

Building on firm foundations:

cement and concrete in the Industrial Accelerator Act

Construction is one of the biggest sectors in the EU, **employing approximately 14.3 million workers and representing 5.5% of the EU GDP**. While it uses many different types of materials, cement and concrete represent its backbone in terms of both volumes and emissions: cement production amounts to 176 million tonnes annually and is responsible for **about 4% of the total EU emissions**, with industrial production of cement present in almost all Member States. Cement is a **particularly challenging sector to decarbonise** as a large proportion of CO₂ produced is inherent to the manufacturing process. The high investment costs needed to abate the process emissions, compounded by the sector's large and widespread production base and the risk aversion of the construction value chain.

While **decarbonisation technologies are already available** for the sector, cost increases, reticence to the adoption of new materials, and the lack of incentives make their market adoption limited. **The creation of lead markets for low-carbon cement and concrete under the Industrial Accelerator Act (IAA) is essential** to ensure demand and provide a solid business case for decarbonisation.

1. Promote all decarbonisation levers simultaneously

To ensure the creation of lead markets for low-carbon cement and concrete is effective, the IAA's procurement requirements should **promote equally all decarbonisation levers**, as all of them are complementary and necessary to reach net-zero. In order to do so, the definition of low-carbon cement must be **ambitious enough to require carbon capture and storage** and not only material substitution. Similarly, the definition of low-carbon concrete must **require the use of low-carbon cement** and should not be met with efficiency measures alone. Moreover, the volumes required must be **high enough to generate significant demand** both in the short- and long-term period: the ambition should go from the proposed **5% to 30% in 2029, 40% in 2032, and 65% in 2036, reaching 100% by 2040**.

CEMENT VS CONCRETE:

WHAT'S THE DIFFERENCE?

While the terms "cement" and "concrete" are often used interchangeably, they represent **two different materials within the same value chain**. Cement is a dry powder that is mixed with water, sand, and aggregates to produce concrete. Specifically, cement is the part that hardens and becomes solid when mixed with water, the binder that keeps all other ingredients together and gives structure and strength to concrete. Concrete, on the other hand, **is the material actually used in construction**, usually in combination with steel rebars that give reinforced concrete.

While cement only represents 10-15% of the volume of concrete, it embodies around 95% of the total emissions. For this reason, **most decarbonisation efforts focus on cement**, even though concrete itself presents many opportunities for optimisation and emission reduction that result in greater impact for the climate.

Bellona's **in-depth analysis on the cement sector and how to decarbonise it** can be found [here](#).

2. Develop a definition of low-carbon cement and concrete as soon as possible

The creation of effective lead markets for low-carbon cement and concrete is founded on what **low-carbon means for these materials**. At the same time, the definition currently depends on future delegated acts which are not **expected to deliver such definition in a useful timeframe**. For this reason, **a deadline and a mandate for the development of the definition are necessary** to ensure that cement and concrete producer can plan their investments accordingly: the Construction Product Regulation or the Ecodesign for Sustainable Products Regulation should receive the mandate of developing **a definition of low-carbon cement and concrete by the 31st of December 2027 at the latest**.

In case there are delays in the process, the Industrial Accelerator Act should include an interim definition: the **Near-zero and A bands of the VDZ CO₂ label for cement scales and the AA and A bands of the GCCA ratings for concrete**.

Including a definition for low-carbon products in addition to the public procurement and public support quotas allows the Act to send a strong demand signal to industry.

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