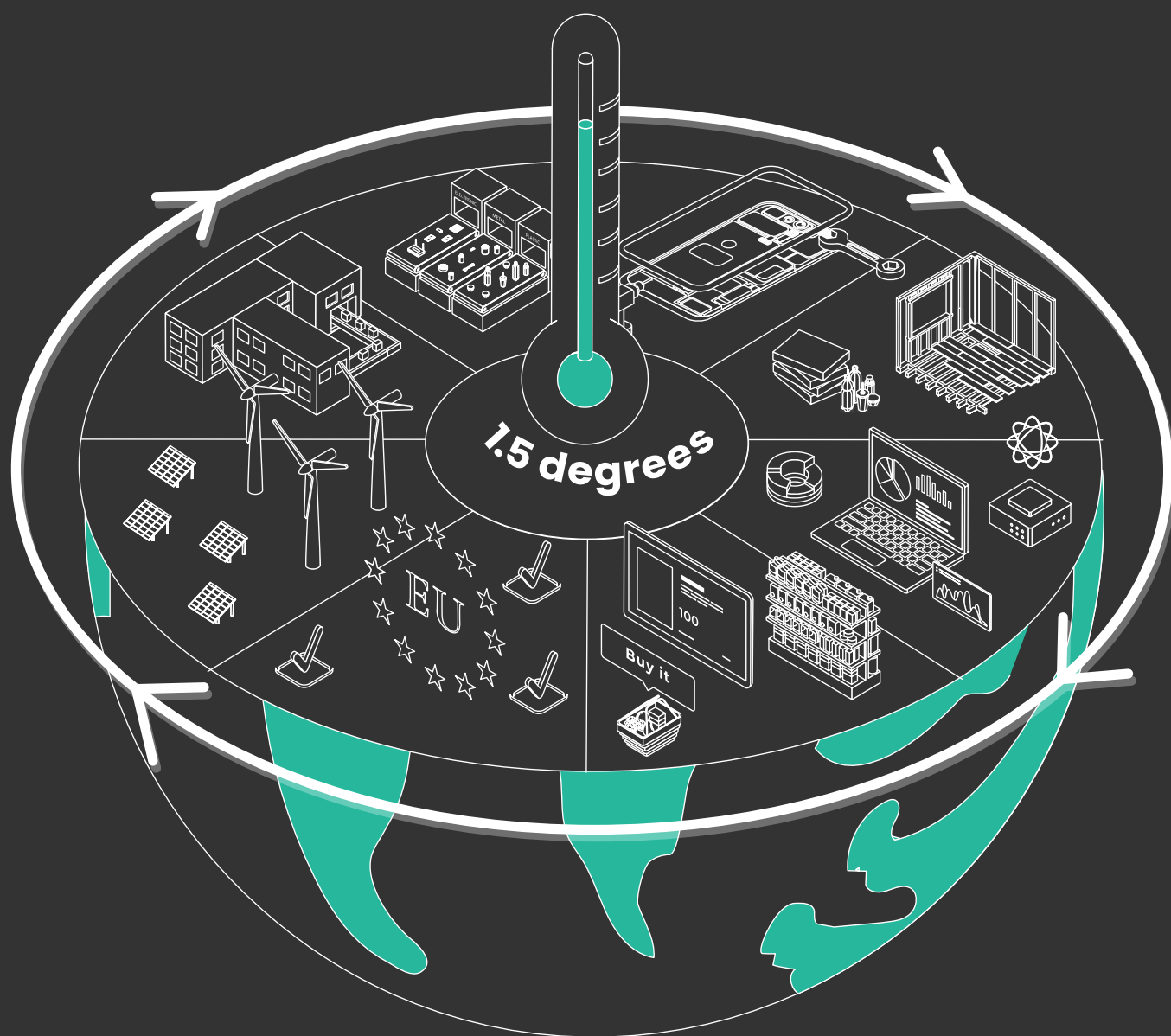




# Managing Materials for 1.5°C

An EU-level Regulatory Framework  
for a Low-Carbon Material Economy

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 eunomia

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# Executive Summary

**Now is the time to build an effective EU policy framework for managing materials – one that will accelerate Europe’s transition to a circular economy, support a strong industrial strategy, and make it easier to do business in Europe.**

We need to do more – in terms of both scale and speed – to change the way we manage materials.

The extraction, manufacture, transport, use, and disposal of materials are contributing heavily to the triple planetary crisis: climate change, nature and biodiversity loss, and pollution and waste. Globally, material use is responsible for over 55% of greenhouse gas emissions and 90% of land-based biodiversity loss and water stress.<sup>1,2</sup>

By 2040, the combination of existing and currently planned policies, such as the Fit for 55 package, will have cut EU emissions to 60% below 1990 levels. However, according to the European Scientific Advisory Board, by 2040 emissions must fall by 90–95% below those levels to limit global warming to 1.5°C and reach climate neutrality by 2050, and the EU’s cumulative emissions for 2030–50 must keep to a strict carbon budget.<sup>3</sup>

This report sets out the components of a regulatory framework that will:

- **Harness the power of the Single Market** and sustain its unity, enabling a fair and competitive system for all: business, industry, and consumers.
- **Minimise administrative burdens** for businesses operating in the EU.
- **Support a fit-for-the-future industrial strategy** that keeps Europe internationally competitive.
- **Safeguard the bloc’s material security** in the face of geopolitical uncertainties and price volatility.
- **Consolidate Europe’s global leadership** in circular economy and digital product policy.

The proposed regulatory framework can help shrink emissions from material use, so we avoid wiping out our carbon budget while we work towards net zero. It can help us move from an inefficient, material-hungry, linear economy to a circular one that extracts fewer virgin resources, keeps products and materials in use for as long as possible, and maintains their value at end of life.

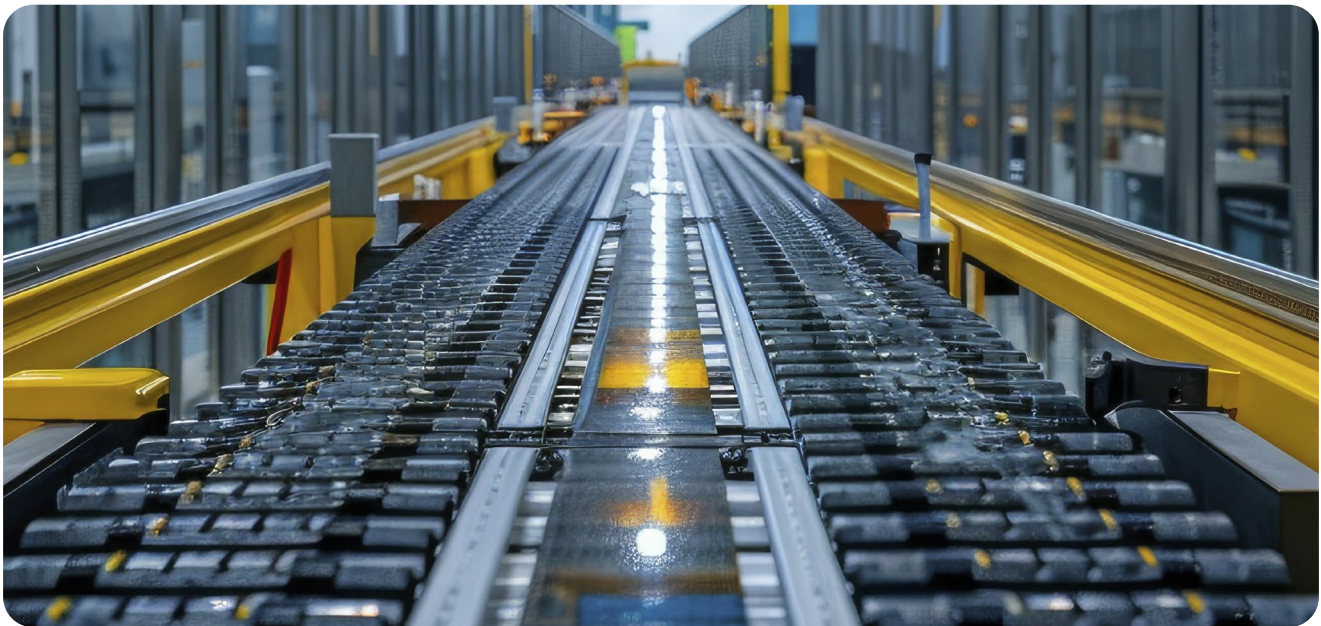
<sup>1</sup> United Nations Environment Programme (2024) Global Resources Outlook 2024: Bend the Trend – Pathways to a liveable planet as resource use spikes. International Resource Panel. Nairobi. Available at <https://www.resourcepanel.org/reports/global-resources-outlook>

<sup>2</sup> European Scientific Advisory Board on Climate Change (2023) Scientific advice for the determination of an EU wide 2040 climate target and a greenhouse gas budget for 2030–2050, 15th June 2023, available at <https://climate-advisory-board.europa.eu/reports-and-publications/scientific-advice-for-the-determination-of-an-eu-wide-2040>

<sup>3</sup> European Environment Agency 2023 Trends and projects in Europe 2023. EEA Report 07/2023, p 21. Available at <https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2023>

The measures proposed in this report support many of the actions called for in the recent Antwerp Declaration for a European Industrial Deal, such as eliminating regulatory incoherence and reducing over reporting.<sup>4</sup> EU action is key to driving change at pace and scale – an EU-level framework can deliver much more, faster and more efficiently than if Member States act alone.<sup>5,6</sup>

Together, the proposed measures map our path to a thriving, low-carbon material economy.



## Building blocks for a materials policy framework

To create a strong, holistic policy framework for managing materials, we propose extending the scope of some current policies and building upon them with new ones. These building blocks are as follows.

**Decarbonising material production** – The EU Emissions Trading Scheme (EU ETS) and Carbon Border Adjustment Mechanism (CBAM) are effective measures for reducing greenhouse gas emissions from the production of materials. Extending the scope of the EU ETS, and extending CBAM coverage to align with it, will help cost-effectively decarbonise materials production and ideally stimulate the creation of similar carbon-pricing schemes across the globe.

<sup>4</sup> The Antwerp Declaration for a European Industrial Deal, 20 February 2024, available at <https://antwerp-declaration.eu/>

<sup>5</sup> Austria's circular economy strategy aims to shrink its material footprint by 80% by 2050. See Federal Ministry Republic of Austria Climate Action, Environment, Energy, Mobility, Innovation, and Technology 2022 Austria on the path to a sustainable and circular society: The Austrian Circular Economy Strategy. Available at: [https://circulareconomy.europa.eu/platform/sites/default/files/2023-10/Austrian\\_CES.pdf](https://circulareconomy.europa.eu/platform/sites/default/files/2023-10/Austrian_CES.pdf)

<sup>6</sup> The Netherlands has proposed detailed measures to achieve its ambition of reducing the use of primary abiotic raw materials by 50% by 2030. See Government of the Netherlands (2023) National Circular Economy Programme 2023 – 2030, available at <https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/beleidsnotas/2023/02/03/nationaal-programma-circulaire-economie-2023-2030/NPCE+Circulaire+Economie+rapport+Engels.pdf>

**Product policy** – A more sustainable form of consumption – with fewer, better designed, longer lasting products that are highly used, repairable, reusable, and ultimately recyclable – can be achieved through a combination of policy measures. Harmonisation is key to leveraging the power of the Single Market to drive change.

By harmonising, strengthening, and integrating policy mechanisms in the following areas, Europe can create a product policy framework that boosts business and benefits consumers. The key components are:



**The Ecodesign for Sustainable Products Regulation (ESPR)** Digital Product Passports can play a key role in efficiently managing data in order to reduce the reporting burden and enable integration with EPR and product taxation – empowering consumers to make sustainable choices and supporting businesses to decarbonise supply chains. This is also an opportunity for Europe to lead the unfolding digital product revolution.



**Extended Producer Responsibility (EPR)** Reduce red tape in the Single Market by harmonising elements of EPR scheme design across all Member States – the products in scope, definitions of obligated producer, reporting requirements, and the criteria for modulating fees – and use information held on DPPs and accurate sales data to streamline reporting. Expanding the scope of costs covered will better reflect the polluter pays principle, transferring costs from taxpayers to producers and levelling the playing field between producers inside and outside the EU.



**Product taxation** Targeted, harmonised product taxation levied at EU-level will help establish price signals that incentivise producers to offer more resource-efficient, sustainable products and encourage consumers to choose them. Taxation could be deployed strategically to promote circularity – for example, it might align with products' ESPR scores or, in the case of vehicles, relate to weight. This approach would require changing how the Commission exercises its competence over taxation, to qualified majority voting. This is a change worth making to build a more effective EU policy toolbox.



**Green public procurement** With spending power of around €2 trillion (14% of GDP) per year, the public sector has enormous potential to shape the market and catalyse systemic change. This can be used strategically, in combination with the measures above, to foster successful circular business models, encourage investment, and give the market long-term confidence in demand for material-efficient products and services.



**Repair and reuse** A mix of measures could help make large-scale repair and reuse systems the norm: creating minimum standards and reporting requirements; exempting them from anti-trust laws that prevent multiple businesses from participating; and setting non-binding carbon budgets for specific sectors. This will create opportunities for new business models and mean products stay in use much longer.



**The product-waste boundary** Harmonising the definition of when specific products become waste will give clarity to EU businesses involved in repair and refurbishment and encourage them to innovate. This will also ease the movement of refurbished and repaired products within the Single Market.

Changes in how Europe thinks about and delivers the Waste Framework Directive would support the measures outlined above.

**Re-thinking the Waste Hierarchy** – To better mitigate climate change and reduce material consumption, a redefined Waste Hierarchy would focus solely on materials at the point when they become waste. It should be nuanced to include recycling and residual waste hierarchies for dry materials (with recycling processes ranked by their avoided emissions) and include a separate biowaste treatment hierarchy.

**A new Materials Framework Directive** – The Waste Framework Directive has transformed how Europe thinks about managing waste, but it is no longer enough to meet our decarbonisation challenge. We need a Materials Framework Directive to help manage resources – including waste – through the lens of resource efficiency and circularity. This will create a legislative space for policy that drives decarbonisation through the choices we make about which materials we use and how and when we use them.

It will focus on reducing material consumption through material taxation at EU level. It will also place a duty on Member States to use a materials application hierarchy to guide the use of the right material in the right application and thus reduce material use and environmental impacts.

### **The political challenge and opportunity**

A low-carbon material economy is within our reach. It is not only essential for tackling climate change – it will also enable Europe's continued prosperity while reducing our demands on the natural world.

Transforming the economy to a circular model requires EU-level vision and action to leverage the strength of the internal market and offer harmonised rules and incentives that harness the ingenuity and drive of its actors.

The benefits will cascade to society: boosting employment, expanding resource productivity, slashing expenditure by extending product lifetimes, reducing maintenance costs, and avoiding external costs like pollution.

A policy framework that realigns our relationship with materials can help build a sustainable future for Europe's citizens, now and in the generations to come. Much is at stake, but if the EU can find the means to make these changes and influence the world to do the same, the rewards will be greater still.



