European Semiconductor Industry Association

Brussels, 10 September 2025

ESIA's reply to the call for evidence on simplification of administrative burdens in environmental legislation

The European Semiconductor Industry Association (ESIA), representing the European leadership in semiconductor research, design, and manufacturing, would like to underscore the need to consider the need of downstream users of chemicals in the targeted revision of REACH and the revision of other environmental legislations.

Semiconductors are the core of Europe's clean and digital transitions. From automotive and industrial automation to telecommunications, aerospace, defence and healthcare, Europe's future hinges on a robust and innovative semiconductor ecosystem.

ESIA supports the observations set out in the Orgalim position paper on EU regulatory burdens and 10-point action plan for better EU regulation. Recommendations presented below additionally emphasize areas where prioritisation is most critical to the semiconductor sector, and where ESIA can provide additional insight from the sector's perspective.

ESIA's Recommendations for the environmental omnibus package

European Pollutant Release and Transfer Register (Regulation (EC) No 166/2006)

ESIA supports the European Pollutant Release and Transfer Register (EPRTR) and have members that upload data to the register via their local competent authority. However, an additional administrative burden is placed upon our members by the local competent authorities which require the input of waste data simply for the purpose of EPRTR statistics. Some competent authorities also require annual mass emissions reporting for all licence parameters such as emissions to air and wastewater. All of these demands are very time-consuming and onerous without a clear benefit to the environment or industry.

Rather than these manual methods for data uploads, it is strongly recommended to provide an IT system that allows for the automatic upload of waste data. It is also recommended that future reporting only focuses upon the reporting of emissions to air and wastewater that exceed EPRTR thresholds to competent authorities.

Avoiding triple regulation of F-Gases

ESIA would like to raise its concern about legislative overlaps between 3 pieces of EU legislation concerning the management of fluorinated gases (F-Gases):

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EECA: European Electronic Component Manufacturers' Association
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- F-Gas Regulation,
- Upcoming universal REACH restriction on per- and polyfluoroalkyl chemicals (PFAS)
- Updated Best Available Techniques Reference Document (BREF) on the Surface Treatment of Metals (STM) under the Industrial Emissions Directive (IED)[1]

Addressing similar substances through multiple instruments creates duplication, uncertainty, and disproportionate costs for operators without necessarily achieving additional environmental benefit.

Indeed, semiconductor manufacturing fall under the scope of the upcoming REACH restriction on PFAS which scope comprises F-gases.

In addition, dedicated best available techniques associated emission limits (BAT-AELs) and best available techniques associated environmental performance levels (BAT-AEPLs) will be introduced for semiconductor manufacturing under the revised STM BREF. The 1st draft of the updated STM BREF includes a BAT-AEL for total PFAS in water discharges in semiconductor manufacturing. The draft also includes references to the use of fluorinated greenhouse gases, including perfluorinated compounds, in semiconductor manufacturing.

As highlighted by the German Electrical and Electronic Manufacturers' Association (ZVEI), requirements under the new IED will result in significant additional financial and administrative burdens for operators of industrial plants. Requirements include new standards for environmental management systems, expanded chemical inventories and transformation plans (Art 14a, new), as well as more stringent BAT-associated limit values (Art 15, no 3, new). Such provisions risk creating obligations which duplicate requirements under frameworks including F-Gas regulations and the REACH restriction, adding bureaucracy without clear environmental gain. In many cases, not all processes can comply with the lower-end BAT values due to technical limits or the high costs of redesigning equipment. Where compliance is technically possible, the large sum of investments required for redesign may render production uneconomic in Europe, effectively driving manufacturing abroad even when companies would prefer to maintain operations in Europe.

In semiconductor manufacturing, where supply chains are global and manufacturing relies on highly specialised processes, uncoordinated overlaps between F-Gas, PFAS and IED measures risk undermining Europe's industrial competitiveness. ESIA therefore calls on the Commission to ensure better cross-legislative coordination to avoid multiple regimes for the same substances.

Lack of consistency or no alignment of terms, e.g., substances of concern amongst the various environmental legislation.

ESIA would like to take advantage of the REACH revision proposal to call on the EC to harmonise the definitions of "substances of concern" across legislations to facilitate its implementation by stakeholders, specifically in the ESPR, the Taxonomy technical screening criteria and the European Sustainability Reporting Standards (ESRS)[2].

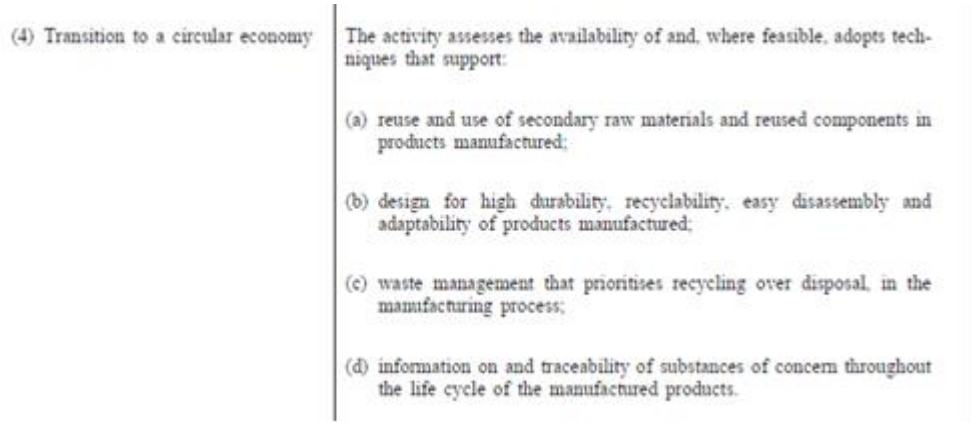
[1] The Joint Research Centrer and the associated technical working group are currently revising the STM BREF. A 1st draft of the updated BREF was made publicly available in February 2025.

(See Annex for the varying definitions of substances of concern under various legislations)

More specifically:

- *EU Taxonomy Regulation, including Climate and Enviornmental Delegated Act*

Art. 13(1) of the regulation is addressing “Hazardous Substances” (EU CLP) and “Substances of Very High Concern” (EU REACH), which may or may not address “Substances of Concern”. As you may know by now the DNSH criteria to assess products for use of “Hazardous Substances (EU CLP) has been dropped. However, within the delegated act the DNSH criteria on Circular Economy it does addresses “Substances of Concern” (d), but without further clarification or reference given to other regulations where this has been defined.



(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support:
	(a) reuse and use of secondary raw materials and reused components in products manufactured;
	(b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured;
	(c) waste management that prioritises recycling over disposal, in the manufacturing process;
	(d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.

- *Ecodesign Regulation (ESPR)*

The clearest term of “Substances of Concern” has been defined, although also here there is much unclarity how to address: “*d) negatively affects the reuse and recycling of materials in the product in which it is present*”. This will be determined per product group through vertical delegated acts and may be different between each of these product groups where semiconductor products as being used in. Although till today we are referencing for this matter to the restricted uses of specific substances as determined in the EU ELV, EU RoHS, and EU PPWR.

Waste Framework Directive (Directive 2008/98/EC)

ESIA supports the discontinuation of the substance of concern in products (SCIP) database

Expand the concept of the REACH Only Representative to other chemicals legislation.

ESIA suggests that the concept of REACH Only Representative (Art. 8) be extended to other chemical legislations, as the case may be.

Packaging and Packaging Waste Regulation (PPWR) and Issues of Impurities in Second-Hand Packaging

The PPWR is currently working to implement mandatory requirements regarding recycled material in packaging. To most industrial sectors this is of a minimal consequence. However, for the Semiconductor industry, impurities in recycled materials used in handling what are known as wafers (contains “chip die” before they are further processed into semiconductor chips) may inadvertently introduce a contaminant that may well destroy significant portions of the wafer as a very small level of a contaminant is more than sufficient to seriously impact the yield derived from the wafer during the manufacturing process.

ESIA recommends that as there is no control over what contaminants may be in recycled materials, such wafer handling materials be exempted from the pending PPWR requirements regarding recycled material in packaging.

More generally, ESIA believes there should be a limitation to the requirement for the use of recycled materials in packaging when this negatively affects the quality requirements of the products shipped and/or reduces the product life-time and safe use, and in particular that of semiconductor products. In this perspective, it’s not only about the shipment of wafers, also assembled products have high quality requirements to the packaging materials to be used, to prevent ESD, humidity, particles, contaminants, etc. Also consider here is that the same issue also plays a role when it concerns the shipments of semiconductor equipment, (spare-)parts, and auxiliary materials such as sputter targets, quartz, etc. Hence, we would like to stress out this threat to the semiconductor industry for manufacturing and the products we put on the market.

F Gas Regulation 2024/573

https://eur-lex.europa.eu/eli/reg/2024/573/oj

Etching and cleaning chamber gases used in the semiconductor sector are exempted from the quota mechanism as per Art 16 par 2 e) and are required to be reported in the F-gas Portal both by the suppliers and the semiconductor companies. ESIA is in favor of reducing the double reporting and maintaining the reporting for the suppliers only, who are already mandatorily required to label the containers accordingly.

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ABOUT ESIA

The European Semiconductor Industry Association (ESIA) is the voice of the semiconductor industry in Europe. Its mission is to represent and promote the common interests of the Europe-based semiconductor industry towards the European institutions and stakeholders in order to ensure a sustainable business environment and foster its global competitiveness. As a provider of key enabling technologies, the industry creates innovative solutions for industrial development, contributing to economic growth and responding to major societal challenges. Being ranked as one of the most R&D-intensive sectors by the European Commission, the European semiconductor ecosystem supports approx. 200.000 jobs directly and up to 1.000.000 jobs indirectly in systems, applications and services in Europe. Overall, micro- and nano-electronics enable the generation of at least 10% of GDP in Europe and the world.

Annex: definition of SOCs across legislations

Chemicals Strategy for Sustainability (14 Oct. 2020)	"These include, in the context of this strategy and related actions, primarily those related to circular economy, substances having a chronic effect for human health or the environment (Candidate list in REACH and Annex VI to the CLP Regulation) but also those which hamper recycling for safe and high quality secondary raw materials."
ESPR (13 June 2024)	"substance of concern" means a substance that: (a) meets the criteria laid down in Article 57 of Regulation (EC) No 1907/2006 and is identified in accordance with Article 59(1) of that Regulation; (b) is classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in one of the following hazard classes or hazard categories: i. carcinogenicity categories 1 and 2; ii. germ cell mutagenicity categories 1 and 2; iii. reproductive toxicity categories 1 and 2; iv. endocrine disruption for human health categories 1 and 2; v. endocrine disruption for the environment categories 1 and vi. persistent, mobile and toxic or very persistent, very mobile properties; vii. persistent, bioaccumulative and toxic or very persistent, very bioaccumulative properties viii. respiratory sensitisation category 1; ix. skin sensitisation category 1; x. hazardous to the aquatic environment — categories chronic 1 to 4; xi. hazardous to the ozone layer; xii. specific target organ toxicity — repeated exposure categories 1 and 2;

	xiii. specific target organ toxicity — single exposure categories 1 and 2; (c) is regulated under Regulation (EU) 2019/1021 (POPs); or (d) negatively affects the reuse and recycling of materials in the product in which it is present
Taxonomy Regulation (including climate and environmental delegated acts – 4 June 2021 and 25 June 2023)	No definition of "substance of concern" – though the term occurs in the technical criteria on several occasions. However, Art. 13(1) of Taxonomy Regulation specifies that an economic activity shall qualify as contributing substantially to the transition to a circular economy, where that activity *"[…]* *(e) substantially reduces the content of hazardous substances and substitutes substances of very high concern in materials and products throughout their life cycle, in line with the objectives set out in Union law, including by replacing such substances with safer alternatives and ensuring traceability; […]."*
REACH Regulation	No definition as yet, but potential inclusion on targeted revision of REACH
European Sustainability Reporting Standards (ESRS), as amended by Directive (EU) 2022/2464 (CSRD), as supplemented by delegated regulation (EU) 2023/2772 (31 July 2023)	An SoC is defined as "a ***substance*** that: i. meets the criteria laid down in Article 57 and is identified in accordance with Article 59(1) of Regulation (EC) No 1907/2006 of the European Parliament and of the Council [(32)]; ii. is classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 of the European Parliament and of the Council [(33)] in one of the following hazard classes or hazard categories: — carcinogenicity categories 1 and 2; — germ cell mutagenicity categories 1 and 2; — reproductive toxicity categories 1 and 2; — endocrine disruption for human health; — endocrine disruption for the environment; — Persistent, Mobile and Toxic or Very Persistent, Very Mobile properties; — Persistent, Bioaccumulative and Toxic or Very Persistent, Very Bioaccumulative properties; — respiratory sensitisation category 1; — skin sensitisation category 1; — chronic hazard to the aquatic environment categories 1 to 4; — hazardous to the ozone layer;

	— specific target organ toxicity, repeated exposure categories 1 and 2; — specific target organ toxicity, single exposure categories 1 and 2; or iii.. negatively affects the re-use and recycling of materials in the product in which it is present, as defined in relevant Union product-specific ecodesign requirements.”