



[Questions and Answers](#)

Question 1 – What are the current countries where green procurement initiatives on product-level accounting, as well as project-level emissions accounting have been enacted?

Answer 1 – There is extensive use of low carbon procurement across North America and Europe and the progress over recent years has been rapid. There are voluntary private initiatives. Some of these are stand alone on GWP emissions, and others are through overall project assessment schemes like LEED and BREEAM which include product embodied CO₂ within their scoring systems. There are government initiatives that apply to some or all of government agencies, government procurement and government requirements on private development.

To mainstream low carbon procurement, there is benefit in separating out definitions from targets and for the definitions to be static over time. Furthermore, for definitions to be global but with local adaption to account for EPD local practice. The GCCA definitions launched today achieve this. They need to be used with local targets based on local market data. Many of the new or emerging initiatives have exactly those components of targets informed by local data. An example of a procurement requirement is 20% below a published industry average or benchmark. In many respects that is sufficient for procurement, but if overlaid onto static definitions that are globally consistent then there are benefits for reporting, forecasting.

Question 2 – Is the intention to have specifiers, specify a certain level of low carbon? For example, Level C is what is required for a 40MPa for a specific project?

Answer 2 – We expect these definitions together with local market data to enable specifiers to do exactly that – specify a level of GWP performance through reference to a band, for example band C. The local market data may be in the form of local intelligence and understanding of the concrete market by the specifier. It may also be through use of market benchmark data published by industry associations. An example of this given in the presentation was data by an NRMCA in the USA and by MPA, in collaboration with LCCG, in the UK.

Question 3: How to ensure the lines (strength/kg CO₂) are step enough? (For low strengths carbon shouldn't be lower?).

Answer 3: The slope of the lines is based on real data from around the globe. Higher strength concrete requires more cement and hence has higher GWP per unit volume.

(It is worth noting that for some structural elements, especially columns, higher strength concrete enables smaller elements. In such a case the higher per volume GWP may be more than offset by the reduced volume. This is an example of why element assessment should be carried out, and the same applies to concrete frame and whole life whole project (embodied and operational) level assessment should also be carried out.

Question 4: Is CCUS included in these numbers?

Answer 4: The bands are technology neutral. CCUS is not excluded or included in the bands.

In terms of product GWP values that will be used to evaluate in which band a product sits, appropriate recognition of carbon mitigation through CCUS in EPDs is currently an item of discussion in relevant standards committees.

Question 5: How would it deal with Alkali activated systems?

Answer 5: The definitions for low carbon and near 0 cement and concrete launched at the webinar and available in the policy's section of the GCCA website, are technology neutral. The only requirement is that the GWP from a code compliant third party verified EPD for a product, is used to determine what band that product sits within. This applies to concretes made from alkali activated systems.

Question 6: Five low carbon emission bands start from where or which threshold value?

Answer 6: The IEA cement definitions published in 2022 have 5 bands, A to E, plus a near zero emission band. The top of band E is derived from best current practise, and bands A to E are annotated as low emission. The GCCA concrete definitions have replicated this process. We have determined top of band E from an average of good current practise globally. However, following stakeholder feedback, some countries have already made good progress on the sustainability journey and Band E cannot be called low carbon. Therefore we have called the top of band E a global threshold value.

In addition to enable as wider adoption as possible, we have added a further two higher GWP bands, F & G.

Question 7: Will the "carbon negative product band" be labelled "AAA" in the low-carbon cement banding?

Answer 7: The global bands that we have launched today have the obvious potential to easily be extended to include a carbon negative product band. Nothing is needed to achieve this, apart from a graphical addition. The global bands launched today do not include such carbon negative band as feedback from some countries is that in the immediate term, it sets a false understanding and expectation amongst customers. We present the carbon negative product band, and a suggestion of labelling it AAA, as an optional country extension.

Question 8: Slide 35 - if only accounting for CO₂ cement contribution you will capture SCM contribution in blended cements - but what about contributions from SCMs added at RMX plants?

Answer 8: Supplementary cementitious materials (SCMs) can be added at the cement manufacturing site or during concrete production. In either case the decarbonization benefits are accounted for in a product EPD.

In establishing the GCCA near zero band the IEA cement data has been used. This was stated on slide 35, and prompted this very astute question. How we addressed the SCMs added at the concrete plant, is a matter of detail that we did not have time to cover in the presentation. With the IEA cement data we used the GCCA 2050 roadmap clinker to binder ratio (rather than the clinker cement ratio). This clinker to binder ratio differs from a clinker cement ratio by also taking into account the SCMS added at concrete manufacture. In this way we have addressed the concern raised in the question.

Question 9: In most cases EPD is valid for several years. How will you show the mitigation pathway inside EPD? Will there be a forecast of GWP data for e.g. 2030 inside EPD?

Answer 9: Environmental product declaration is unique to a product and published at a specific time. Subsequent EPDS for that product can be, and are likely to be, published to transparently report the GWP reduction achieved. Therefore it is through a series of EPDs that a mitigation pathway can be seen. An EPD does not include forecast information. Industry associations and companies have mitigation pathways and milestones, for example at 2030. These can be used to forecast GWP reductions at product level.

Question 10: Are the emission categories for different strengths going to involve also the recycled aggregates?

Answer 10: Recycled aggregates, and the GWP benefits and impacts, are accounted for in EPD's and therefore are accounted for in the emission categories

Question 11: You touched on Scope 3 emissions briefly, but these can be up to 90% of emissions in some cases. Are Scope 3 emissions included in these definitions? If SCMs are brought from across the world, the GWP may not be very low. It also depends on how they are processed.

Answer 11: Scope 3 emissions are fully accounted for in EPD's, and therefore are fully accounted for in the definitions. The GWP of SCMs, scope 1, 2 and 3 (which of course includes transport), is included in the EPDs.

Question 12: Will these definitions be included also in the Cement and Concrete Breakthrough, for the Standards priority action (C1)?

Answer 12: GCCA is very supportive and active of the cement breakthrough. Priority action C1 (C for cement) is indeed in the bullseye of this work. (Priority action C2 relate to procurement, that is underpinned by the foundational work of C1) . Therefore we very much see this activity as supporting delivery against action C1.

Question 13: To what extent have you worked with ConcreteZero and their definition?

Answer 13: GCCA are in close liaison with other related initiatives especially those involved with us through cement breakthrough. Amongst these are Concrete Zero. There are similarities with the approaches in terms of categorization by strength and progressively lower carbon emission bands. In developing our definitions we have been grateful for feedback and ideas from the Concrete Zero advisory group of UK experts. Key differences are that the GCCA concrete definitions are based on global data, are linked to GCCA cement definitions which in turn are an application of IEA global cement definitions, and the GCCA methodology accounts for local adoption and adaption according to local practise and standards for EPD's.

Question 14: How will these definitions be handled with sustainable construction rating systems such as LEED? Next version of LEED (version 5) considers North American definitions of low carbon concrete and cement.

Answer 14: We would welcome adoption of these global definitions by established and recognised schemes such as LEED which are used globally, and will be reaching out to such organisations.

Question 15: GCCA EPD Tool: About the GCCA tool: if some programmes (as EPD International) require modules B to D for the cement as well, will it be adequate?

Answer 15: The GCCA EPD tool covers all lifecycle modules in accordance with standards including the specific product category rules. In brief so North American standards, for both cement and concrete, it is cradle to gate (module A only). For European standards, also used widely around the world, it is cradle to gate (module a only) for cement, and cradle to grave (modules A to D) for concrete. The GCCA EPD tool enables users to develop concrete EPDs that account for the natural uptake of CO₂ over the whole life cycle of the product, in accordance with European standards.

Question 16: GCCA EPD TOOL: What are the scopes covered by the pre-verified EPD? For those not covered, are there database references to enable a completion of full EPD for external verification?

Answer 16: The GCCA EPD tool covers all scopes and all life cycle stages as defined by the relevant standards. The tool has both a North American and an international version. The latter is based on EN 15804, as this standard is used widely beyond Europe. The GCCA EPD tool, both versions, are pre verified by EPD International. This means that the calculations in the tool are verified as truly applying the requirements of the respective standards. This means that the EPD verifier has a reduced, and hence cheaper, role to play - simply checking the user input data into the tool.
