standards, we find it urgent to raise the awareness of this risk, **to secure a fair balance in standards and Ecodesign regulation.**

Table 1: Differences between general consumer products and CEMEP industrial products

	B2C product features	B2B (CEMEP) product features
Durability	2 – 10 years	10 – 30 years considering the full life cycle assessment of product, the dependability, the environmental impact.
Repair, reuse, upgrade	Only a few service businesses, most consumer products are not repaired	Existing and mature service business, managed by professional companies, having skilled competencies often supported by CEMEP companies
Re-manufacture	Not possible or limited, even if some local initiatives appear also led by NGO’s	Existing well-established remanufacturing industry, typically SME’s in operation since CEMEP products were introduced to the market
Recyclability & recoverability	Difficult due to integrated construction and mix of materials	Easy due to less integrated construction, materials well suited for recycling
Re-using components	possibly difficult	Possible for motor casings, cabinets etc.

2. Horizontal standards must be designed recognizing the characteristics of industrial products and their use. If not possible, CEMEP calls for separate standards for industrial products.

- **The European Commission may possibly harmonize and list horizontal standards for direct use¹** (standards developed under M/543 Standardization request for Material Efficiency standards). The horizontal standards may be used directly in new or revised regulations from 2019.
- The European Commission has started to implement circular economy requirements in Regulations for product lots under revision² or issued from the Ecodesign Work Plan 2016-2019. These regulations may enter into force without waiting for results from the EC

¹ prEN45553 re-manufacturability: CEN-CLC JTC10/Sec/173/DC

² Draft Ecodesign regulation for household washing machines and washer-dryers

CEMEP position on material efficiency standardization (M/543) supporting Ecodesign

standardization request M/543 on Material Efficiency standardization process (scheduled in 2019).

- The general concepts defined in horizontal Material Efficiency standards should be adapted to the characteristics of CEMEP products concerning: durability, repairability, upgradability, remanufacturing, recycled content, recyclability, etc.

3. Material efficiency standardization and regulation must protect and support existing, successful circular business models. A B2C biased material efficiency standardization may harm existing successful circular economy business models for CEMEP products.

- Many CEMEP products are **well positioned** regarding durability and life span or ability to be repaired, upgraded, and recycled. This positive situation is **not well known** outside the sector.
- CEMEP industries are offering longer life span and a full panel of services with **positive impact for circular economy** (Auer et al., 2017)³: e.g. motor re-winding services are existing since more than 100 years and allowing longer life span for industrial electric motors. This positive situation is **not well known, but should be recognized** by authorities and decision makers.
- **Material efficiency regulations should support (and not harm) the business models already working well within B2B industries:**
 - Longer life span: 10 – 30 years versus 2-10 years for B2C products
 - Good repair / maintenance ability
 - Positive end of life scenario – good recycling opportunity
- It is important to protect and support the existing successful circular economy business models around CEMEP products: motor re-winding, motor lifetime up to 30 years, easily repaired, recyclability almost 100%, with companies dedicated to that activity.
- Key concepts and processes discussed are impacting directly product design and existing business models offering services around CEMEP products. The industry, including CEMEP companies, needs long term visibility and stable frame conditions, to fulfil new regulations in time and stay competitive in the World market.
- **The EU commission should anticipate** the possible circular economy requirements within actual Ecodesign lots revision, to get suitable, measurable and verifiable requirements (fair competition) considering all the other performances required from CEMEP products (energy efficiency, electrical safety, wide range of application etc.).

³ Auer J., Bey N. & Schäfer, J.M. 2017, 'Combined Life Cycle Assessment and Life Cycle Costing in the Eco-Care-Matrix: A case study on the performance of a modernized manufacturing system for glass containers', Journal of Cleaner Production, vol 141, pp. 99-109. DOI: 10.1016/j.jclepro.2016.08.096

CEMEP position on material efficiency standardization (M/543) supporting Ecodesign

- 4. Lifetime and durability requirements by regulation are not suitable for CEMEP industrial products, due to the wide variability in end application requirements.**
 - Lifetime and durability requirements should be set only for the end application (as in the case of consumer products), which then will guide the selection of suitable components.
 - Currently both durability and reliability are applied in draft material efficiency standards:
 - **Durability versus reliability:** durability is preferable, as it also considers conditions of use. Durability is also linked with “planned or programmed obsolescence”, while reliability is just one criteria of engineering & design.
 - **It is not made clear how durability and reliability are linked to saving materials in industrial products.** Stronger requirements on durability may require the use of more material in industrial products.

- 5. Existing voluntary initiatives regarding Ecodesign, such as the EN 50598-3 environmental standard, should be recognized and used for reflecting material efficiency aspects.**
 - The environmental standard EN50598-3 was developed with strong support from CEMEP industries.
 - EN50598-3 should be accepted and used as the default “product category rule” for CEMEP product categories, where appropriate throughout material efficiency standards.
 - Also, current standardization initiatives from the WG 8 team of the Environmental CEN-CLC/TC 111X Committee should be considered, as for example the “Method for quantitative eco design via life cycle assessment and environmental declarations through product category rules for EEE”.

- 6. The principle of only issuing Ecodesign regulation in case of market failures must be respected. Many industrial businesses already have a high degree of circularity i.e. the market already works well in terms of circular economy.**
 - CEMEP companies and the market already proved, that circular principles can be implemented without any regulation. EU should carefully examine, if there is a market failure and a real need for material efficiency requirements before issuing new regulations.
 - A regulation is justified only if the market needs support in establishing circular principles.

CEMEP position on material efficiency standardization (M/543) supporting Ecodesign

7. Maintain a high focus on Energy Efficiency in Ecodesign regulation.

- There is still a lot of energy savings to be gained, especially by introducing Ecodesign regulation to whole systems, applying the “Extended Product Approach”.
- Possible conflicting requirements for energy efficiency and material efficiency must be addressed. (Auer & Meincke, 2017)⁴
- **It is important to keep high focus on energy efficiency** as CEMEP products already have long life spans and high levels of circularity. But there is still a lot of potential energy savings remaining, which can be harvested by applying regulations to whole systems (see final report of lot 11⁵).
- CEMEP companies are positive towards material efficiency regulation, but find it even more important to continue the high focus on energy efficiency in future Ecodesign regulation. Due to the character of CEMEP products, materials are already used with care and recycled at the end of life. **Energy efficiency requirements are valuable both for society and industry, hence it is beneficial for everyone to prioritize energy efficiency within a systems approach in future Ecodesign regulations.**

About CEMEP

CEMEP is the European Committee of Manufacturers of Electrical Machines and Power Electronics, representing an industry with a market value of €6.3 billion and 130,000 employees. The members of CEMEP are the National Associations in Europe, representing manufacturers of electric motors, variable speed drives (VSD) and uninterruptible power systems (UPS). The objective of CEMEP is to promote and to support the common technical, industrial, economic, environmental and political interests of the European motors, VSD and UPS industries. Through CEMEP, the industry speaks with one voice and deals with the EU technical and environmental directives and other common industrial matters.

The CEMEP organisation includes four Industry Groups responsible for:

- Low Voltage Motors
- High Voltage Motors
- Variable Speed Drives (VSD)
- Uninterruptible Power Systems (UPS)

⁴ Auer J., Meincke A. 2017, ‘Comparative Life Cycle Assessment of electric motors with different efficiency classes: A deep dive into the trade-offs between the life cycle stages in Ecodesign context’, The International Journal of Life Cycle Assessment, DOI 10.1007/s11367-017-1378-8

⁵ EUP Lot 11 Motors Final Report. Aníbal T. de Almeida, Coimbra, 18th February 2008