THE CEMENT INDUSTRY’S 5 C APPROACH

EU PAVE EVENT: “SUSTAINABLE ROADS TOWARDS CARBON NEUTRALITY”
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THE CEMENT INDUSTRY IN EUROPE

- EU cement production 2017: 175 million tonnes
- Gradual recovery after 40% drop in 2007-2013 period
- Cement consumption EU: 309 kg/inhab. (China: 1705 kg/inhab.)
- EUR 15 bn turnover; EUR 4.8 bn added value; 47,000 employees; 350 enterprises in EU
CEMENT & CONCRETE KEY ENABLERS FOR THE LOW CARBON ECONOMY

Quarries ➔ Clinker ➔ Cement
  limestone ➔ grinding ➔ (10%−15%)

Cement ➔ Water ➔ Aggregates ➔ Concrete
  (15%−20%) ➔ (65%−75%)

SUSTAINABLE TRANSPORT RENEWABLE ENERGY THERMAL MASS
INNOVATION ALONG THE VALUE CHAIN
“5 C APPROACH”

- **Up to 25% of process emissions can be reabsorbed through (re)carbonation**
- **Thermal mass of concrete saves CO₂**
- **Life-cycle analysis of the built environment**
- **Biodiversity / responsible quarrying**
- **46% alternative fuel use replacing fossil fuels**
- **Reducing clinker to cement ratio**
- **Novel cements & low CO₂ binders**
- **Carbon capture & storage / use**
- **Recyclability of concrete**
- **Admixtures to optimise mix constituents**

**WE NEED A FACILITATING REGULATORY FRAMEWORK:**
- Maintain global competitiveness
- Access to affordable energy
- Access to alternative raw materials
- Access to waste / ban on landfill
- Public funding for breakthrough technologies
- Higher recycling rates of construction and demolition waste
- Recognition of thermal mass and life cycle of built structures
- Acceptance of recarbonation as counting towards CO₂ reduction