We need Digital Products Passports for Existing Materials

Or we risk covering our world with landfill

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Response to the UK Construction Products Reform White Paper (2026 Consultation)

Introduction

The construction industry consumes over 40% of Earth's raw material resources. It's time to rethink not just what we build, but how we build and how we value what's already built.

Product safety remains a fundamental concern, brought sharply into focus by catastrophic failures such as the Grenfell Tower tragedy. While fire safety failures exposed critical regulatory gaps, focusing exclusively on safety risks neglects wider systemic issues in product lifecycle management, traceability, and sustainability.

To build a resilient and future-proof construction sector, the UK must prioritise renewable, low-carbon, and sustainable products, alongside strategies that extend material lifespans. Central to this transition is the development of a robust chain of custody for materials, ensuring traceability, performance verification, and responsible reuse throughout multiple lifecycle stages. A systemic approach is required, one that integrates safety, sustainability, and circular economy principles.

Key Challenges

Construction Waste

The construction sector is the largest contributor to landfill waste in the UK, generating millions of tonnes annually, much of which could be reused or recycled.

Carbon Emissions

Embodied carbon in construction materials is a major and often under-regulated source of emissions, accounting for a growing share as operational emissions decline.

Buildings as Material Banks

Emerging research demonstrates that buildings can function as material repositories, where components are catalogued and reused rather than demolished and discarded.

Economic Barriers to Circularity

Despite technical feasibility, circular economy practices remain limited due to lack of financial incentives, inconsistent standards, and absence of reliable certification pathways for reused materials.

UK and EU Policy Context

The UK's Construction Products Reform White Paper represents a significant opportunity to reshape the regulatory landscape. It can align with two major national priorities: addressing the housing crisis (requiring rapid construction of new homes) and meeting legally binding Net Zero 2050 commitments. However, the UK must not operate in isolation. The reform must fully align with evolving European regulatory frameworks, particularly:

1. Ecodesign for Sustainable Products Regulation (ESPR)
Establishes sustainability requirements across product lifecycles, including durability, repairability, and recyclability.

2. Digital Product Passports (DPPs)
Mandate data transparency on materials, performance, and environmental impact to enable circular use and traceability.

3. EU Construction Products Regulation (CPR) 2024
Already adopted, this regulation expands performance requirements beyond safety to include environmental sustainability.

4. EU Safe and Sustainable by Design (SSbD) Framework
Promotes lifecycle thinking to ensure products meet safety and sustainability criteria from inception.

Policy Recommendations

Critically, the current reform discourse must expand beyond a reactive response to Grenfell. Construction product regulation should **address the full lifecycle, from extraction to end-of-life and incorporate multi-dimensional safe sustainability aspects,** including: **a) Environmental impact** (carbon, resource depletion), **b) Social considerations** (health, safety, wellbeing), **c) Economic performance** (durability, lifecycle cost), **d) Regulatory compliance** (transparency and accountability)

1. The regulatory framework must extend beyond safety concerns augmented by Grenfell tragedy and embed SSbD principles and EU framework.

• **Expand safety criteria** to include Environmental impacts (e.g., embodied carbon) and Resource scarcity alongside Human health considerations
• Given that the EU CPR 2024 is already published, the UK reform must fully align with it rather than pursue gradual or partial alignment. Divergence risks trade barriers, reduced competitiveness, and regulatory fragmentation. **Align with EU CPR 2024** by explicitly include reused construction products and support circular economy practices.
• Shift from a single lifecycle perspective to **multiple lifecycles:** products should be designed for reuse, adaptability, and disassembly.

2. The system must enable reassessment and reaccreditation pathways for materials.

• Move beyond static, end-use certification and include **reuse scenarios** in regulatory frameworks.
• Develop public-sector testing facilities that certify both **new and second-hand materials** and enaible performance reassessment over time.
• Introduce proportionate certification processes based on risk level and degree of modification or reuse.

3. The UK should adopt a fully integrated digital framework aligned with EU standards.

• **Adopt Digital Product Passports (DPPs)** as a unified terminology and avoid duplication (e.g., "Digital Product Records") and methodology for data requirements.
• Establish a **national DPP database** (replacing the proposed product library) that includes **DPP for existing products**, not just new ones.
• Ensure interoperability with wider construction data requirements (e.g. Digital Building Logbooks and EU Level(s) framework).
• Assign responsibility to the **Single Construction Regulator to manage DPP database**, provide access to stakeholders and enable full material traceability and chain of custody.

4. The regulator must drive a paradigm shift toward material stewardship.

• Extend responsibilities beyond enforcement to validate **safe and sustainable criteria** before market entry and encourage extended material lifecycles.
• Promote reuse and recirculation of materials and reduction of unnecessary demolition and replacement.
• Enable adaptive regulatory pathways for multi-cycle material use and innovative circular business models.

5. The current reform risks undermining Net Zero goals if it focuses solely on new products. Therefore, we recommend the following:

• Recognise **embodied carbon in existing buildings** and avoid demolition as the default solution.
• Require regulators to consider **carbon impacts of enforcement decisions** and balance safety interventions with whole-life carbon consequences.
• Introduce **recertification frameworks** proportionate to risk and create incentives for reuse and retention of existing materials.
• Embed **circular economy principle**s into products certification, procurement policy and building regulations.

Work with me

Ana Rute Costa is Professor of Sustainable Architecture at Lancaster University,
Her work focuses on accelerating material reuse through digital passporting, reducing whole-life carbon, and enabling circular economy practices in the built environment. She actively fosters collaboration between academia and industry to deliver innovative, sustainable solutions aligned with Net Zero targets.

To learn more, invite Professor Costa to speak at your event or collaborate on advancing safe, sustainable, ethical and circular construction products.
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Key Research informing this response

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