



EVENT REPORT

Fire safety and Europe's climate ambition

THE ROLE OF SUSTAINABLE FIRE RETARDANTS
IN EUROPE'S ENERGY TRANSITION

Hosted by MEP Adam Jarubas

Moderated by Regine Roncucci



pinfa

OPENING REMARKS

MEP ADAM JARUBAS



“The green transformation must be implemented wisely, considering the socioeconomic opportunities of EU countries, but also the safety of new tech, including fire safety.”

In his opening speech, MEP Jarubas emphasized that there can be **no green transition without the formulation of clear solutions to guarantee fire safety** across the Union. By moving towards a greener economy, the EU has taken part in the international race to establish a competitive advantage in the development and production of clean technologies. Since these technologies make an increasingly significant use of electricity and organic materials, they inevitably bring along a greater fire hazard which must be tackled through proper preventive measures. As underlined in the **Fire Safety Manifesto 2024-2029** issued by the European Fire Safety Alliance, it is crucial to raise awareness of these new threats and strengthen competencies among industries, institutions, and the public. MEP Jarubas also urged the next Commission and Parliament to establish an **EU Fire Safety Strategy fit for the new realities and challenges of the EU Green Deal**.

KEYNOTE PRESENTATION

ADRIAN BEARD, Chairman, Pinfa Europe



“Combining all these criteria – performance, economic viability, environmental footprint, safety, and social value – in developing new and better flame retardants requires effort and investment”.

Presenting the work of Pinfa, which brings together producers and end users of flame retardants (FRs) across the world, Mr. Beard explained that the association’s goal is to reach out to industries, regulators, and environmental groups to **discuss the properties FRs not only from a technical perspective but also in terms of health and environmental implications**. FRs are chemicals applied to materials to prevent ignition, flame propagation, and escalation and are, therefore, an important part of fire safety. To proactively respond to the EU Chemical Strategy for Sustainability (CSS), which integrates chemicals’ environmental and health dimensions, Pinfa developed a **Roadmap** based on three pillars: **providing more transparent information** on FRs, **committing to sustainability** parameters and objectives, and **taking part and developing to new projects**, such as the implementation of the Safe and Sustainable by-Design (SSbD) framework in collaboration with JRC.

PANEL DISCUSSION

IRANTZU GARMENDIA AGUIRRE, Project Officer, Joint Research Center (JRC)



“The SSbD framework provides the scientific means to move towards more sustainable flame retardants material and enables the demonstration of their safety and sustainability performance.”

Ms. Garmendia Aguirre explained that the **SSbD framework** was developed as part of the CSS to drive innovation **towards designing safe and sustainable chemicals and materials and phasing out hurtful substances**. The framework, which promotes a **holistic approach** to ensure that safety and sustainability are maintained during the chemicals’ entire life cycle, serves as the scientific-technical basis of the Commission’s recommendation for the establishment of voluntary SSbD measures in research and innovation activities. To evaluate the framework’s feasibility and applicability, the JRC tested it on three case studies, including one developed by Pinfa on non-halogenated FRs. Some of the challenges identified **included integrating the safety and sustainability dimensions at the early product innovation phase; identifying and engaging stakeholders along the entire value chain** to assess a product’s life cycle, especially regarding SMEs; and raising awareness on the fact that a product’s **recyclability does not necessarily translate into its sustainability**.

CHRIS SLOOTWEG, University of Amsterdam



“Environmental sciences are often decoupled from the synthesis and making of molecules and materials in academia: we need to bridge those worlds and bring them together.”

Bringing the academic perspective into the equation, Mr. Sootweg emphasized the **role of circular chemistry in developing adequate technologies to enable the circular economy**. Since products tend to be created with depleting resources, and, even when renewable sources are used, they are implemented linearly, there is the need to **develop a circular economy in which product recovery and recyclability are fully linked to each other**. When it comes to FRs, the question of **persistence**, namely the lack of breakdown of chemicals in the environment, **vs. product durability** must be addressed to solve the **recyclability–biodegradability trade-off in product design**. Mr. Sootweg also called for a **multidisciplinary approach** integrating environmental sciences with the study of molecule synthesis and material making, in order to achieve the goal of creating FRs using resources that are both renewable and safe for environmental and human health.



“For the moment we have very few positive lists of good flame retardants available. We as Schneider would be in favor of an official methodology approved by the EU for the assessment of toxicity of chemical substances”.

Mr. Tribut explained that fire safety and FRs have a critical role in product design, especially for materials that are in direct contact with life parts and electrical arcs. While fire safety can already be partially increased by ensuring high-quality installations and regular maintenance and by adding requirements for critical buildings, the challenges posed by the energy transition must also be addressed. On top of the **energy-transition-related challenges posed to electrical and mechanical performance**, such as the increased use of higher voltage and direct current and the need for materials capable of sustaining very high temperatures, manufacturers like Schneider Electric must also design products with **long durability**. Therefore, it is crucial that suppliers of FRs and materials share **information on the aging of their products’ fire performance** and that new forms of recycling, such as **chemical recycling**, are developed. Mr. Tribut also urged the EU **to establish an official methodology for the assessment of toxicity of FRs and to consider the impact of FR regulations on targeted recycling rate of plastics in EU**. End of life treatment of products including legacy hazardous substances is a challenge that authorities and suppliers will need to tackle.



“We believe that the EU has to play an important role in fire safety, and that’s why we are calling the EU to develop a Fire Safety Strategy in coordination with Member States.”

Mr. Biskup emphasized **that fire safety must be an inseparable part of the energy transition**, since the latter can result in higher fire hazards and less predictable fire environments, as highlighted by the 2020 **European Fire Safety Action Plan**. To address the risks associated with new forms of energy, **developing knowledge and competence in this field as well as running regular inspections is crucial** to ensure a safe green transition. In this regard, the Fire Safety Alliance, together with several stakeholders and MEPs, has launched the joint **#KEEPEUFIRESAFE campaign to urge the EU to develop a Fire Safety Strategy**. As fire safety impacts and is impacted by several of the EU core objectives, the EU has great potential and interest in supporting Member States in addressing common fire safety challenges. By stepping up its efforts in **raising awareness, harmonizing fire statistics, sharing fire safety research, and exchanging experience**, the EU can play an important coordinating role in fire safety.

Q&A

Are there official statistics that energy transition will lead to more fire safety issues or are just forecasts put together by stakeholders?

Mr. Biskup stated that EuroFSA has observed rising fire cases caused by energy transition-related installations and appliances, but that at the moment there is **no reliable and comparable data** on the issue. Therefore, EuroFSA welcomed the European Parliament's project for developing **harmonized fire statistics** in the EU.

Mr Beard remarked that the industry is already working to address increased risks and that policymakers need to create **preventive regulations** to tackle these challenges as they develop.

Mr. Tribut emphasized that **tackling fire safety issues in the early phase of product design** is the right approach to make sure that fire incidents do not increase due to the energy transition.

How do you address the more holistic approach to fire safety with the material available on the market?

Mr. Tribut underlined that having to ensure high-fire performances in addition to electrical and mechanical performances constitutes a challenge, as it reduces the choices of available FRs. Schneider Electric uses **temperature and aging tests** to find the **balance between fire, electrical, and mechanical performances**.

When can we define a FR as sustainable?

Ms. Garmendia argued that this question can only be answered **once the assessment has been performed by experts in the field**.

For what type of products it is possible to use a biodegradable FR to avoid the FRs leaching into the environment during shelf life?

Mr. Sloodweg emphasized the importance of designing the **right combinations of products and FRs** based on the properties and function of the products. This requires a **case-by-case investigation** depending on application.

How do we make sure that standards which promote innovation and investment help the industry to remain competitive?

Mr. Beard argued that **high EU standards are a big challenge to the competitiveness of EU industries**. Import of products that do not respect the EU standards is also a problem policymakers should consider.

Mr. Tribut remarked that Schneider Electric applies the **same rules worldwide**, but it would be useful to have an **international regulation on methodologies to assess the health and environmental toxicity of substances**.

Do you think it is possible to find solutions that will meet fire safety and sustainability, or will we have to agree on compromise and trade-offs?

Mr. Beard emphasized that trade-offs are inevitable, for example between recyclability and energy efficiency; therefore, a **nuanced language** on what constitutes a sustainable FRs is necessary. He also argued that the CSS should focus more on promoting the **market acceptance of alternatives** with better environmental and health profiles.

How can producers of FR materials ensure the long-term availability of FR substances in the EU market?

Mr. Beard reiterated that the EU FR industry must remain competitive and that it is important therefore to establish a **level playing field**.

Mr. Tribut emphasized the importance of **ensuring resilience in FR supply**. In this regard, it could be interesting to consider **waste as a potential source of development** for new materials.

Mr. Slootweg underlined that, on the one hand, the **development of the circular economy relies on access to critical raw materials such as phosphorous**; on the other hand, achieving a circular economy would avoid these dependencies by ensuring resilience.

REACH is already regulating what chemicals can go into the value chain, so wouldn't a new list conflict with REACH?

Mr. Tribut answered that there would be **no conflict**, as a positive list of FRs would **only contain substances already approved by REACH** and would, in addition, rank them based on the level of toxicity and the impact in terms of CO2 generation during production.

CLOSING REMARKS

MEP ADAM JARUBAS



"I hope that the coming new term will see the establishment of an EU Fire Safety Strategy."

MEP Jarubas emphasized that there is **no safe Green Deal without adequate fire safety measures** and that, as underlined in the panel discussion, many issues can already be addressed at the design stage. The MEP closed the event by urging the Commission to listen to the calls raised during this and other events and in the Fire Safety Manifesto 2024-2029, and **by calling for the establishment of an EU Fire Safety Strategy**.



EP Intergroup on Climate Change,
Biodiversity and Sustainable Development

Rue de la Science 10
1000 Brussels
BELGIUM

<https://ebcd.org/intergroup/>