

Resource Management through the value chain of the precast concrete sector as a key to achieving Sustainable Construction

1. Introduction

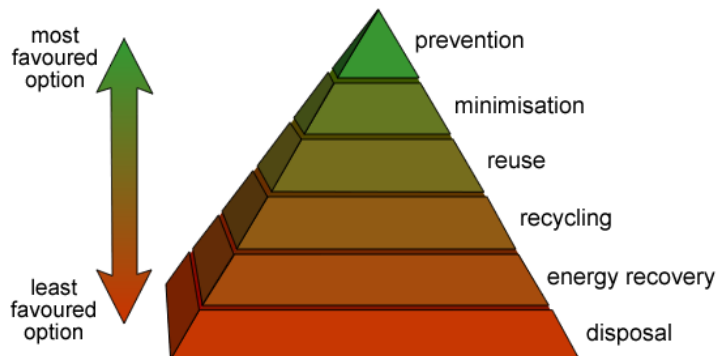
Key role played by concrete in the modern society

- 2nd most used material after water ...
- ... to fulfil the modern society needs (social and environmental) ...
- in terms of living, working and communicating structures

2. Core message

Although made of natural raw materials locally available to fulfil present and future society needs, the precast concrete industry believes that the management of natural resources is the key for securing the needs of the society

1. Precast concrete is made to last (durability) – The most sustainable use of a resource is to reduce its replacement (longer life span, less maintenance)
2. Concrete constituents are naturally and locally available, now and for thousands of future generations



3. Despite that, the target of the Precast Concrete industry: "Prevention and minimisation"
 - a. Prevention:
 - i. Prefabrication reduces the amount of waste during the construction phase
 - ii. « Zero waste » policy in place in most modern precast concrete factories
 1. Internal recycling of unsuitable products
 2. Water use closed loop
 - b. Minimisation: the precast Concrete industry supports the principles of "lean construction" (do more and more with less and less)
 - i. Elimination of waste ...
 - ii. ... whilst meeting or exceeding customers requests ...
 - iii. ... focusing on the entire value stream(Example of section reduction during last XX years)

4. End-of-life stage
 - a. Present use of recycled aggregates from C&D wastes in road foundation layers (advantages)
 - b. Possibility to use C&D wastes as secondary raw materials for concrete production – No unnecessary burden (classification as articles under REACH), but need for quality insurance (responsible recycling) and incentives for their use
 - c. Taking into account the overall benefits of the choice (energy needed for recycling and transport does not have to be disproportionate to the benefits of recycling)
 - d. Concrete recarbonation as a contribution to CO₂ sink with recycled aggregates
5. Efforts of all the actors through the value chain
 - a. Biodiversity considerations in quarry management (reference to UEPG brochure)
 - b. Co-processing of alternative fuels and raw materials in the European cement industry (reference to CEMBUREAU brochure)
6. Importance of design for the minimisation of resource consumption in all the phases
 - a. Use – Mainly energy efficiency
 - b. End-of-life – Design for deconstruction and/or easy recycling

3. Conclusion – Commitments and needs of the industry

Repeat the strategic importance of an innovative and sustainable European manufacturing industry - “Shifting the burden outside Europe” is not a solution

1. Main industry need is the access to quality primary and secondary raw materials ...
2. ... with the commitment to minimise the global environmental impact of precast concrete manufacturing, use and disposal
3. Political and regulatory measures to be addressed at national/local level
 - a. Physical infrastructure needed for recycling
 - b. Encouragement in the use of recycled materials where economical AND environmental advantages are evident
 - c. Financial incentives may be needed ...
 - d. ... though taxation only can have adverse effects

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BIBM is the European organisation representing the Precast Concrete industry, involved in the supply of sustainable solutions for the built environment. The sector employs more than 210.000 people in 8.000 production plants around Europe, generating more than 35 billion Euros of turnover.