CEMBUREAU FEEDBACK TO THE EUROPEAN COMMISSION'S PUBLIC CONSULTATION ON ENERGY EFFICIENCY DIRECTIVE

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CEMBUREAU welcomes the opportunity to provide feedback on the Commission public consultation on the revision of Directive 2012/27/EU on energy efficiency.

CEMBUREAU's 2050 Carbon Neutrality Roadmap, which was published in May 2020, sets out the cement industry's ambition to reach net zero emissions along the cement and concrete value chain by 2050.

When it comes to the Commission's AII, CEMBUREAU has the following comments:

- It is essential that a thorough impact assessment is conducted by the European Commission to determine what improvements in energy efficiency can be technically achieved before setting an increased target.
- Achieving climate neutrality by 2050 will require all sectors of industry and civil society to contribute to making GHG reductions, including in sectors such as buildings and transport. This will require the continued program of replacing the generation of electricity by fossil fuels with renewable sources. It will require the reduction of GHG emissions from all forms of buildings and from all forms of transport. Finally, the continued reduction of GHG emissions from industries which fall under EU ETS and those industries which do not. These reductions will be achieved through many technical pathways, of which energy efficiency will be one of the many measures.
- Referring to energy efficiency in buildings, much of the European building stock will require significant refurbishment to ensure the buildings will meet the future needs of society and not just the application of insulation and changing of heating systems.
  - Deep renovation of buildings can be achieved through the re-use of the building structure and the incorporation of thermal mass. This will reduce energy for both heating and more important cooling by 25% and up to 40% during peak energy demand periods (3E study). This will enable buildings to be designed for multi-use making them more adaptable and to meet the increased demand for comfort required by society. Public buildings should be included in this process. National methodologies to implement the Energy Performance of Buildings Directive must be sophisticated enough to consider dynamic effects and capture the thermal mass effect through dynamic energy performance calculations.
  - Building renovation is not limited to energy efficiency, and should include a focus on material efficiency and the circular economy. Not only should the building be more energy efficient but offer a much longer life span, incorporate a circular design approach based on durability and flexibility, allowing for future adaptation and due consideration of reuse and recycling an element.

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- The Energy Performance in Buildings Directive (EPBD) and the Energy Efficiency Directive (EED) are part of a larger regulatory framework where all initiatives announced in the Green Deal such as the Sustainable Product policy, Green Public Procurement need to be developed with an eye for consistency and coordination of definitions and concepts.
    - Throughout the regulatory framework, attention for a cross-material life cycle assessment at the level of the building should be one of the key policy drivers. On this aspect, we support the evolution of the Level(s) framework of common European indicators as the basis for future policy to measure and account for the sustainable performance of buildings across their whole lifecycle.
- Digitalisation is a keyway to improve energy efficiency and optimise production processes. This has been used for many years in the cement industry which auto control systems for kilns and mills. The integration of big data further enhances this efficiency through better prediction modelling. Digitalisation is increasingly being installed down the cement and concrete value chain to improve energy efficiency in concrete operations and in construction through 3D printing.
- Energy efficiency can be improved by waste heat recovery in the cement industry. This often cannot be justified through payback through energy savings alone. Public funding should be made available to support the installation of waste heat recovery. Furthermore it is essential that investments in kiln technologies and waste heat recovery are recognised as measures for energy efficiency. Available waste heat from manufacturing installations should be used first before further thermal plants are erected in the same area.
- The cement clinker production process as such exhibits a high energy performance. According to the technical report "Evaluation of the energy performance of cement kilns in the context of co-processing" issued in 2017 by the European Cement Research Academy, the energy efficiency in the cement kilns varies between 70% to 80% depending on the raw materials moisture content.
- Electrification of the cement manufacturing process is at the early stages of research and will require funding support to enable research to continue and the technologies to be tested at plant demonstration level. This includes the use of electrical heating at the calcination stage and the use of plasma and hydrogen at the clinkering stage.
- Reducing the inefficiency of having standby or peak demand power generation systems will require changes to policy to enable increased options through smart energy integration (refer to CEMBUREAU's feedback on Preparing a future EU strategy on energy sector integration).
- It should be noted that environmental measures and higher performance of products provide overall benefits but the usually lead to a higher energy demand in their production:
    - Technologies for reducing emissions lead to benefits for a better air quality but they usually require a higher electricity demand and therefore potentially lead to higher indirect emissions.
    - A higher performance of a manufactured product leads to more energy efficiency in its use stage but usually this also requires a higher energy demand in the product's producing stage.

CEMBUREAU stands ready to engage with policy-makers throughout the Directive 2012/27/EU revision process.

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