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Advanced Materials Act

EPMF Position paper

The European Precious Metals Federation (EPMF) is an international trade association representing the interests of the precious metals industry in Europe. The main purpose of the EPMF is to promote and support the European precious metals industry, including refining, recycling, trading, and fabrication of precious metals such as gold, silver, platinum, and palladium. The EPMF represents the interests of its members in discussions with regulators, policy makers, and other stakeholders, mainly in sustainability and chemicals management fields. The organization also seeks to provide information and resources to its members in critical areas like EU regulations and new science.

Introduction

Advanced materials are hailed as key components driving innovation and sustainability within the EU economy. This makes them essential for the EU's strategic autonomy, global competitiveness, and green and digital transition objectives. The potential of these materials, however, cannot be achieved without securing the supply of upstream raw materials like precious metals.

Precious metals hold unique physical and chemical properties that make them key enablers of advanced materials. From electrical conductivity, corrosion resistance, and stability under extreme conditions, the characteristics of precious metals facilitate the creation of technologies and materials that are faster, cleaner, smaller, and more durable.

A successful European economy for advanced materials requires secure supply chains for components and materials like precious metals. In turn, these upstream supply chains require forward-thinking policies that enable access to primary raw materials, circularity, and closed-loop production systems to facilitate recycling. We call on the Commission to prioritise a life-cycle approach in the upcoming Advanced Materials Act that embeds circularity at every step of the process and recognises the importance of precious metals for innovation, industrial competitiveness, and strategic autonomy.

Our Asks

- **Prioritise a life-cycle approach for advanced materials in policy, research, and financial instruments**
- **Increase access and supply of upstream materials needed for advanced materials**
- **Uphold a risk-based approach to Safe and Sustainable by Design (SSbD)**

Prioritise a life-cycle approach for advanced materials across policies, research, and financial instruments

Advanced materials cannot truly contribute to sustainable objectives without a European circular economy and circular business models. It is essential that the upcoming Advanced Materials Act prioritises circularity from Research and Development (R&I) to the end-of-life stage.

Circularity can pose challenges for advanced materials which are composed of complex materials that can be difficult to reuse or recycle. It can also create significant opportunities to create a resilient and independent European economy.

In scaling up R&D for advanced materials, the EU must take care to incentivise circularity in the R&I framework. Researchers must be able to carry out experimentation with innovative materials and processes using sustainable approaches in a conducive regulatory environment. Access to data and digitalisation of material flows and value chains will be crucial in this regard. Ensuring open, secure, and fair-minded data exchanges via digital tools like the Digital Product Passport (DPP) can help accelerate European R&D as well as circularity and facilitate the movement of sustainable advanced materials to the market efficiently. Developing and aligning sustainability standards and certification schemes can also help to validate circularity for new materials.

Production and material processing must be sustainable and contribute to the EU's green and circular economy objectives. Private and public funding mechanisms must incentivise circular business models that uphold design for manufacturing, reuse, and recycling of advanced materials. Public–private co-investment can also help scale production and deployment of sustainable materials on the EU market.

The introduction of advanced materials onto the market can be significantly hindered by regulatory burdens. The Advanced Materials Act should be harmonised with other key circular and product legislation including the Critical Raw Materials Act (CRMA), the upcoming simplification of REACH, the Circular Economy Act (CEA), and Waste Electronic and Electronic Equipment Directive (WEEE) revision to ensure swift implementation and avoid barriers to innovation. The specificities of the metals sector must also be considered when writing new rules: European metal recyclers and refineries recover complex, high-tech materials made from multiple metals and must therefore be able to treat them accordingly. Given the multi-metallic nature of extraction, production, and end-of-life treatments, measures must take specific nature of the non-ferrous metals ecosystem into account to ensure fit-for-purpose policies that are tailored to industry and avoid regulatory burdens.

Increase access and supply of materials needed for advanced materials

The Commission's 2024 Communication European strategy on Advanced Materials for Industrial Leadership states that it aims to create a "dynamic, secure and inclusive ecosystem for advanced materials in Europe," rightly highlighting the importance of circularity in developing the advanced materials market. However, the Communication also states that it will "identify additional R&I needs for the substitution of Critical Raw Materials (CRMs) with advanced materials with first results in Q1 2025".

While the reasoning behind the substitution of CRMs is understandable due to supply risks and geopolitical dynamics, we warn against giving precedence to substitution. CRMs are critical because their properties are unique; their criticality and widespread use is due to a lack of suitable substitutes despite decades of innovation activity to develop alternatives to them. Platinum Group Metals (PGMs), for example, possess numerous properties such as exceptional catalytic activity, corrosion resistance, and thermal stability that make them virtually impossible to substitute in advanced materials. Substitution risks leading to lower efficiency, shorter product lifetimes, larger material consumption, compromised safety, delays in clean-tech deployment, and may simply shift the problem rather than solving it. Pushing for substitution also risks displacing industrial processes and market demand to other countries that do not have substitution rules in place, thus further impacting Europe's strategic autonomy on the global stage. Moreover, combining the avoidance of CRMs with the objective of developing new SSbD materials effectively excludes a large portion of the periodic table.

We suggest focusing on securing existing supply chains of CRMs and focusing on material efficiency and circularity instead. By innovating sources of secondary supplies, facilitating waste shipments, investing in circular infrastructure, and securing mutually beneficial partnerships with like-minded third-country partners, the EU can reduce its strategic dependencies for CRMs and create flourishing, diverse, and stable supply chains for circular and secondary CRMs without having to resort to substitution.

Uphold a risk-based approach to Safe and Sustainable by Design (SSbD)

The safety and sustainability of advanced materials must be upheld from the design phase in order to comply with the EU's SSbD framework, protect the environment, and preserve human health. Dealing with the uncertainties about potential human health and environmental risks deserve particular attention to ensure that European advanced materials contribute to, rather than inhibit, the objectives of the EU Green Deal.

That being said, numerous metals and metal compounds are considered hazardous under the current SSbD framework. While these materials do have hazardous properties, the hazards associated with them are largely avoided when used safely in controlled industrial conditions. Eliminating the possibility of using these metals based purely on hazard class without taking their real-world uses into account risks inhibiting the production and innovation of advanced materials.

We therefore urge the Commission to uphold a pragmatic and risk-based approach to SSbD that is based on comprehensive data and considers the entire life-cycle of the advanced material, especially its use phase. Existing SSbD criteria should be combined with flexibility for innovative thinking and should be amended to better incorporate circular materials like metals. We also support monitoring the uptake of SSbD in advanced materials innovation, facilitating knowledge exchange, and the issuing of official guidance for industry actors. This ensures informed decision making and avoids unfair market barriers or regretful substitutions.

We also underline the need to uphold harmonisation with EU chemicals policy and other circular legislation such as the Ecodesign for Sustainable Products Regulation (ESPR). Any SSbD rules should be focused on sustainability objectives and must not inhibit recycling when facilities operate under controlled conditions following European safety and environment rules.