European metals alliance for recyclable & sustainable buildings

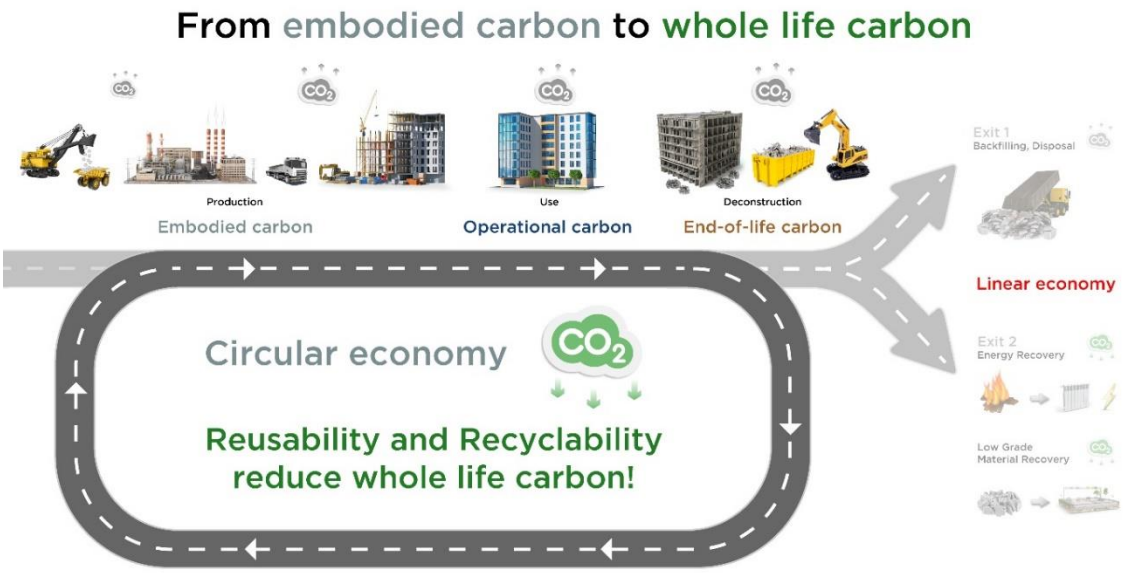
Encouraging reusability and recyclability to reduce whole life-cycle greenhouse gas emissions and maximise circularity

Position paper on the recast of the EPBD (Energy Performance of Buildings Directive)

March 2022

The calculation of whole life-cycle greenhouse gas emissions must include the recyclability and reusability of materials at end-of-life to ensure that products used today will not be the waste of tomorrow.

This must be specified in the definition of "whole life cycle greenhouse gas emission" (Art 2.23) and in the calculation method (Annex III)



There is an urgent need to move towards a more circular and decarbonised construction sector. The European Commission as well as various stakeholders are developing roadmaps and policy recommendations to decarbonise the EU building sector. However, there is a danger that these initiatives do not fully integrate circularity aspects. We believe that circularity needs to be considered both at the beginning and at the end of the building lifecycle. Therefore, the carbon savings resulting from reuse and recycling at end-of-life stage should be explicitly included in the life-cycle Global Warming Potential (GWP), to be reported in accordance to the recast EPBD.

Moving to a more circular and a less carbon intensive building environment are the two main challenges that are fully embraced by policy makers and the metal construction industry alike. Today, the debates on carbon impacts in the building sector tend to be restricted to the embodied carbon related to initial production and to the operational carbon related to the use-

stage, which can sometimes mean that the end-of-life stage is neglected. This simplistic approach cannot properly consider the efforts made to design products and buildings for reuse or for recycling. In particular, it cannot reflect the design for flexibility, adaptability, and dismantling, which are seen as important characteristics to develop a more resilient and circular building sector. The construction sector accounts for nearly half of all waste generated in the EU, and this will not change unless the design engineers or architects fully consider circularity at the end of life and not just in product manufacturing. It is therefore important to reward design-for-reuse and design-for-recycling by integrating complementary end-of-life environmental benefits into the carbon assessment, as illustrated in the above visual and the following video.

The whole life-cycle greenhouse gas emissions assessment should enable the proper integration of the waste hierarchy defined in the EU Waste Framework Directive, where reuse and recycling should be the preferred option in comparison to recovery or disposal. Construction products and materials can be recycled or reused in different ways and with different levels of circular value retention, in terms of preserving their utility and inherent properties. Metals are typical materials with permanent properties which are preserved or restored through recycling. A circular economy aims to keep as much material in closed material loops, even if going to different applications, whilst minimising any loss of inherent material functionality or quality. This means designing out linear outcomes at end of life, where materials are irretrievably lost to society. Giving products the best opportunity for reuse at end of life, should also be supported in building design protocols.

Those reusability and recyclability characteristics are particularly relevant for metal products since metal reuse and recycling save not only significant natural resources but also 60% to 95% of the energy and CO_2 emissions compared to primary production. These benefits are reflected in the high economic value of metal products at end of life, e.g. metal scrap, which are systematically collected and re-processed for reuse or for recycling.

While collection rates above 90% are effectively observed at end of life, the fraction of metal products issued today from recycling or from reuse is significantly lower, e.g. 40%-50% on average. This discrepancy is largely due to the market growth and the long lifespan of metal building products which limit the quantity of metals that is available for reuse or recycling today. This means that, for metals, reusability and recyclability aspects are only partly reflected at the production stage and should be complemented from a whole life cycle perspective through the additional benefits at the end-of-life stage.

These additional environmental benefits need to be reflected in the whole life-cycle greenhouse gas emissions calculation. Their precise calculation is foreseen into the relevant standards EN 15804 (product-level) and EN 15978 (building-level) within the specific ‘module D’. As a result, it is essential that this information is explicitly reported in the calculation the life-cycle global warming potential introduced as a new indicator in the recast EPBD. More information about the Module D relevance and calculation can be found here.

About METALS FOR BUILDINGS:

Founded in 2011, METALS FOR BUILDINGS is an *alliance of European or International metal trade associations* active in the building sector. It represents the interests of the metal industry towards European institutions and relevant stakeholders as far as the sustainability and recyclability credentials of metals in buildings are concerned.

METALS FOR BUILDINGS is directly active in CEN/TC 350 - Sustainability of construction works and monitors various relevant LCA methodology and framework developments like the Product Environmental Footprint (PEF) methodology or the Level(s) framework.

Our members:

EUROFER The European Steel Association

EUROPEAN ALUMINIUM

European Copper Institute Copper Alliance

EGGA European General Galvanizers Association

EUROMETAUX EUROPEAN ASSOCIATION OF METALS

International Zinc Association Zinc...essential for modern life

Nickel INSTITUTE knowledge for a brighter future

FAECF Federation of European Window and Curtain Walling Manufacturers' Associations

European Association for Panels and Profiles

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