Economic allocation for co-products used in cement and concrete

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1. Introduction

EPD-Global is following the harmonised ECO Platform requirement to use economic allocation for co-products that are used in cement and concrete. This also applies for co-products where the contribution to the overall revenue for the manufacturer of the co-product is very low.

The requirement to also apply economic allocation for co-products with a very low contribution to the overall revenue (i.e., also those below 1 %) was introduced by ECO Platform in 2023. This is a change from the previous approach, where processes generating a very low contribution to the overall revenue could be neglected. In practice, many applied a cut-off of for co-products contributing to less than 1 % of the supplier's revenue.

EPD-Global has been contacted by EPD owners, developers and verifiers requesting guidance on how to apply this requirement in practice. Our goal here, and in other such cases, is to harmonise the practice so that differences between EPD results are due to real differences between product systems and not due to differences in how allocation methods are applied.

It is the Scandinavian cement and concrete industries that have raised this as an issue, where common guidance is needed to ensure fair competition. The transition periods below are aimed at the Scandinavian market, but the methodological guidance is common for all.

2. Requirements

From 1 January 2026, the requirement is that all EPDs must apply economic allocation for co-products without cut-off. In addition, a requirement on transparent reporting will be introduced at the end of the transition period described below.

The current requirement is:

- Calculation rules from 1 January 2026: Apply economic allocation also for co-products with a very low contribution to the overall revenue of the supplier.
  NOTE: This requirement also applies to upstream data in EPD tools, in databases, in supplier EPDs, etc.

New additional requirement from 30 September 2026:

- Transparent reporting requirement:
    - The emission intensity of such co-products [kg CO2-eq. per kg co-product] shall be reported in the EPD as additional information.
    - This shall be reported both for GWP-total and GWP-IOBC.
    - If the EPD reports both gross GWP and net GWP, the emission intensity shall be reported for both indicators.

Based on the dialogue with stakeholders and to ensure fair treatment of all EPD owners, there will be a transition period in 2026 until 30 September 2026. After this date, all EPDs published in 2026 must either comply with the requirements or be withdrawn.

3. Transition periods

The key stakeholders impacted by these requirements are EPD users, EPD owners, EPD developers, EPD tool developers, and EPD verifiers. To ensure a fair transition, the following timeline is planned:

Deadlines	**Actions**
30 June	Dialogue phase in May-August. Information meeting with the industry in last half of June and verifier assembly on June 26. Stakeholders may request individual clarification meetings with EPD-Global.
31 August	Implementation deadline for cement and lime EPDs based on the CEN c-PCR EN 16908:2017+A1:2022.
30 September	Implementation deadline for concrete and concrete elements based on EN 16757:2022.

See the appendix for more information on the background of the issue and for methodological guidance on how to apply economic allocation.

NOTE: In some cases, it may be relevant for the EPD owner to provide results also with the previous allocation method, e.g. due to contractual requirements. Such results may be reported as additional information in the EPD or as a separate project specific EPD, but they shall be clearly labelled and not be included in the main results.

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Appendix: Background and methodological guidance

1. Background

Economic allocation for co-products is a recurring methodological issue in life cycle assessment (LCA) of cement and concrete, particularly in cases where industrial by-products and secondary materials are produced alongside main products. Within the construction sector, EPDs developed in accordance with EN 15804 are expected to provide consistent and comparable information. However, allocation practices have historically varied across sectors and, in some cases, even between individual manufacturers producing similar products. This has created challenges for harmonisation, comparability, and credibility of EPD results.

Recognising these inconsistencies, ECO Platform initiated work in 2023 to harmonise the application of allocation rules across construction product categories, with a particular focus on co-product systems relevant to cement and concrete. This effort has led to clearer requirements in the updated LCA calculation rules published in December 2024, aiming to ensure more consistent interpretation and implementation across EPD programmes and markets.

In parallel, an ongoing dialogue has been established with the Nordic EPD programmes to support a common understanding of the revised allocation requirements and to facilitate aligned verification practices. As part of this harmonisation process, new and more explicit allocation rules have been incorporated into version 8 of the EPD-Global verification checklist, introduced in June 2025. These rules are intended to strengthen consistency in the treatment of economic allocation for co-products, including the use of market-based values and alternative approaches where appropriate.

A six-month transition period has been defined between checklist versions, meaning that the updated rules became mandatory for all relevant EPDs verified from 1 January 2026 onwards.

This is the current requirement in EPD-Global's verification checklist (v8.1):

11.5.1	**Economic allocation for processes producing co-products** used in cement and concrete, e.g. blast furnace slag, crystallised basic oxygen furnace slag, fly ash, artificial gypsum, silica fume, aluminium-oxide-containing co-products. • Economic allocation has been used to assign impact to these low value co-products. • Even where the co-product's contribution to the overall revenue of the co-production process is less than 1%, economic allocation has been used to assess the impact, even if small, for low value co-products. • When assessing steel, coal-fired electricity, and other processes producing these co-products, physical partitioning and other forms of allocation have not been used to assign impact to low value co-products.	M	EN 15804+A2; EN 16908; Eco Platform decision		☐
11.6	Documentation of allocation factors used and their (independent) sources	M			☐

Note that the requirement is both to the method (apply without cut-off), but also to document the allocation factors in the LCA report.

EPD-Global has a dialogue with the International EPD system in Sweden (Environdec) and EPD Denmark. They have both introduced the same requirement, with similar challenges in implementation.

2. Consequences for the EPD results

With multiple and potentially diverging methods for economic allocation for low-value co-products, there is a risk that the EPD results will be less comparable if methods are not harmonised. The consequence on the LCIA results will vary between product types, depending on the amount used of low-value co-products and how much higher the environmental impacts will be with economic allocation without cut-off.

Consequences for new supplementary cementitious materials are more uncertain, especially for materials that go from burden free waste to co-product with a positive economic value. As the value increases, so will the environmental footprint – this will in turn reduce the incentive to use these co-products.

3. Need for harmonised guidance

EPD-Global sees that there is a need for harmonised guidance on how to use economic allocation, especially for those co-products that previously were below cut-off. A method must be developed in dialogue with EPD owner, developers and verifiers, to ensure that the method is both correct and feasible. The purpose of such a guidance must be to reduce differences in application of method, but real differences in environmental impact must still be possible to document.

3.1.1 Overview of the issue

- Examples of relevant production processes:
  - Ferrous metals (iron/steel)
  - Non-ferrous metals (silicon/ferrosilicon/aluminium/copper/zinc, etc.)
  - Electricity
  - Gypsum
  - Waste-to-Energy
  - Others?
- Examples of main co-products:
  - Main co-products from each process above
- Level of detail/granularity may vary, e.g.:
  - Calculating averages? (per supplier/region/country/contintent, etc.)
  - Product classifications? (e.g., fly ash or for different classes of fly ash)

3.1.2 Allocation hierarchy and data gathering

- Proposed hierarchy of preference
  - EPD in accordance with current requirements
  - Specific data from supplier
  - Generic data from databases
  - Default factor to apply to un-allocated production processes in databases (e.g., x % to fly ash for electricity production process)
- Data quality requirements for each level

- Time period
- Define which economic factors to use (supplier specific turnover, choice of market databases, etc.)

3.2 Transparency in LCA report and EPD

As this is a significant shift in practice, it should be clearly described in the EPD how it has been modelled. We recommend seeing this from the stakeholder perspectives:

- For EPD owners: Which information and documentation is needed from suppliers?
- For verifiers: Which information is needed in the LCA report and which underlying documentation should this be based on?
- For EPD users: Which information is needed in the EPD?

4. Recommendations on allocation approaches

ECO Platform's decision to apply allocation without cut-off for co-products used in cement and concrete means that the general rule is to allocate inputs from a co-product based on the co-product's contribution to the supplier's overall revenue.

The equations below describe the allocation principle when using economic allocation to calculate the environmental burden of multi-output processes. In this context, *product* refers to all outputs from the process, including the main product, co-products, and by-products.

NOTE: ECO Platform proposed a common definition of revenue in 2026 where it is the revenue from the co-product as it leaves the joint co-production process that is to be considered. Revenue should be based on representative values such as annual averages at plant or company level, not on prices alone.

4.1 Results per declared unit from multi-output processes

4.1.1 Environmental Impact (EI)

For each product *n*, the allocated environmental impact is calculated as:

[1] $$EI_n = AF_{p_n} \times TEI$$

This means that the total environmental impact from the process is distributed to each product using an allocation factor and then expressed per unit of output.

4.1.2 Allocation Factors (AF)

Allocation factors are based on the relative economic value of each product. For the first product (*p1*), the allocation factor is calculated as follows:

[2] $$AF_{p1} = \frac{P_{p1} \cdot A_1}{P_{p1} \cdot A_1 + \cdots + P_{p_n} \cdot A_n}$$

The same calculation principle applies to the remaining products (*p2* to *pn*).

4.1.3 Definition of terms

- **EI_n**: Environmental impact allocated to product *n*
- **AF_{pn}**: Allocation factor for product *n*
- **TEI**: Total environmental impact of the process for a given impact category (or for a substance if Life Cycle Inventory data are considered)
- **P_{pn}**: Price per unit of product *n*
  [average revenue per unit over the data collection period]
- **A_n**: Output quantity of each product
  [number of units produced in the data collection period]

Note: This allocation approach does not apply to inherent properties of co-products (such as energy content or carbon content). These properties should always follow the physical flows.

4.2 Data sources for calculating allocation factors

Based on dialogue with the industry, the allocation methods below are recommended in order of preference. No default allocation factors will be provided by EPD-Global, due to the large variation in types and sources of materials.

Method	Description	Recommended data collection periods
1	EPD in accordance with current requirements	1 year average
2	Specific data from supplier for both environmental impact and allocation factors	1 year average
3	Specific allocation factor from supplier with generic data from databases	1-3 years average
4	Generic allocation factor from the representative market with generic data from databases	3-5 years average

Note: Default allocation factors may be available in some EPD tools, PCRs, CEN PCRs, and from organisations such as industry associations. These fall in the category 4 above and may be used as long as they are conservative and representative for the specific product system.

5. Status of CEN c-PCR development

CEN is developing complementary product category rules (c-PCR) standards for many product categories. Two product categories that are highly relevant are *cement and building lime* and *steel, iron and aluminium products*. The status of these CEN c-PCRs is:

- EN 16908 for cement and building lime was first published in 2017 and is now being revised. As of May 2026, this revised standard was at the enquiry stage (prEN 16908).
- EN 17662 for steel, iron and aluminium products is under development. As of May 2026, this standard was at the formal vote stage (FprEN 17662).

CEN c-PCR standards must be in compliance with EN15804, and they are therefore assessed by CEN's Technical Committee for sustainability of construction works (CEN/TC 350).