20 May 2025

Joint call for EU action to protect waste management from surging lithium battery fires

The undersigned associations representing the entire public and private waste management value chain, extended producer responsibility organisations and public service unions, are expressing concerns over a **significant increase in fire incidents** within the European waste management sector**,** largely attributed to the **misplacement of lithium batteries**. These incidents present substantial safety hazards for workers, cause substantial damage to critical infrastructure, and jeopardise the financial stability of waste management operators, as well as the achievement of the European Union's circular economy goals. We are calling upon the European Commission to take **decisive regulatory action to mitigate these risks and protect Europe's waste management infrastructure** and workers.

Fire Risks in the Waste Management Sector: A Growing Concern

The frequency and severity of fires in waste facilities has **escalated in recent years** due to the increasing use of lithium batteries in consumer products. The available data underlines the urgency of the issue and shows that the entire waste management value chain across Europe is at risk:

- In France, the number of fires in waste treatment facilities linked to lithium batteries doubled between 2019 and 2023[1]
- In Austria, it is estimated that 180 to 240 fires per year in waste facilities are caused by batteries[2]
- In Germany, up to 30 fire incidents per day occur in waste collection vehicles and in waste treatment facilities, with 80% attributed to lithium batteries[3]
- In the UK, over 1,200 battery-related fires were reported in 2023 in refuse collection vehicles and at waste sites, marking a 71% increase from 2022[4]

The French ARIA (Analysis, Research and Information on Accidents) database, which catalogues incidents or accidents that were or could have been harmful to human health, public safety or the environment, also shows a sharp increase in the number of events in waste management facilities at all stages of collection, separation and treatment (*Figure 1*).

It is not only battery and WEEE treatment facilities that are exposed to the risk of battery-linked fires[5], but major incidents also occur in other typologies of waste treatment facilities

[1] Politico, Electric toothbrushes and light-up sneakers are setting France on fire, 29/08/2024

[2] Nigl, T. (2021), Fire-Hazardous Waste Materials: Risk Analysis and Assessment of Portable and Lithium-Ion Batteries in Waste Management Systems.

[3] EUWID, 2024: Association survey: Lithium batteries cause almost 80% of fires in waste treatment plants, 03/05/2024

[4] Over 1,200 battery fires in bin lorries and waste sites across the UK in last year - NFCC

[5] In France, a survey of 109 WEEE e-waste processors revealed that one-third reported a severe battery related incident between 2016 and 2019 (Ecosystem France, French national roundtables on fire prevention)

due to **misplaced batteries ending up in the wrong waste streams**. These misplaced batteries and storage cells, often discarded in residual or recyclable waste bins, are a real challenge for sorting/transit center operators as they are very difficult to find among other wastes – and these **facilities are not well equipped to manage the risks posed by these misplaced batteries**. Even for well-equipped facilities, the combination of a high energy density battery with dry and highly flammable waste fractions such as packaging, plastic and paper waste makes it really difficult to prevent fires.

Battery fires in the waste management sector result in significant economic losses and an increasing health and safety risk to workers and citizens, as well as a reputational issue for the affected companies and the entire sector due to negative media coverage.

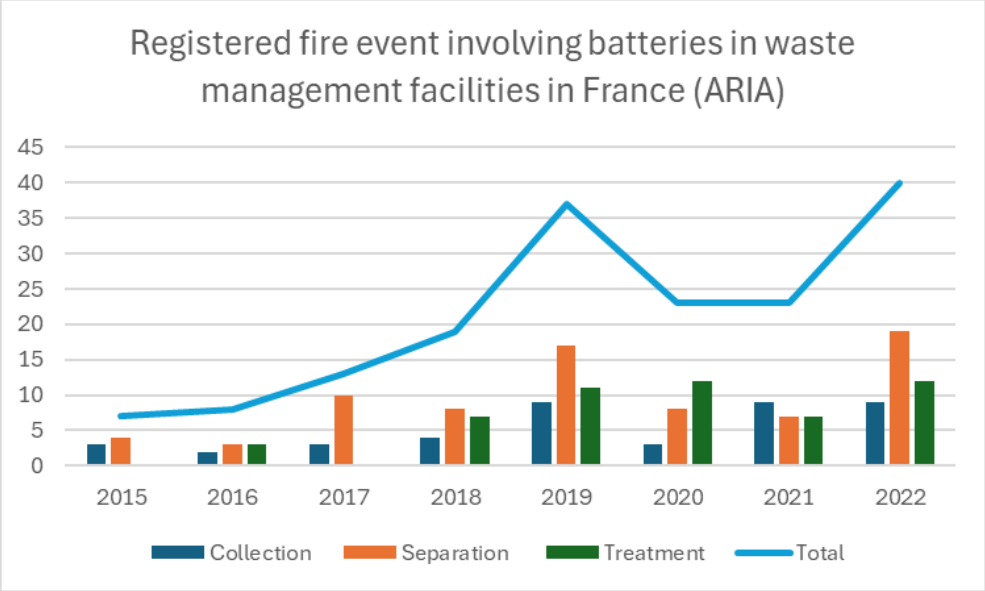

Figure 1: Evolution of registered fire event involving batteries in different steps of the waste management value chain in France - ARIA Database

The health and safety risks associated with fires at waste facilities are significant. Uncontrolled combustion of mixed waste can release hazardous emissions, including dioxins and other environmentally significant chemical compounds, which pose serious short- and long-term respiratory and health risks to workers, firefighters and nearby communities.

In addition to the obvious critical risks for workers and economic losses resulting from major fire incidents at a waste facility, including loss of assets, business interruption and the cost of rebuilding entire facilities[6], **waste management companies – independently if private or municipal – have found it increasingly difficult to obtain insurance for their facilities**. Insurance companies are increasingly refusing to cover waste management facilities or dramatically increasing premiums.

For many medium-sized waste management companies, it is no longer affordable to insure their facilities, and some facilities in Belgium are expected to lose insurance coverage altogether by 2025 due to the risk of fire. The recycling industry, for example, now has a **loss ratio almost twice as high as other industries** that are also at risk of fire, such as the wood processing industry.

To reduce the risk of fire, waste management facilities have to invest heavily in staff training on fire prevention, safety, and first emergency measures and in fire prevention equipment such as thermal imaging cameras, smoke detectors or precision water cannons, which can

[6] According to a survey of 109 WEEE e-waste processors, the cost of fires ranged from €190,000 to €1,300,000 per incident (Ecosystem France, French national roundtables on fire prevention)

cost up to several hundred thousand euros per year: depending on the size and structure of the facility, fire protection equipment can account for up to 20% of the total cost for new construction projects. These preventative measures add to the **financial and operational burden that battery fires place on waste management facilities**, thus upsetting the fragile economic balance of the sector and putting EU circular economy goals at risk of being missed.

Root Causes of Battery Fires in Waste Facilities

If mishandled, i.e. crushed, subjected to shocks, extreme temperatures, humidity or any other mechanical stress which may increase the risk of short-circuiting and self-heating, the waste battery can ignite a fire. In this context, it is worth noting that the risk of a battery fire is a matter of unit, not tons: a single mishandled or misplaced battery can cause a fire incident, and it is therefore essential to **reduce the number of misplaced batteries as much as possible**, as well as to provide the waste management sector with the means to mitigate this risk and to support the affected facilities to recover in the event of a major accident.

Consumers often dispose of batteries in general waste or in the wrong recycling streams due to a **general lack of awareness of proper battery disposal**. Moreover, many batteries are embedded in electronic devices[7], textiles and gift cards, and consumers are often unaware of the presence of the battery in the item and the risks associated with improper disposal of the item at the end of its life.

This is **exacerbated by the rapidly growing market for lithium batteries**, which can be found in more and more products, increasing the risk of misplacement and fire[8]. As a result, with such increasing sales of batteries, **collection rates remain insufficient** (see Figure 2).

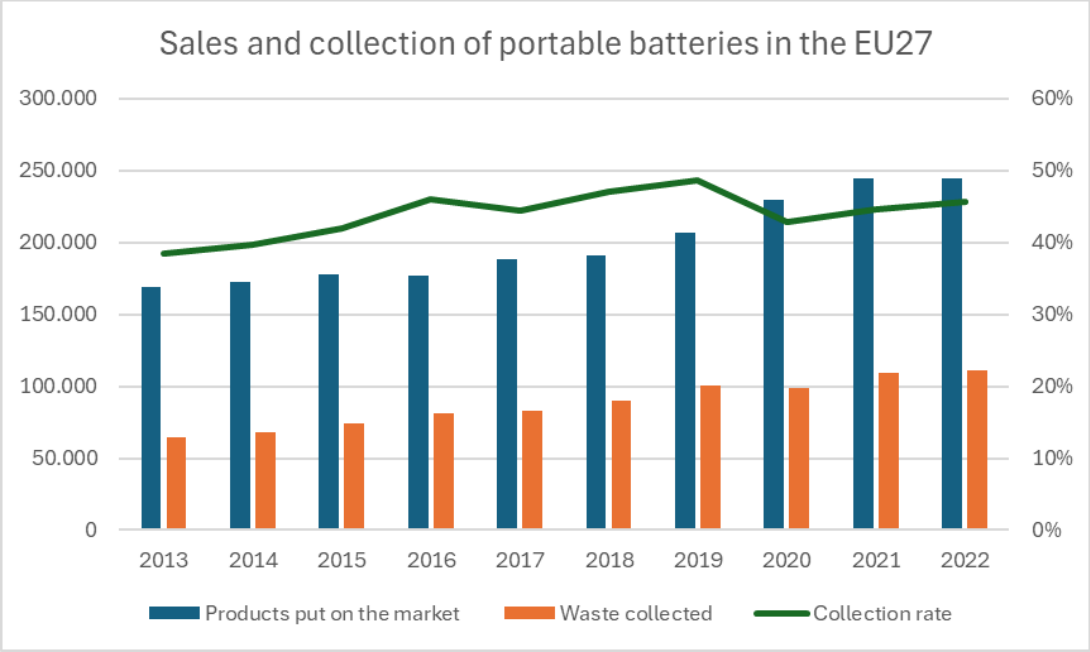

Figure 2: Evolution of the sales and collection of portable batteries in the EU27 – Eurostat

In 2022, 244 kt of portable batteries were placed on the market, but only 111 kt were collected for recycling, resulting in a collection rate of 46%. While the 45% collection target for 2023 is likely to be met, increased efforts will be needed to meet the new EU Battery Regulation targets of 63% by 2027 and 73% by 2030.

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[7] According to Bebat (Belgian battery EPR), 85% of portable lithium-ion batteries are embedded in electronic devices.

[8] It is expected that a typical French house contains an average of one hundred batteries, mostly based on lithium technology. This represents more or less 1 battery per square meter. (Ecosystem France, Batteries Roundtable)

Initiatives are in place…

The waste management sector welcomes the various initiatives taken by regulators to address the problem of misplaced battery waste. The recently published Guidance on Removability and Replaceability of Portable Batteries[9] and the various provisions of the new Battery Regulation should help to ensure that electronic devices are eco-designed so that so-called 'hidden batteries' are removable from their devices before disposal – which does not guarantee they are effectively removed.

In addition, the Commission's efforts to develop recycling of critical raw materials contained in batteries, and to promote collection with ambitious targets under the new Battery Regulation, are very welcome to address the issue of misplaced batteries. We also expect that the rapid implementation of the mandatory separate collection of household hazardous waste from January 2025, coupled with the hazardous classification of battery waste, will help to create a communication momentum to raise awareness on proper battery disposal, while ensuring that adequate collection systems are in place in the municipalities.

The undersigned associations also welcome the noteworthy initiatives of some Extended Producer Responsibility organisations in Member States, where preventive measures are being taken towards WEEE and waste battery treatment facilities, as well as developing major communication campaigns towards citizens.

… but it's not enough. Urgent action is needed!

However, these initiatives are not enough. The number of fire incidents due to misplaced batteries continues to rise, and this trend is expected to continue as lithium batteries represent an increasing part of the battery market, which is itself growing.

The undersigned associations are therefore proposing a series of measures to reduce the fire risks associated with misplaced batteries and to reduce the financial burden associated with battery fires, that currently falls solely on waste management operators:

- The **scope of Extended Producer Responsibility for batteries and electronic devices with embedded batteries should be enlarged** to cover the prevention of fire risks and the recovery of fire damage related to batteries in waste management facilities - through the establishment of a **Battery Fire Prevention and Recovery Fund**[10]. This fund would be financed directly by fees collected under the Batteries and WEEE EPRs or by additional fees dedicated to fire prevention and recovery. The Battery Fire Prevention and Recovery Fund would **cover investment in fire prevention technology and improved sorting infrastructure** aimed at mitigating battery fire risk, as well as **compensating waste facilities affected by battery fires** by financing emergency response and remediation costs. All waste management facilities should be eligible to benefit from this Fire Prevention and Recovery Fund as long as they are exposed to misplaced batteries that create an additional fire risk in the facility. The Fire Prevention and Recovery Fund should also aim to reduce the gap in insurance costs for waste facilities and develop awareness campaigns to improve the proper disposal and collection of waste batteries. The Fund should stay neutral in the choice of prevention and firefighting technologies, requiring obligations of results without imposing means.

- A **Deposit Return System for portable lithium batteries, including those embedded in electronic devices and LMTs,** must be established to incentivise

[9] Commission Notice – Commission guidelines to facilitate the harmonised application of provisions on the removability and replaceability of portable batteries and LMT batteries in Regulation (EU) 2023/1542

[10] France has started work on a law to introduce financial contribution for fire prevention measures in waste management facilities under the scope of the extended producer responsibility for WEEE and batteries.

proper disposal of batteries[11]. Such a financial incentive is essential to make citizens aware of the intrinsic value of waste batteries for the circular economy, thus ensuring that critical raw materials contained in batteries remain in the material cycle and are not lost in other waste streams. The DRS will be a crucial tool to bridge the gap to the ambitious collection targets and reduce the amount of misplaced waste batteries.[12] A prior assessment is required to ensure the adequate design of DRS, taking into account national collection and recycling infrastructure.

- **Disposable products with batteries**, such as disposable e-cigarettes, textiles and shoes with unnecessary batteries (e.g. for lights), gift cards with batteries, **should be banned from the EU market**. For example, Belgium and France already have EU-compliant bans on so-called 'disposable vapes' - an extension at EU level seems both appropriate and a very effective method to reduce the inherent fire risks of these products. ESPR could be the right legislative vehicle to set high design standards for categories of products with embedded batteries and prohibit the production or at least sale on the EU market of such disposable products.

Call to Action

The waste management sector is at a critical juncture. Without **immediate action**, waste batteries fire-related incidents will continue to endanger workers, damage infrastructure and disrupt essential waste treatment processes. The waste management value chain, extended producer responsibility organisations and public service unions urge the European Commission to use the political momentum towards a circular economy under the Clean Industrial Deal to promote the proper disposal of waste batteries and support the resilience of waste management infrastructures by **establishing a Battery Fire Prevention and Recovery Fund** under the EPR schemes and a **Deposit Return System** to meet the collection targets set out in the new Battery Regulation.

CEWEP (Confederation of European Waste-to-Energy Plants) is the umbrella association of the operators of Waste-to-Energy plants across Europe. https://www.cewep.eu/

EPRO is a circular plastic association with 25 members in Europe and internationally, focusing on the collection, sorting, and recycling of packaging and agricultural plastics. https://epro-plasticscircularity.org

EPSU (European Federation of Public Service Unions) organises workers in the energy, water and waste sectors, health and social services and local, regional and central government, in all European countries. https://www.epsu.org/

EuRIC is the voice of the Europe's recycling industries, with 80 members across 23 EU & EFTA countries. https://euric-aisbl.eu/

EXPRA (Extended Producer Responsibility Alliance) is the alliance of 32 packaging and packaging waste recovery and recycling organizations from EU and non-EU countries. https://expra.eu/

FEAD is the European Waste Management Association that represents the private waste management and resource industry across Europe. https://fead.be/

FERVER is the European federation representing glass recycling companies. https://ferver.eu/

Municipal Waste Europe is the European Umbrella Association for Public Waste Management. https://www.municipalwasteeurope.eu/

[11] See Battincentive project in Austria, with positive results from a very localised return system with partner supermarkets. The amount of batteries collected significantly increased thanks to the implementation of the return incentive.

[12] See this German study on the potential and challenges of DRS systems for batteries