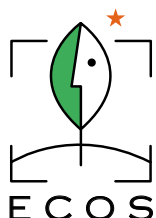


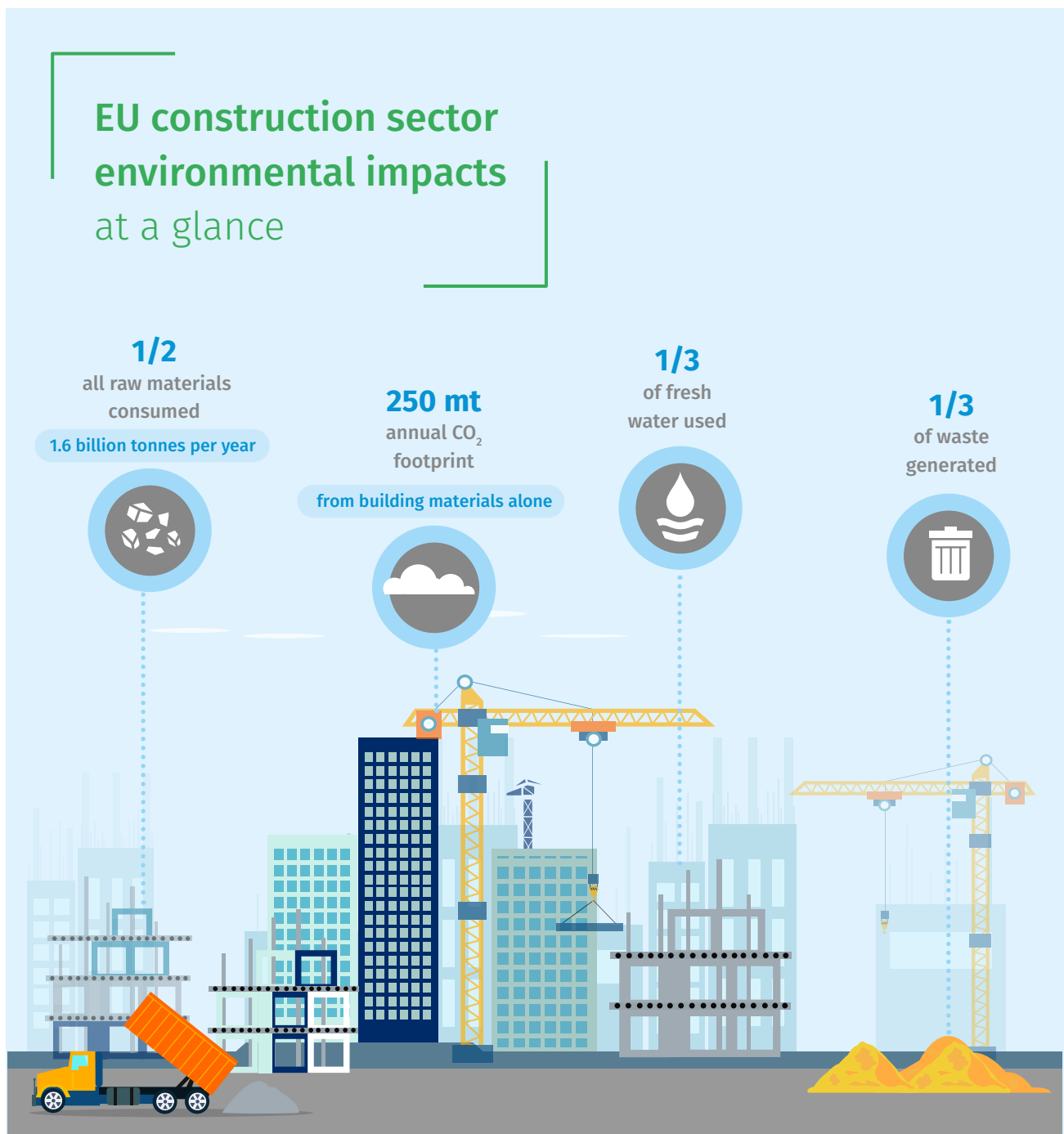
FROM BARRIER TO ENABLER

TOWARDS A GREENER EU
CONSTRUCTION PRODUCTS POLICY



INTRODUCTION

Cement, concrete, steel beams, windows, bricks, doors, roof tiles... Life would be quite different without construction products; they are essential components of buildings, tunnels and bridges. However, they also have a major environmental impact. Construction product life cycles are largely linear, starting when raw materials are sourced, followed by their manufacturing, distribution and assembly or installation; finally, their life often ends in a landfill. For these products to be more environmentally sustainable, we need to focus on improving their circularity. This can be done by introducing EU-wide rules that incentivise and enforce better maintenance, repair, reuse, and recycling wherever and whenever possible.



Sources:

European Council Conclusions on Circular Economy in the Construction Sector <https://data.consilium.europa.eu/doc/document/ST-14653-2019-INIT/en/pdf>

Material Economics, 2018 'Circular Economy – A Powerful Force for Climate Mitigation'
<https://materialeconomics.com/publications/the-circular-economy-a-powerful-force-for-climate-mitigation-1>

European Commission - DG GROW, 2020, 'From Construction 2020 to a new vision for a sustainable Built Environment'.
<https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupMeetingDoc&docid=35639>

How does the EU regulate construction products?

The Construction Products Regulation (CPR) is a central piece of the current policy framework for construction products in the European Union. As such, it has a great effect on the form and impacts of construction products across the continent.

The CPR is being revised to improve its role to support for environmental sustainability, as well as the functioning of the Single Market. After years of neglect, there is now an opportunity to address a number of environmental issues.

A range of indicative options to revise the CPR has been detailed by the European Commission. However, their current commitments and proposed solutions are not enough to deliver environmentally friendly products for a more sustainable built environment.

Enhanced environmental requirements, currently missing from the CPR, could tackle some of the most important impacts of construction products, including CO₂ emissions from manufacturing, as well as overall use of resources, such as primary raw materials.

Under the forthcoming Sustainable Product Policy Framework, complementary horizontal and high-impact resource specific measures for products will implement the European Green Deal. However, revising the current construction products policy framework remains essential to overcoming sector-specific challenges to environmental sustainability, by tackling the full range of intermediary and end-products used for construction.

This paper provides recommendations on how the CPR and the construction product policy framework can be revised to make construction products more environmentally sustainable.



REINVENTING THE CONSTRUCTION PRODUCTS POLICY FRAMEWORK

Construction product rules fit for the 21st century

The construction products policy framework should support EU policy objectives. Therefore, it needs to be adapted to tackle pressing challenges related to environmental sustainability, legal functionality and enforceability. The framework should go beyond only setting ‘harmonised conditions for the marketing of construction products’¹ and its focus on cross-border trade, by establishing clear minimum performance requirements for all construction products, including for environmental sustainability. This should be supported by robust implementation, information and market surveillance measures, in line with the following recommendations:

- ✓ **Set mandatory minimum performance requirements for all products:** Requirements should be set for the whole product lifecycle, including all embodied environmental impacts². In particular, environmental performance requirements should maximise comparability and competition between different products using different materials, divided in functional groups defined by a product’s intended uses. The existing scope of product areas used within the CPR³ could be used as a basis to define product groups. Specific requirements could be set for different product groups defined as for example structural products, solutions for insulation and flooring products.
- ✓ **Regulate products with an approach similar to the Ecodesign Directive to improve implementation:** For this, technical requirements for each product group should be agreed upon in a working plan. The process to set these rules should involve an independently developed technical dossier to outline the relevance of certain new requirements, and broad consultation with Member States, industry, civil society and other relevant organisations as part of a stakeholder forum,⁴ leading to more holistic consideration of future requirements.
- ✓ **Introduce a product passport to improve transparency and data sharing:** Increase mandatory horizontal information and communication requirements to cover the entire value chain and product lifecycle in the form of a product passport. This will enable reliable maintenance, repair, reuse, recycling, supply, and uptake of more environmentally sustainable products by ensuring a comprehensive range of product information is available to guarantee product and material contents and functionality.
- ✓ **Comprehensive, effective and independent performance assessment for all products:** This would ensure effective market surveillance of construction products put on the European market through dedicated checks and assessment of production control, auditing and testing of samples. Moreover, additional measures should be put forward to support validation of in-use product performance especially for structural products (e.g. beams, concrete blocks, roofing units).

1 [Construction Products Regulation \(305/2011/EC\)](#)

2 ‘Embodied environmental impact’ is the total impact on the environment resulting from the sourcing, transporting, processing and manufacturing of all the raw materials, fuels and items that contribute to the production of a good or service ([EESC](#)). This impact does not vary based on the use or installation of a construction product.

3 Existing product areas still have a degree differentiation based on the materials used, and to maximise comparability this differentiation in requirements should be removed.

4 Such forums include the Advisory Group on Construction Products, Standing Committee on Construction, CEN TC350 – Sustainability of construction works (product and building standards), and various other product technical committees (e.g. CEN TC459 - Iron and Steel, CEN TC51 – Cement and CEN TC104 – Concrete).

REQUIREMENTS FOR DESIGNING ENVIRONMENTALLY FRIENDLY CONSTRUCTION PRODUCTS

The framework should establish requirements needed to reduce the environmental footprint of construction products and foster greater material efficiency. Such criteria should also help market actors make the best use possible of locally available raw materials, including secondary resources such as waste streams, as well as materials from sustainably managed sources.

Our recommendations are as follows:

- ✓ **Establish minimum environmental requirements for construction products:** Establish minimum requirements for a range of environmental indicators, including CO₂ emissions, for both intermediary products such as steel and cement, and for all end-products. These environmental requirements should be set based on an agreed prioritisation of product groups, for which an evaluation of key environmental indicators have been identified. These values should be aligned with and deliver EU objectives, including the EU 2030 climate target, ETS benchmark values, IED emission limit-values, and also chemicals legislation.

For improved flexibility and future-proofing, construction product policy should be able to drive ambition in the sector and go beyond the above-mentioned objectives to ensure only the best performing materials reach the future built environment. Criteria with greater ambition within the framework could be utilised, for example, to support the establishment of Green Public Procurement (GPP) criteria. Two key aspects in the process are:

- **Prevent use of harmful substances:** Environmental requirements for construction products must include requirements to prevent the use of hazardous substances, including those specified in the REACH candidate list of substances of very high concern for authorisation. This should result in reducing exposure to substances of concern, and remove future barriers to reuse or recycling at the end-of-life stage.
- **Get the methodology right:** Methodologies for assessing environmental performance need to be robust, harmonised and accessible. Requirements for the assessment of a product's environmental footprint throughout the lifecycle should include:
 - A comprehensive list of environmental impact indicators;
 - Guidance on the use of the most appropriate methodologies to be used to assess each impact;
 - Strict rules on the aggregation of different impacts⁵, their values, and the availability of underlying data for further assessment.
- **Support Green Public Procurement (GPP):** The CPR should enable the use of ambitious criteria to support GPP across at EU level and across Member States.

- ✓ **Reduce virgin raw material use:** Introduce ambitious minimum requirements for use of recycled content and secondary raw material in all new construction products. These should be accompanied by incentives for the use of locally available secondary materials such as industrial or agricultural wastes from nearby production as well as construction sites. This could help decrease virgin raw material demand and use, and reduce overall emissions, including those related to the transport of raw materials.

⁵ Aggregation of different impacts risks diluting substantial impacts at one stage in the lifecycles with other low impact categories, making it challenging to fully understand the lifecycle impact of a product.

✓ **Use sustainably managed bio-based material:** Renewable resources such as timber, wood or hemp can have a positive impact on the overall environmental and functional performance of construction products. Nevertheless, it is important to quantify the impacts these products have on land and water use, as well as biodiversity. The use of such natural resources should be in line with the cascading use principle⁶.

✓ **Develop a Resource Efficiency ratio:** Consider introducing minimum resource efficiency requirements within each functional product group, or family. This ratio should be based on the environmental footprint derived from the quantity of material used, measured against key functionality requirements. This would put different solutions on a level playing field when it comes to delivering a service to a building. EU legislation should ensure this ratio promotes resource efficiency in products, and practices that tackle material overuse as illustrated below:

Resource efficiency ratio for steel structural beams (proposal for its calculation method)

$$\frac{\text{Environmental footprint for end-product (e.g. CO}_2\text{)}}{\text{Functional requirements (e.g. Megapascals - Mpa)}} \times 100 = \text{resource efficiency}$$

0.0 = optimal resource efficiency

Example:

Resource efficiency of **product A:** (1.7t CO₂/t) = $\frac{\text{CO}_2 \text{ of 1t structural steel beam A}}{435 \text{ Mpa}} \times 100 = \text{ME } 0.39$

Resource efficiency of **product B:** (2.2t CO₂/t) = $\frac{\text{CO}_2 \text{ of 1t structural steel beam B}}{435 \text{ Mpa}} \times 100 = \text{ME } 0.50$

Product A is 22% more resource efficient (CO₂ emissions only) than Product B

Regulatory requirement of 0.45 resource efficiency = ✓ **Product A compliant**, ✗ **Product B non-compliant**

MAKE THE USE OF CONSTRUCTION PRODUCTS MORE SUSTAINABLE

Dedicated measures are needed to improve the sustainability of products during their use phase. To do that, rules should incentivise an extended service-life for products, and, ultimately, buildings, in various ways and based on emerging business models.

✓ **Extending product service-life:** Introduce requirements for auditing, maintaining performance and repair of construction products. In-use requirements will help ensure that degradation of materials is better treated and that performance of products as part of a structure is better monitored. Such requirements will also support business models providing products-as-service, as well as maintenance and repair services. This will also support extending service-life of buildings, thus enabling building repurposing, reuse and refurbishment of existing structures over deconstruction and demolition. The potential for reuse of building components will also likely be increased, together with construction product performance at the end-of-life.

⁶ <https://www.ceguide.org/Strategies-and-examples/Dispose/Cascading>

REDUCE WASTE AND CLOSE THE CONSTRUCTION LOOP

Construction and demolition waste (C&DW) is still the largest waste stream in the EU, but current treatment measures mainly foster its low-grade applications, downcycling and backfilling, paired with continued waste generation, without great concern for the environmental impacts of such wastes (e.g. presence of restricted substances, and landfilling). Nevertheless, there is great potential to improve reuse and recycling practices, with C&DW separation and recovery technology already well developed, accessible and generally cost-effective⁷, but not yet widely implemented. To prevent the growing amounts of waste in the sector, the framework should close the loop and ensure products are fit to be recirculated in line with the waste hierarchy.

- ✓ **Products for deconstruction:** Introduce requirements relating to the potential for disassembly and recovery of components and products so that they can be removed from a building for reuse or recycling. This could be based on to be defined criteria such as separability and modularity.
- ✓ **Introduce a checklist to foster product reuse:** Before classifying a construction product or material as waste, a mandatory checklist assessing the potential for its reuse should be completed. This checklist could include the assessment of relevant performance characteristics for prolonged use to avoid products being discarded too easily.
- ✓ **Establish take-back obligations for unused products:** To prevent the disposal or destruction of unused products, the framework should establish requirements for suppliers to take them back. For example, this could include precast concrete components or roof tiles not needed for a particular project, but ultimately suitable for use elsewhere.
- ✓ **Create a scheme for Extended Producer Responsibility (EPR):** To create a financial incentive for producers to dedicate more focus to the inner loops of the circular economy, there is a need to establish EPR requirements that make producers bear the cost of all externalities and lifecycle impacts related to construction products, and not restricted to end-of-life treatment costs only. Additionally, provisions on EPR should be linked to waste reduction targets for construction and demolition waste as part of the Waste Framework Directive⁸.
- ✓ **Promote the introduction of financial incentives:** Through EU-level provisions, ensure Member States create incentives for the recirculation of products and materials to offset the potential additional costs of circular scenarios such as refurbishment, remanufacture, repair and reuse when compared to waste disposal⁹.

7 https://ec.europa.eu/environment/waste/construction_demolition.htm

8 Article 8: Extended Producer Responsibility. Waste Framework Directive (2009/98/EC) [available here](#).

9 José-Luis Gálvez-Martosa, David Stylesb, Harald Schoenbergerd, Barbara Zeschmar-Lahle. (2018). Construction and Demolition Waste Best Management Practice in Europe. Resources Conservation and Recycling. 136 (1), 166-178.
Available at: https://www.researchgate.net/publication/324647087_Construction_and_Demolition_Waste_Best_Management_Practice_in_Europe

The green line to standards



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