ALLIANCE for
LOW-CARBON CEMENT
& CONCRETE

Date: June 2025

Position paper on Industrial Decarbonisation Accelerator Act

The Alliance for Low-Carbon Cement and Concrete (ALCCC) – made up of leading innovative business and stakeholders across the value chain – is committed to decarbonising cement and concrete, targeting net-zero by 2040. Proven, scalable and cost-effective solutions exist today. It is on the shoulder of legislators to make them the norm in the EU and beyond. As outlined in our roadmap, this requires policy frameworks to be established in which clean technologies thrive ; a strengthening of the single market through standards ; and the creating of lead markets and stable finance.

Executive summary

We welcome the opportunity provided by the European Commission to give feedback on the forthcoming Industrial Decarbonisation Accelerator Act (IDAA). In our view, the IDAA offers a welcome and timely opportunity to steer the cement and concrete industry towards proven, scalable and cost-effective low-carbon solutions in the following way:

- **Unlock the potential of green public procurement (GPP) in creating demand for low-carbon products.** Public projects are responsible for around 40% of cement and concrete procurement. A mandatory and unified approach to GPP for construction products would ensure that cement and concrete meet ambitious environmental requirements.

- **Carbon footprint calculation and labelling on the basis of sectorial legislation.** The new Construction Products Regulation (CPR) mandates the disclosure of environmental performance, based on Environmental Products Declarations (EPDs) that follow internationally recognised LCA methodologies. No other methodologies should be used, including sliding scale methodologies, as they are redundant and will introduce additional complexity to the value chain.

- **Ensure a level-playing field for all low-carbon technologies.** Priority should be given to policy interventions at the level of concrete, stemming from the fact that this is the product purchased on the (public) market ; as well as the complex interplay between different cement technologies, aggregates, additives and reinforcements which all influence the footprint of the product. From this perspective, the use of cement labels should be assessed with the necessary caution.

- **Prioritisation of removal of composition restriction in product standards.** For the IDAA and CPR to deliver on lead markets for cement and concrete, it is imperative that product standards (cement and concrete) move from a composition-based to a performance-based approach. The composition-based framework was introduced long

time ago for cement quality purpose in a context of limited technical and scientific knowledge. Today, knowledge on cement and concrete has progressed, the composition-based logic is outdated and became a market-entrance barrier. It is therefore timely to now move towards a full performance-based approach. A devoted cement and concrete action plan under the IDAA, including on these points, is key to send a strong signal to the market, derisking investments for scaling-up innovations.

- **Level-up investments to the full spectrum of clean cement and concrete technologies.** Hereby priority should be given to those technologies with the potential to achieve significant emission reductions well ahead of 2030. Key in this regard is the need for funding mechanism for demonstration and upscaling projects, stemming from shortcomings in the EU innovation fund. Finally, under no circumstances, funding to cement and concrete decarbonisation should be restricted to ETS installations only, given the sever shortcomings to the ETS benchmarks, not covering a wide range of clean tech cement and concrete solutions.

1. Getting lead markets for cement and concrete right

Leveraging on Green Public Procurement (GPP) is crucial for accelerating the decarbonisation of the cement and concrete sector. With over 40% of all concrete being purchased by public buyers, it goes without saying that **mandatory EU-wide minimum requirements on sustainability have the potential to create a strong lead market for low-carbon cement and concrete**.

For the IDAA to deliver, it must provide **a clear, straightforward and EU-wide mandatory framework for cement and concrete.** Crucial in this regard is the establishment of technical requirements on the environmental performance of products, combined with robust product labels, offering market actors an easy-to-use framework. Whenever possible, the IDAA should build upon existing EU legislation, most notably the Public Procurement Directives (PPD) and the Construction Products Regulation (CPR). Key elements to consider are:

- **Environmental performance under the CPR:** the new CPR – through its product standards –mandates market actors to disclose the environmental performance of the product when placing construction products on the single market. This is done in the Declaration of Performance (DoP) on the bases of a set of common methodologies in place already. The embodied carbon of products is calculated and verified on the basis of Environmental Product Declarations (EPDs) in line with existing standards (EN 15804+A2). These requirements follow widely used and internationally recognised LCA methodologies, also including environmental indicators beyond Global Warming Potential (e.g. recycling, water use). With this sectorial legislation in place, there is no need for introducing any other set of methodologies to calculate the environmental

performance of construction products, as they only risk to be redundant and adding complexity and administrative burden to the sector.

- **Labelling in line with the principles of the PPD:** Existing provisions on procurement in the PPD (Article 43) provide solid principles for the development of any green label under the IDAA. More specifically, labels should be objective, verifiable and non-discriminatory and established through open and transparent procedures which include all relevant stakeholders. They should also be proportional, intervening in the market at the right level, leaving room for innovation and fair and open competition across different green technologies.

Applying the above elements to the cement and concrete sector, the following observations are worth highlighting:

- **(Public) markets operate at the level of concrete:** throughout Europe, public procurement occurs at concrete level (or further downstream), with specific requirements set on the type of concrete to be used, both in relation to its specific technical requirements (e.g. strength and exposure class) and environmental performance (e.g. GWP limits, requirements on use of low-carbon and/or circular constituents, including cements).

- **Low-carbon cement often, yet not always yields into low-carbon concrete:** a wide range of factors influence the embodied carbon of concrete. These include the type of cement used – and most notably the share of clinker within ; the type of reinforcement (e.g. fibres vs. rebar); the use of additives (e.g. super plasticisers) … On a case-by-case basis, an ideal balance between the above parameters needs to be found to meet a project's specific structural and environmental requirements. Hence, sufficient flexibility is needed for designers to achieve this.

- **Shortcomings of existing cement labels**: recent years have witnessed a proliferation of cement labels, often not always serving as input for concrete labels. However, it is questionable to what extent these fully align with the above listed EU legal framework. Several cement labels, for examples, have a built-in bias towards (clinker-intensive) Portland cement. Amongst others, this stems from the fact that market innovations (e.g. alkali-activated cements, novel cement types, clinker recycling) do not easily fit in. In addition, also high-clinker substitution innovations are negatively penalized through the use of sliding-scale methodologies, which *de facto* favour Carbon Capture and Storage (CCS) over circularity.

The above observations make us conclude that the forthcoming IDAA should prioritise interventions at the level of concrete. Not only because this is how the markets operate, but also because it offers the most innovation friendly and technology-neutral framework to the market. More specifically, EU wide-minimum environmental criteria for concrete should be set,

which can be further operationalised via the CPR framework (allowing for carbon footprint calculations) and if deemed necessary a concrete level labelling system based on GWP per strength class. Inspiration can be drawn from the LCCG approach (see Annex), which is solely based on actual EPD data, with label boundaries being set independent from any underlying cement labelling system.

For the reasons listed above, we recommend against using a cement label. If for whatever reason such label would be developed, it must at all times **(1) be open for all present and future innovations** and cement types; (2**) reject methodologies based on a sloped sliding scale**, as such approach does not offer a level-playing field nor incentives circularity.

2. Getting market access for low-carbon cement and concrete right

It goes without saying that the strong **demand side measures envisaged by the IDAA need to be complemented with strong supply side policies, most notably on the side of standardisation.**

This stems from the fact that **EU has a long-standing market entrance barriers for low-carbon innovations, created by outdated cement and concrete standards**. The latter have in common that they impose strong compositional restrictions to the types of cement and concrete that can be used, all-too-often tailored to the likes of traditional cement types and concrete mix designs. This is detrimental in a conservative and risk averse sector like construction, where alternative routes to market (while existing) are non-attractive from a commercial point of view, if existing at all. Or to quote the EU High-Level Forum on Standardisation, low-carbon cements outside the scope of standards face "*additional costs and the final access to market is limited in many cases*"[1].

As ALCCC, we acknowledge the recent progress made under the new CPR for a number of low-carbon Portland cement compositions in the revision of EN 197-1 (i.e. the main standard for common Portland cements). **However, we reiterate that the current recipe-based approach taken (i.e. compositional restrictions to the scope of the standard) is not future proof, nor in line with the unprecedented level of innovations in the market today**.

Furthermore, the current framework **falls short on several proven cement technologies**, most notably alkali-activated cements, super-sulphated cement, innovative composite cements with high limestone content and limestone-calcined clay cements due their lack of/insufficient coverage in cement and/or concrete standards. In addition, it also fails to anticipate on the valorisation of proven and tested byproducts from a wide range of industries in transition (e.g.

[1] https://ec.europa.eu/transparency/expert-groups-register/core/api/front/expertGroupAddtitionalInfo/55236/download

steel, aluminium, paper). **This stands in sharp contrast to the much more open and advanced standardisation framework in place in key markets such as the UK, US, Canada or Australia.**

Therefore, **we urge the IDAA to prioritise a cement and concrete action plan,** devoting special attention **to address the outstanding market entrance (and uptake) barriers for low-carbon innovations at level of cement and concrete standards.** Under the CPR, clear actions need to be taken in a timely manner to (1) move to a full performance-based concrete standards framework; (2) the completion of an alternative route for CE marking (EOTA route) for all types of cements outside the scope of the EN 197-1 and other harmonised standards by 30 June 2027. **This action plan under the IDAA will complement the technical efforts needed at the level of the CPR, sending a clear signal to all market actors, allowing to derisk investments for scaling (including via offtake agreements).**

3. Getting funding for low-carbon cement and concrete right

At present, the EU is poorly equipped to scale-up low-carbon cement and concrete production. This stems from the fact that the EU innovation fund has a bias towards decarbonising ETS installations, i.e. the deployment of CCS to clinker production facilities. Amongst others, this stems from the fact that the innovation fund cannot support cost-effective solutions, which typically is the case for e.g. clinker substitution, alternative cements…

Therefore, the IDAA should focus on levelling-up finance and investments to support the full spectrum of clean cement and concrete technologies. Special priority should be given to the scaling of technologies with the potential to deliver on significant emission reductions ahead of 2030. Under no circumstances, funding to cement and concrete decarbonisation should be continue to be restricted to ETS installations only, given the severe shortcomings to the ETS benchmarks (i.e. clinker installations), as such ignoring the full spectrum of clean tech cement and concrete solutions.

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Annex

Concrete label based on GWP and strength classes