

Position Paper

Call for recognition of Mass Balance credit method within Environmental Product

Declarations

Plastics Europe wants to outline the vital role of the Mass Balance (MB) credit method¹ in fostering a sustainable and circular future for plastics in the construction sector. As the industry integrates innovative technologies using alternative feedstocks, the MB credit method emerges as a key enabler for this transition. The MB credit method provides a transparent and auditable way to attribute circular feedstocks to final products.

Applying this method within a harmonised framework, supported by robust methodological safeguards, is crucial for bolstering the industry's shift. This approach supports the scaling of sustainable production and contributes to a system-level reduction in the environmental footprint of plastics.

Introduction

The European Union has established ambitious environmental targets, including a significant reduction in the construction sector's impact. A sector responsible for over 35% of the EU's total waste generation. The EU aims to achieve at least a 55% cut in greenhouse gas emissions by 2030 and climate neutrality by 2050. To realise these goals, a comprehensive strategy for a sustainable built environment is underway, emphasising circularity throughout the life cycle of buildings. This strategy is supported by key legislation such as the revised Energy Performance of Buildings Directive (EPBD)², the Construction Products Regulation (CPR)³, and the upcoming circular economy act. These initiatives are designed to boost energy efficiency, promote the use of renewable energy sources, and encourage the adoption of circular models for building and construction materials.

¹ ISO 22095/2020

² EU/2024/1275

³ EU/2024/3110

As the construction sector undergoes this critical transformation towards greater sustainability and circularity, the MB credit method emerges as an essential methodology⁴.

MB credit method as a chain of custody model

The MB is a well-established chain of custody model defined by the international standards ISO 22095:2020 and ISO DIS 13662. It is designed to track and allocate sustainable characteristics of alternative feedstocks (e.g. attributed recycled, bio-attributed or Carbon Capture and Utilisation (CCU) through complex production processes to a part of the product output. This becomes relevant for multi-functional processes where it is not physically possible to segregate materials, as seen particularly in chemical and construction product manufacturing sectors.

The mass balance methodology is particularly crucial in scenarios where sustainable inputs such as those derived from chemical recycling, physical recycling, bio-based sources, or CCU, are mixed with conventional fossil-based feedstocks within existing, large-scale industrial installations. It is not possible to completely segregate flows of materials and energy in such integrated systems to produce specific end-products containing the desired characteristics⁵. The MB credit method allows for the verifiable attribution of sustainable characteristics from feedstocks to products feedstock, ensuring a transparent and auditable claim of attributed recycled, bio-attributed or CCU-content-attributed in the product output while, by applying the appropriate guardrails, avoiding issues like double counting by rigorous accounting requirements.

Benefits and implications of recognising MB credit method in EPDs for the construction sector

- **Facilitating environmental impact reduction and transition from fossil to circular and renewable feedstocks:** The MB credit method is a key enabler for increasing the uptake of the feedstocks from innovative technologies such as pyrolysis and solvolysis, which break down plastic waste into valuable chemicals that can be reused in production processes. Additionally, the MB credit method facilitates the use of CCU, which captures CO₂ from emission streams or directly from the atmosphere and repurposes it as feedstock to produce new products. Finally, it promotes the integration of bio-attributed materials, derived from renewable biological sources, or of renewable energy sources into the manufacturing of construction products. Allowing manufacturers to verifiably use the incorporation of these sustainable inputs will directly support the transition reducing reliance on fossil feedstocks and contribute to the overall goals of a circular economy. The precise environmental impact (e.g., CO₂ footprint) of products using these feedstocks must be assessed through a robust Life Cycle Assessment (LCA) study.
- **Enhancing transparency and credibility through robust certification:** The certification schemes (REDcert2, ISCC PLUS...) guarantee that the accounting of sustainable inputs is

⁴ **Plastics Europe.** (2024). *The Plastics Transition: Our industry's roadmap for plastics in Europe to be circular and have net-zero emissions by 2050.*

⁵ **Plastics Europe.** (2024). *Chemical recycling and mass balance explained.*

correctly assigned to certified outputs based on strict requirements. This ensures that the sustainable attributes reported in a construction product's EPD are both reliable and verifiable.

- **Promoting innovation, investment, and market uptake:** Implementing the use of MB credit method to declare sustainable attributes and report environmental information derived from a life cycle assessment in an EPD creates a significant market pull for the use of alternative feedstocks coming from innovative circular technologies relevant to construction materials. It signals to investors, and material manufacturers that the efforts in developing and integrating alternative sustainable feedstocks will be recognized according to robust metrics including those derived from chemical recycling, CCU, advanced physical recycling, or bio-based materials. This assurance can reduce the risk of investments in new sustainable technologies, support the development of novel materials (e.g., polymers or binders using CCU-derived inputs), and foster the establishment of the necessary collection, sorting, and recycling infrastructure. The use of mass balance in EPDs can immediately accelerate the adoption of these sustainable technologies in construction projects, especially those with ambitious sustainability targets or those subject to green public procurement criteria. The Plastics Europe roadmap outlines a clear pathway to reduce greenhouse gas emissions from the overall plastics system by 28% by 2030 and towards net-zero by 2050. This ambitious plan emphasises the gradual substitution of fossil-based plastics with circular plastics⁶ where MB credit method is a key enabler.
- **Enhancing competitiveness of the European plastics and construction industries:** The implementation of MB credit method allows the industry to leverage existing, capital-intensive production assets (e.g., crackers, chemical plants, polymer reactors) to progressively introduce sustainable feedstocks without the immediate need for entirely new, dedicated infrastructures⁷. This facilitates a faster and more cost-efficient transition towards circularity. By co-processing physically or chemically recycled, CCU-derived, or biomass-based feedstocks alongside traditional feedstocks in existing installations, European manufacturers can respond more readily to the increasing market demand for sustainable construction products. This enhances their competitiveness, particularly in public tenders with sustainability criteria or projects with high circular ambitions. This approach stimulates the development of new circular ecosystems, including collecting, sorting and recycling facilities, thereby fostering employment opportunities and strengthening the resilience of the European industry.

Interpretation and evolution of standards for EPDs (ISO 14044, EN 15804)

The reliability of EPDs relies on robust and consistent methodologies. Credit Mass Balance attribution in Life Cycle Assessment (LCA) for multi-functional processes, can be a lever particularly in chemical and construction product manufacturing sectors. Thanks to precise guidelines and guardrails being under development, the MB credit method, as defined in ISO 22095 and ISO DIS 13662, will be compatible according to the Life Cycle Assessment (LCA) principles of ISO

⁶ **Plastics Europe.** (2024). *The Plastics Transition: Our industry's roadmap for plastics in Europe to be circular and have net-zero emissions by 2050*. Retrieved from [Plastics Europe](#)

⁷ Gao W. and all, A unique moment in time: Scaling plastics circularity, *McKinsey & Company*

14040/14044, which form the reference of the EPD standard EN 15804. In particular, the acceptance of mass balance in EPDs, particularly under EN 15804 for construction products, requires clear guidance and, where necessary, a revision of existing standard.

Conclusions

To accelerate the chemical and plastics industry's transition to a circular economy, Plastics Europe calls for the formal recognition and harmonised implementation of the mass balance credit method in EPDs for the construction sector under proper rules to ensure a correct evaluation and analysis. This approach offers a verifiable, auditable system for attributing circular feedstocks, which is essential for achieving the EU's climate goals. Underpinned by third-party certification, mass balance provides clear economic incentives for the cost-effective scaling of circular technologies. We therefore urge policymakers, national EPD programme operators, standardisation bodies, and industry actors to endorse and implement this pivotal method to help build a more resilient, innovative, and sustainable construction industry based on credible, transparent claims.

Annex:

Definition of key technologies enabled by the MB credit method

For the chemical and plastics industry, the MB credit method is instrumental in facilitating the scaling and market acceptance of several innovative technologies that are key to achieving circularity:

- **Chemical recycling** converts e. g. polymeric waste by changing its chemical structure to produce products (e.g. waxes) or substances (e.g., oil and gas) that are used as raw materials for the manufacturing of plastics or other products. Products exclude those used as fuels or means to generate energy. There are different chemical recycling technologies such as pyrolysis, solvolysis, gasification, hydro-cracking and depolymerisation.

The MB credit method is crucial for assigning the characteristics of attributed-recycled feedstock to new plastic products.

- **Physical recycling** refers to a number of different processes for recycling plastics that include mechanical recycling but also other physical treatments such as selective dissolution, extraction, precipitation and crystallisation to purify plastic without (intentionally) modifying its polymer chains chemically.

The MB credit method can be applied to track these physically recycled materials when co-processed.

- **Carbon Capture and Utilisation (CCU):** Process of capturing CO₂ from potential system emissions streams before it enters the atmosphere or from the atmosphere itself (Direct Air Capture). Captured CO₂ can then be used as a feedstock to produce plastics.

The MB credit method is essential for allocating the "utilised CO₂" attribute to the final products, allowing for the transparent accounting of this alternative carbon source. For instance, a manufacturer of insulation or binders could use attributed CCU-derived

components, while the accurate implementation of MB credit method ensures a transparent and auditable claim and the declaration in an EPD.

- **Bio-based feedstocks:** Raw materials of biological origin, that is grown, naturally replenished at human time scale, excluding materials embedded in geological formations and/or fossilised. It can either be produced from grown crops (so-called “first-generation” such as maize, rapeseed) or organic residuals and waste (“second-generation” such as agricultural waste, frying oils, manure).

When bio-based feedstocks are co-processed with fossil feedstocks in existing chemical plants to produce bio-attributed plastics or other materials, the MB credit method credit method is the mechanism that enables the verifiable tracking and assignment of the bio-based feedstock consumed to produce final products.

Please contact:

Plastics Europe

Julien van Liefferinge

Technical Affairs Manager

+32 (0) 474 44 69 06

julien.vanliefferinge@plasticseurope.org

15.12.2025
