

FEAD MAGAZINE

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2023

UNLOCKING THE CIRCULAR ECONOMY'S POTENTIAL

NAVIGATING THE
COMPLEX LANDSCAPE
OF PFAS IN WASTE

REACTIONS TO THE
2023 WASTE EARLY
WARNING REPORT



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Foreword

by Paolo Campanella



Paolo Campanella
FEAD Secretary
General

As the newly appointed Secretary General of FEAD, it is with great pleasure and pride that I welcome you to the second volume of our digital magazine. Stepping into this role has afforded me a unique perspective on the incredible work that FEAD has undertaken throughout the years, and this publication stands as a tangible reflection of our collective commitment to excellence.

In the past year, FEAD has demonstrated unwavering dedication to advancing the waste management sector, championing sustainability, and influencing positive change. This magazine serves as an embodiment of our year-long efforts, showcasing the diverse initiatives, achievements, and innovations that have defined our journey.

One notable accomplishment that deserves special mention is our work on transport of hazardous waste in the RID/ADR/ADN Joint Meeting, organised by the Secretariats of OTIF and UNECE. This endeavour exemplifies FEAD's proactive engagement in shaping policies that are instrumental in guiding and regulating the waste management industry. FEAD is committed to navigating complex regulatory landscapes and advocating for impactful change.

Significant strides have been made in addressing the issue of per- and polyfluoroalkyl substances (PFAS), also referred to as forever chemicals. Collaborating closely with the University of Padova, we commissioned a comprehensive study employing critical review methodologies to scrutinize the presence of PFAS in selected waste streams. This initiative aimed to enhance our current understanding of the prevailing scenario and anticipate the challenges that lie ahead in effectively managing and mitigating the impact of PFAS on the environment and the circular economy.

Following the unveiling of FEAD's vision last July, our focus is now on gearing up for the challenges of 2024 and the forthcoming European mandate. We are actively engaged in formulating a robust action plan, translating our ambitious circular economy goals into practical strategies. This proactive approach underscores our commitment to implementing a comprehensive and effective framework for advancing sustainable practices and fostering a circular economy.

At the heart of FEAD's mission is the steadfast belief that the waste sector is not just a participant but a fundamental component of the economy. It is our collective responsibility to spotlight the indispensable role that waste management plays in achieving broader sustainability objectives. FEAD has been tirelessly working on fortifying this vision, recognising the integral nature of our sector in the circular economy framework.

This magazine is a collaborative effort, crafted with the invaluable input of our members. Their expertise, experiences, and diverse perspectives have enriched the content, creating a comprehensive and insightful resource. We extend our heartfelt gratitude to each member for their active participation and contributions.

In closing, I extend my sincere appreciation to the entire FEAD community. Together, we are shaping the future of waste management, and I am confident that the second volume of our digital magazine will serve as a source of inspiration and knowledge. We hope this magazine offers you an enjoyable and interactive reading experience, encapsulating the dynamism and diversity of the waste management sector.

PFAS Unveiled

Navigating the Complex Landscape of Forever
Chemicals

Articles by FEAD and Professor Alberto Pivato



Navigating the PFAS landscape: understanding the implications of the restriction proposal

by FEAD

5 600. That is the final number of comments received by ECHA, the European Chemical Agency, when they closed the public consultation on the restriction of Per- and polyfluoroalkyl substances, also known as PFASs on 25 September. Safe to say, this group of chemicals is the newest hot topic and it is not hard to see why. On 5 April 2023, a group of five countries including Germany, the Netherlands, Denmark, Sweden and Norway spearheaded a joint proposal to massively restrict them in Europe. While the substance is already largely regulated, if it goes through, this restriction will be one of the largest ever on chemical substances in the EU, as PFAS currently represents more than 10 000 substances. A growing number of studies are being carried out on the proliferation of this substance and its properties, as well as the effects on human beings and the environment. However, one key stage for the substance is being underestimated: the waste stage.

PFAS are a group of man-made chemicals that have been used worldwide since the 1940s. However, the use of the chemical has become more and more widespread and can be found in virtually everything from pesticides to non-stick cookware, to cleaning products, to groundwater, water-resistant fabrics, and stain-resistant coatings used on carpets, upholstery, and other materials. In other words, PFAS is everywhere.

This omnipresence of the chemical is the main reason why FEAD deemed it necessary to conduct a critical review concerning the presence of PFASs in waste. Four relevant and recyclable waste streams have been selected: plastic, metals, textile and leather, paper and cardboard.



FEAD
European Waste
Management Association

The study conducted by the Environmental Engineering Research Team of the University of Padova investigated also how the presence of PFASs could influence waste management, considering ongoing updates to the legal framework, with particular attention to possible new restrictions of PFAS in the REACH regulation.

The outcome of the study shows how the PFASs restriction proposal and its new concentration limits could influence the waste management sector starting from the analysis and classification of waste, the recycling processes, and the end-of-waste procedures. It is essential to provide Member States and competent authorities scientific bases for new reliable regulation proposals, able to consider current limitations (e.g., in analytical methods) and guide future research developments. At a time when PFAS are at the heart of several debates, this study is crucially needed.



Jean-Paul Judson and Claudia Mensi ©copyright Luca Nanni/ FEAD

‘Policy makers need to consider us as important stakeholders because waste is part of part of the life cycle.’



Watch the conference recap on Youtube

To present the results of this critical review, FEAD organized a conference at ECOMONDO on the 8th of November with a panel discussion on ‘PFAS in the waste sector: the impact of a potential ban – A systematic critical review of the presence of PFAS in waste’. This conference brought together industry experts, researchers, and policymakers to discuss the pressing issue of PFAS in the waste sector, lasted around two hours and was moderated by Jean-Paul Judson.

Dr. Dannenberg, a Scientific Officer at the German Federal Office for Chemicals, BAuA, launched the event with a presentation on the restriction proposal submitted to ECHA. This was followed by Professor Pivato’s, from the University of Padova, presentation illustrating the results of the critical review commissioned by FEAD. Mattia Pellegrini, Head of Unit Waste, DG ENV European Commission, closed the presentations by giving the Commission’s point of view on the proposal. Afterwards, a panel discussion was held, during which Claudia Mensi, FEAD’s President, Michaël Mansuy, Public Affairs Director at VEOLIA, Dr. Guido Premoli from LabAnalysis, and Professor Pivato discussed the impact on the waste management sector of a potential PFAS ban.

Dr. Dannenberg, Scientific Officer, Federal Office for Chemicals, BAuA, Germany, explained that ECHA is proposing this restriction ‘due to an unacceptable risk related to the use of PFAS. The impact on recycling will be assessed by the scientific committees as part of the socio-economic considerations of the proposal, taking into account the input received from the public consultation.’

Professor Alberto Pivato, Assistant Professor, University of Padova, when explaining how the study took shape, said: ‘We took a different approach than the one from the proposal, which was made from the product perspective. We looked into the impact on the waste status of these products. Given that PFAS is an extremely widely used substance, the probability of finding them in waste is very high. At what concentration levels is the question we want to try to answer.’

As Mattia Pellegrini, Head of Unit Waste, DG ENV European Commission, noted: ‘There has been a lot of attention on PFAS these last few years. This is why it is important FEAD commissioned this study because the first and most important step is to gather data and to map where PFASs are.’ This conference was a learning experience for all involved and proves the necessity to consider the waste sector and the implications a ban of the substance may have on it. Michaël Mansuy, Public Affairs Director, Waste Management, VEOLIA, stressed that ‘the measures taken on PFAS need to be done at European level or we will have huge fragmentations between Member States. In addition, we need consistency because we do not want small pieces of PFAS in different regulations.’



FEAD conference in ECOMONDO on 8 November © Luca Nanni/ FEAD

Dr. Guido Premoli, LabAnalysis, noted ‘my concern is about the traceability of PFAS at these levels of concentration (25 ppb). Authorities should create working groups to establish official analytical methods as soon as possible.’

As Claudia Mensi, FEAD President highlighted during the panel discussion, ‘policy makers are very focused on products and are not considering the future waste status from the beginning. If we want to reach reuse and recycling targets our companies need certainty and not see the amount of recyclable waste suddenly reduced. Policy makers need to consider us as important stakeholders because waste is part of part of the life cycle.’ She continued by saying ‘we need more data to understand the destruction of PFAS; the time and temperature needed. We already see fragmentation in the national approaches taken. Do we need to develop new technologies, are the current technologies and capacities enough?’. To learn more about PFAS, read the next article which is an adaptation of the executive summary of the critical review concerning the presence of PFAS in wastes.

Executive summary of critical review concerning the presence of PFAS in wastes

by Professor Alberto Pivato

[This article was originally published on fead.be on 13 December 2023](#)

Since the early 2000s, Per- and polyfluoroalkyl substances (PFAS) have attracted much attention due to the emergence in the public dominion of their hazards, ubiquitous occurrence, and persistence. This is due to their widespread use in modern society, from personal care products and cosmetics to water and stain repellent textiles, from food-contact materials to medical supplies. Nowadays, a multitude of compounds can be listed within the PFAS definitions (N≈14.735), but only a limited set of them (PFOS, PFOA, PFHxS, C9-C14 PFCAs) is regulated by EU laws (N≈679) (USEPA, 2022; Gaines et al., 2023) and even less can currently be detected by target analysis (N≈40).



Alberto Pivato
Professor,
University of
Padova

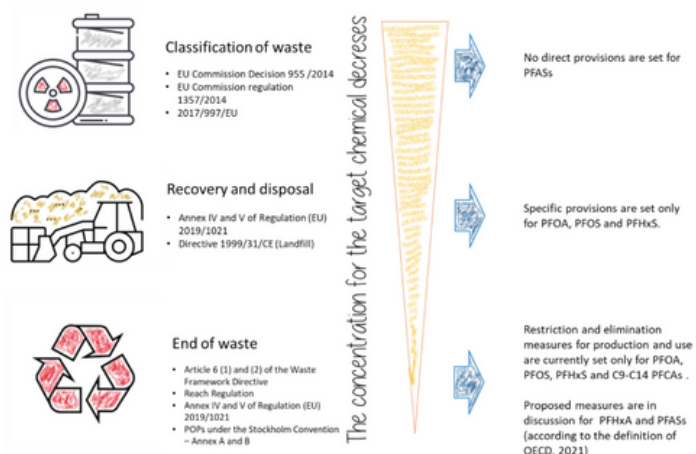


Figure 1. Graphical representation of the most relevant regulation applications in the waste field where PFASs can be interested

In addition to their presence in products and articles, regulations focused on the fate of PFASs also in the waste sector. This is crucial to control the impacts related with the entire material life cycle, including disposal, recycling, and use as secondary raw materials. In fact, PFASs can be difficult to remove completely from waste and can then be transferred to recycled materials.

Figure 1 shows a comprehensive overview of the most relevant regulations in the waste field where existing and proposed limits for PFASs could influence current and future waste management practices.

In this context, the knowledge needed to develop more efficient practices in waste management and to support future regulatory updates toward the establishment of a sustainable circular economy is still scarce. To tackle this issue, a study was commissioned by FEAD to the Environmental Engineering Research Team of the University of Padova to present for clarity the highest number of scientific proofs of the presence of PFASs in relevant waste streams, namely plastic, textile, metal, and paper waste, selected for their importance for waste management and recycling sector.

Then, a critical review of the scientific literature was conducted according to PRISMA methodology (Gurevitch et al., 2018; PRISMA, 2023) to shed light on the concentration ranges in the selected four waste material categories selected, as monitored and reported in available peer-reviewed scientific articles. The collected datasets were then compared to the ultimately and more conservative proposed limit of 25 ng/g, indicating the maximum content of any PFAS compound in products and waste, measurable by the available analytical methods. In summary, almost 5000 single concentration values were retrieved from the consulted manuscripts. Most of them focused on paper and textile waste, where measurements were reported from disposable food contact materials and upholstery, respectively.

A minor fraction of the dataset was dedicated to plastic and metal waste, including PFASs content on single-use plastic packaging, end-of-life vehicles components and household appliances and automotive shredder residues. Within the limits of the critical review and concerning only the selected waste streams, just a very small number of cases exceeded the considered limit. The percentage of exceedances ranged from almost 1% (in paper and cardboard waste) to 8% (in textiles and leather waste). These outcomes could help to understand the impacts of proposed updates of the pertinent legal framework and, in parallel, provide scientific-sound bases for new reliable regulation proposals, able to consider current limitations (e.g., in analytical methods) and guide future research developments. Regarding the analytical methods, a pragmatic solution was suggested. This solution combines 'not targeted' and "targeted" methodologies in a stepwise procedure, building upon the OECD definition of PFASs.

FEAD MEMBER VOICES

From carbon emissions to asbestos reclamation
and plastics recycling

Articles by David Lamy, Alessandro Maragon, Ingrid Bouchez, Stany Vaes, Frederico Poli and Massimo Vaccari



FNADE publishes a prospective analysis of waste management up to 2050

by David Lamy

FNADE has carried out a prospective study on the orientation of waste flows in order to assess the sector's carbon emissions and the production of material and energy resources from waste recovery.

2050 is the target set by the 3rd SNBC (Stratégie Nationale Bas Carbone) for achieving carbon neutrality and meeting the European requirements set out in the 'Fit for 55' European legislative package. This is the target set by the various bills currently being prepared at European level and in France. The course has been set by the European Commission, the Council of the European Union and the European Parliament: zero net greenhouse gas emissions by 2050 for all Member States. The waste sector, which emitted 14.5 MT of CO₂e in 2021, or 3.5% of French emissions (source: CITEPA, April 2022, SECTEN format), is working hard to make further progress in reducing emissions. However, analysis of the waste management sector cannot be isolated from the entire chain into which it fits. The industry has identified 3 areas of decarbonisation for the waste sector:

- the trajectory of waste flows (waste prevention and directing waste towards the various recovery channels);
- reducing the sector's industrial emissions;
- the contribution of the waste sector to the decarbonisation of the economy by supplying several industrial sectors with recycled materials to replace virgin materials, fertilisers from the circular economy to replace mineral fertilisers and green energy to replace fossil fuels.

FNADE's prospective study on the orientation of waste flows towards material recovery (including organic recovery) and energy recovery, including the production of energy from SRF (Solid Recovered Fuels), by integrating waste prevention upstream, sets out a target trajectory for 2030 and 2050.



David Lamy
Managing Director
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Recovery France,
SUEZ

The aim is to objectively assess the waste industry's contribution to meeting the challenges ahead. This analysis concerns non-hazardous, non-inert waste produced by households and businesses (89 Mt directed towards the various channels in 2020). It takes into account projected demographic trends and the measures set out in France's Anti-Gaspillage for a Circular Economy (AGEC) law.

In terms of prevention (halving food waste, ending the marketing of single-use plastics, targets for reuse in Extended Producer Responsibility (EPR) channels, etc.), the scenario assumes a 15% reduction in the production of household and similar waste between 2010 and 2050 (a target initially set for 2030) and that the production of waste from economic activities will be maintained. Taking population growth into account, these assumptions correspond to a reduction of around 3.5 Mt in all waste produced by households and businesses between 2020 and 2050, which corresponds to a reduction in production per year and per inhabitant of 6% between 2010 and 2050.



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With regard to material recovery, FNADE has evaluated the measures in terms of directing waste flows towards the various channels by 2030 on the basis of public data and the regulatory targets set for the various EPR channels. It estimates that an additional 3.2 Mt will be directed towards recycling and nearly 3 Mt of bio-waste will be directed towards composting and methanisation by 2030 (compared with 2020).

The forecast was then extended to 2050, based on assumptions about EPR recycling targets after 2027 (targets not yet defined; an additional 2.5 Mt directed towards recycling) and assuming an optimistic increase in the separate collection of household bio-waste to eventually capture more than 50% of the organic waste currently present in residual household waste (100kg/inhab/yr), i.e. an additional 2 Mt.

This scenario reflects a proactive stance on the part of the industry and is the primary lever for reducing greenhouse gas emissions from the waste management sector. It assumes that the measures set out in the AGECE Act are implemented within the set deadlines and under conditions that comply with the overall objectives and those assigned to all players (eco-organizations, local authorities and businesses).

In its analysis, the industry estimates that incineration capacity for non-recyclable waste will be maintained between now and 2030 and that all incineration plants will meet the R1 energy efficiency criterion. It will then fall to around 10 Mt by 2050. It estimates that the use of SRF in SRF heating plants and cement works could reach 4 Mt by 2030 and 5 Mt by 2050.

Taking all these assumptions into account, the development of recycling and organic recovery, the maintenance of energy recovery and the development of CSR co-incineration, with total waste tonnage falling (prevention), the result is a reduction in landfill to 8.8 Mt in 2030, i.e. a disposal rate of 10% of total non-hazardous non-inert waste tonnage, and 4.2 Mt in 2050, i.e. less than 5% of non-hazardous non-inert waste disposed of.

Production of recycled materials, fertilisers and energy

The trajectory also makes it possible to assess the production of materials and energy from the waste sector. In the current context of energy tension, the production of energy from waste is one of the solutions for replacing imported fossil fuels.



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By 2028, more than 30 TWh of thermal energy and gas could be produced from non-recyclable waste, more than double what is produced today. This is local, renewable and low-carbon energy. The energy produced from non-recyclable waste in energy recovery units and SRF boilers, as well as the biomethane produced in methanisation units for organic waste and in non-hazardous waste storage centers, contributes to the decarbonisation of industry and the regions and to France's energy independence.

The production of recycled materials will also be central to the challenges of climate change and national sovereignty (41 Mt directed towards recycling in 2020, an additional 5.7 Mt by 2050), as will fertilisers derived from organic recovery, which are an alternative to imported mineral fertilisers (10.6 Mt directed towards composting and methanisation in 2020, an additional 5 Mt by 2050).

At present, work is continuing on the low-carbon roadmap for the waste sector in order to specify the measures needed to achieve the objectives, for the 3 decarbonisation axes identified for the waste sector, and their impact in terms of GHG emissions. This prospective study is in line with and supports the vision set out for FEAD to support the European Union's ambition to double its Circular Material Use Rate in this decade and achieve a 75% recycling rate of all waste in the EU by 2035. It also completes the ongoing work to implement waste policy targets and imagine the necessary legislative framework to support the FEAD vision and launch Circular Economy Value Chain Partnerships to bring operational changes within specific sectors or product categories.



Technological innovation at the service of asbestos reclamation

by Alessandro Marangon

In ecologically and environmentally sensitive areas, clean-up operations can be complex, and technology can come to the rescue: in the port of Chioggia, in the Venice Lagoon area, the discovery of asbestos has combined innovative ideas for monitoring and sampling with well-established analytical techniques.

Within the site of the former municipal waste landfill in Chioggia the presence of asbestos containing materials was discovered. The area was already subject of a remediation project managed by the Special Commissioner for the Remediation of Illegal Landfills.

After the discovery, the decision was to start with a pilot test to decide how to manage the future reclamation, also designing an Environmental Monitoring Plan aimed at confirming or adjusting the chemical risk assessment for workers engaged in the test - both on the excavation front and in the marquee set up for sorting activities, screening and separation of asbestos.

The purpose of this Plan was to verify or confirm that there will be no spreading effects outside the excavated areas; confirm or adjust the chemical risk assessment for the workers who were to work inside the marquee and on the landfill body; assess the pollutants present in the flows generated by the workings foreseen with the pilot test and finally, assess the geotechnical characteristics of the flows generated.

Analyses were carried out both on the landfill body and under a tent structure where the material was sieved: asbestos was monitored in the ambient air as well as on the sieved bulk material.



Alessandro Marangon
Head of the Optical
and Electronic
Microscopy
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Mérieux
NutriSciences Italia

The sampling and analytical activity

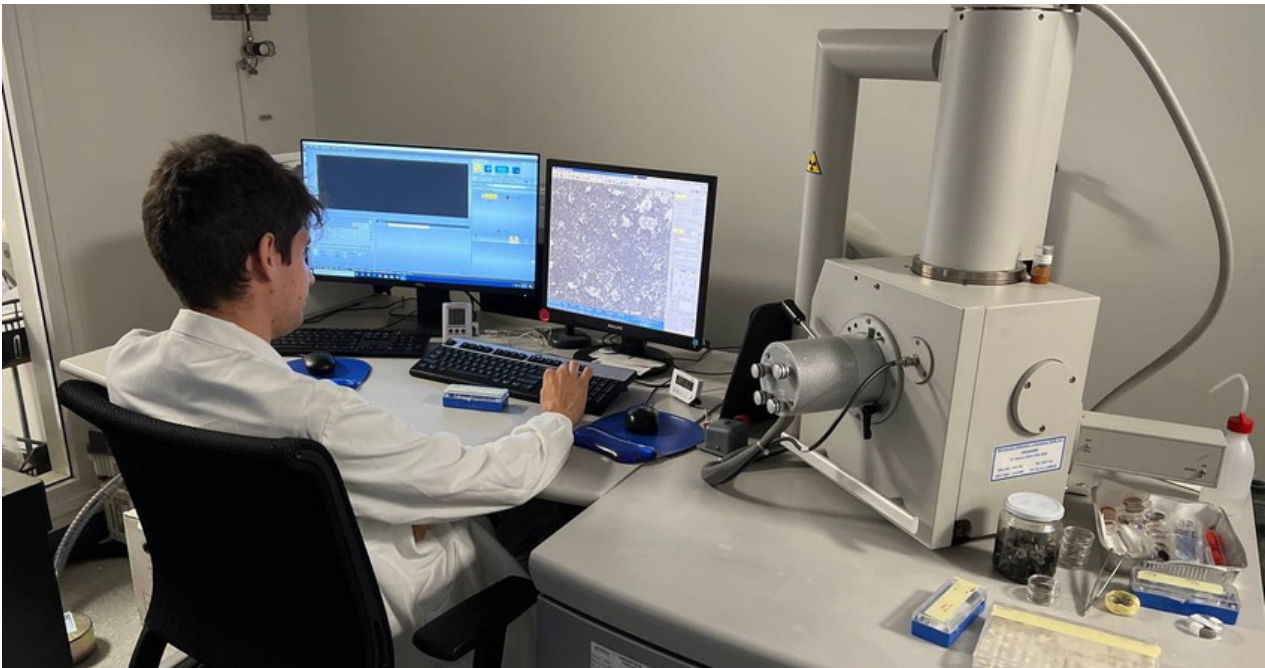
The data sampling and correlation activity was also facilitated by the use of robots (Unmanned Ground Vehicle) for the field survey of environmental parameters (temperature, humidity, asbestos, etc.) acquired through a software platform for reconstructing and mapping the data in the surveyed areas. Data acquisition was done on an IoT platform. The association of these systems with the results of the analysis allowed the correlation and evaluation of the analytical data obtained.

Analytical techniques applied for asbestos identification

In Italy, all the analysis concerning the recognition and estimation of the amount of asbestos in human products and soils, as well as the airborne asbestos, refer to a Ministerial Decree, dd. Sep. 6, 1994. It identifies several techniques depending on the sample matrix (air or soil/massive) and the analysis type (qualitative or quantitative).

Optical microscopy is considered a valid solution for identifying asbestos in material using the Polarized Light Microscopy (PLM) or for counting the amount of airborne fibres using the Phase-Contrast Microscopy (PCM).

Since the PCM technique is based only on morphological observation, to clearly identify asbestos fibres, the SEM-EDS (scanning electron microscopy and energy dispersive X-ray spectroscopy) technique, which combine both morphological and chemical features of the single fibre, is to be preferred. SEM-EDS can be used also to quantify the amount of asbestos, both airborne (by counting the number of fibres deposited) and in soils or massive samples (by measuring fibres' dimensions and using the values of asbestos' density to calculate its concentration). If the asbestos concentration in massive samples is more than 1%, XRD (X-Ray Diffractometry) or FTIR (Fourier Transform Infrared Spectroscopy) techniques are more appropriate.



SEM microscope ©Merieux NutriSciences Italia

PCM AND SEM: a comparison between techniques

As mentioned before, for airborne samples, PCM and SEM techniques can be used to identify the amount of fibres. PCM gives only morphological information and is a cheaper analysis. A Mixed Cellulose Esters (MCE) filters with a porosity of 0.8 – 1.2 mm is diaphanized and an area of at least 1 mm² is observed. Every particle with a length > 5 mm and a diameter < 3 mm or a length/diameter ratio > 3:1 should be counted.

The same approach is used in SEM-EDS analysis but for this technique, a nuclepore filter (NPF) with a porosity of 0.8 mm is used. In addition, once a fibre is found and counted, an EDS analysis can be carried on the particle to determine its chemical composition and classify it as asbestos, MMVF (Man Made Vitreous Fibre), organic or inorganic fibre.

It is not possible to use a NPF filter on a PCM because it cannot be diaphanized, as well as a MCE filter should not be analysed in SEM-EDS because its surface appears quite rough and such texture could mask some fibres.

For a correct analysis, all the particles deposited on the filter should not be in contact each other and the membrane surface should be visible for at least 7/8 of the field. This is because of two main reasons:

- A particles agglomerate could cover one or more fibre, so the analyst could underestimate the amount of fibres.
- In SEM-EDS analysis, even if the chemical investigation is punctual, it is also affected by the surrounding particles.

It is clear that an EDS analysis on a fibre which lays on a bed of different other particles is not so accurate as if it would be isolated.

A particular protocol requested by local Occupational Hygiene and Safety Prevention Service

The Ministerial Decree dd. Sep. 6, 1994 focuses its attention on the quantification of asbestos on a sample and defines whether a material is friable or solid. The Occupational Hygiene and Safety Prevention Service of Venice proposed a protocol trying to couple both information on soil samples contaminated by asbestos. In this way, it is not so important to understand the amount of asbestos, for example, in an asbestos-cement that can be found in a soil, but how much the cement has deteriorated and how many fibres it could release: free asbestos fibres on soils could be airborne and breathed.

Four cells in the area were excavated while air was monitored with sampling points both upstream and downstream of the excavation. Excavated material was divided in field into 3 granulometric classes (<10 mm; 10-30 mm; 30-70 mm), and each class was manually removed by placing the excavated material on a conveyor. Every sample was then sieved in laboratory with a 5 mm mesh and only the fine portions were analysed in SEM-EDS to quantify free asbestos fibres. This fraction was not grinded to avoid the release of fibres from possible ACM not identified in the field.

Other possible interesting techniques

A new technique is now imposing as a very precise instrumental method: the Transmission Electron Microscopy (TEM). It allows a greater resolution with respect to SEM-EDS (up to 0.2 nm) with work magnifications that can reach 300,000x. Most importantly, it is able to detect the crystalline structure of a mineral thanks to the SAED technique (Selected Area Electron Diffraction). Morphological, chemical and crystallographic features combined together with a very high resolution represent a very strong constraint in identifying asbestos fibres. Several countries already introduced TEM among the techniques which a laboratory can use to detect asbestos, some of them, like France, have made its use mandatory by law. On the 3 October 2023, a new European Directive, agreed with EU governments, significantly reduced the limits of exposure to asbestos for workers: it seems to be just a matter of time for TEM to replace SEM-EDS in asbestos analysis.

The future of plastics recycling is in Europe

by Ingrid Bouchez

Europe's decision to ban the export of plastics to non-OECD-countries challenges our recycling economy. We cannot develop a local circular economy if we continue to export our plastic packaging waste outside Europe. But, due to the almost non-existent demand for recycled materials, Europe does not have sufficient processing capacity for recycling commercial and industrial plastic packaging waste today. We must therefore accept the fact that in the short term we will still need to export outside of Europe.

Monitoring effective recycling

However, exports must take place under controlled circumstances. Valipac is a forerunner in this field and has implemented a traceability system for commercial and industrial plastic packaging waste to their final recycling destinations. Recycling facilities outside Europe are audited by independent parties to ensure that the waste is effectively recycled and that environmental, health and safety conditions are met. In this way, Belgium anticipates the regulatory provisions of the Waste Shipment Regulation.



Ingrid Bouchez
Communications
Manager, Valipac

Two-fold challenge for the industry

At the same time and pending the entry into force of the recycled content obligation in packaging provided for by the PPWR, we need to stimulate demand for recycled content in commercial and industrial plastic packaging. Once again, Valipac anticipated this provision by granting a €50 bonus to companies that use commercial and industrial plastic packaging with a minimum of 30% post-consumer recycled content. To make it easier to match supply and demand, we have also developed myRecycledContent.be, an internet platform where manufacturers of commercial and industrial plastic packaging with recycled content can offer their packaging. In this way, we are making it easier for potential users to get in touch with suppliers. Packaging suppliers operate throughout Europe and the information is relevant to other European countries. France recently set up a similar online platform, myRecycledContent.fr. Germany and the UK are currently working on it.



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ABOUT VALIPAC

For 25 years, Valipac has been offering companies a collective response to Extended Producer Responsibility for commercial and industrial packaging in Belgium. Today we are still the only European EPR scheme specifically dedicated to commercial and industrial packaging. Our approach is based on the free market for collection and recycling of all commercial and industrial packaging materials. Our mission is to facilitate the transition of commercial and industrial packaging to the circular economy: to stimulate sorting in companies, to reinforce circular design, to reintegrate end-of-life materials into the production process and to stimulate local recycling. Valipac joined FEAD as an affiliated member in October 2023.

Waste as an asset for prosperity and climate protection

by Stany Vaes

Europe and Belgium face serious challenges. That may sound obvious, but there are two good reasons why I am putting it out here anyway.

The first reason is the armed conflict in Ukraine, and more recently in the Middle East. Such situations have a huge impact on the prices and security of supply of strategic raw materials and energy.

The second reason is the impact of climate change, which is increasingly making itself felt. Just think of the many heat waves, floods and forest fires that have plagued Europe in recent months.

These challenges have made it (painfully) clear that Belgium and Europe need more economic resilience. If we want to maintain our economic prosperity, and even boost it further, we need to change the way we produce, consume, transport etc. In short, it really is now time to switch to a circular economy.

Why choose a circular economy?

1. Because it will help us achieve our climate goals.
2. Because it supports our circular construction industry.
3. Because it creates sustainable jobs in Belgium and Europe.

Belgium has already made significant progress in waste sorting, reuse and recycling since the 1980s. We can be rightly proud of that. But it is not the time to rest. On the contrary. It is time to push further and go full steam ahead for the European championship in local and sustainable re-industrialisation.

That is why, in our [Memorandum 2024](#), we call on everyone to use waste as an asset for prosperity and climate protection. A call we make to everyone involved in our sector from near or slightly further afield: companies, research institutions, citizens and policymakers. By joining hands, we can develop a coherent and ambitious waste policy, both at local and European level.



Stany Vaes
General manager of
DENUO



1. Cultivate a circular mindset

The regulatory landscape is often complex and fragmented, with competences divided between European, federal and regional governments. This leads to uncertainty and inconsistency in the implementation of circular policies. To overcome these obstacles and cultivate circular thinking, we propose the following concrete measures:

1. Uniform end-of-waste criteria
2. A minister for Circular Economy
3. Cooperation between the regions and countries
4. Fiscal pact for circularity
5. Vision for processing residual waste and recycling residues

2. From design to eco-design

One of the main challenges we face is that product design often does not focus on easy dismantling, recycling and reuse. This has to change, because if we do not think about the end of product life, we end up with huge amounts of waste. A glaring example is the construction sector, where production fell by 7.6% while construction waste increased by 6%.

To promote eco-design and give materials a second life, we propose the following concrete measures:

1. Recycling and reuse regulations
2. Financial incentives for eco-design
3. An ambitious Green Claims Directive
4. Cooperation between producers and waste companies
5. Research and development for safe decommissioning of complex batteries

3. Frictionless waste collection in a healthy environment

Are we not collecting enough waste yet? Unfortunately, no. One example is the collection of waste electronic and electrical equipment (WEEE). The European WEEE directive imposes a 65% collection target. In 2020, only three Member States reached this target. Belgium only achieved a collection rate of 50.7%.

To collect more and better quality waste, we propose the following concrete measures:

1. Integrated approach across environmental domains
2. Uniform waste collection rules between regions
3. Incentives for innovation in recycling
4. Supporting environmentally friendly logistics solutions
5. Better regulatory framework for waste collection



4. Local processing, local production of raw materials

Too much waste 'disappears' from the value chain today. A concrete example is that of used vehicles. About 32% of deregistered vehicles are missing; we do not know where they are. Another million vehicles end up on the foreign market, as second hand vehicles, where they pose a risk to road safety and the environment. We absolutely must avoid this. In order to get there, support is needed so that there is an incentive to build local waste-based economic activities.

To promote local processing to produce our own valuable raw materials, we propose the following concrete measures:

1. Increased enforcement and awareness
2. Ambitious local reindustrialisation
3. Shared vision on residual waste streams
4. Production of green gas from waste
5. More local recycling and reuse

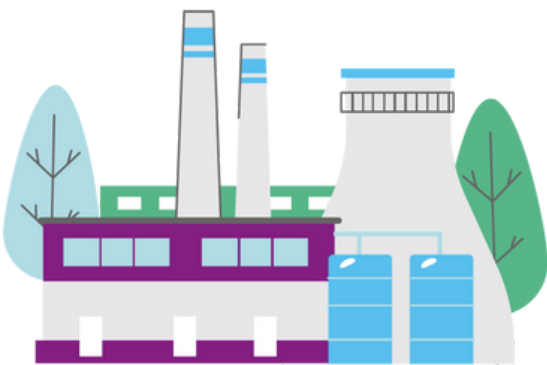
5. Maximise the use of locally recycled materials

In the wake of the COVID epidemic, prices of recycled plastics dipped below those of their 'virgin' counterparts. As a result, demand for recycled plastics rose, and recyclers started building up stocks. However, the price differential then tipped back in favour of virgin plastics, leaving many recyclers with bulging stocks. In other words, price still outweighs the many sustainability claims producers have made in recent years.

To promote the use of recycled materials, we propose the following concrete measures:

1. Ban on incineration and landfill of recyclable materials
2. Financial resources to develop European measures
3. Tax on products without recycled materials
4. Federal product standards and green procurement
5. Supervision of environmental claims and certifications

With these 25 proposals, Denuo will go to work in 2024. For a more circular economy that increases our prosperity and protects the climate.



What do landfills have to do with the circular economy?

by Federico Poli

Europe's approach to waste management is based on the concept of the circular economy. The circular economy is a new production and consumption model for the distribution, sale, repair and recycling of materials and products in order to extend their life cycle for as long as possible.

In practice, the model minimises waste production. When a product reaches the end of its life cycle, its constituent materials remain within the economic cycle to be recycled and used any number of times for production purposes, thus generating additional value.

In the interests of political correctness, today we talk about the circular economy and conceal or disapprove of the disposal of waste in landfills. This is confusing, because without regulated residual recourse to landfilling, the circular economy simply cannot work and develop. It would be much more interesting to ask the following questions:

- What is the role of the landfill in the circular economy?
- Can sending waste to landfills be sustainable?

These questions can be answered by taking an open-minded, systematic approach to waste management. Let's start with the basics. The circular economy needs landfills to close the materials management cycle: whether we like it or not, not everything can be recycled and recovered. At the same time, however, it is through the circular economy that waste disposal in landfills can be made completely sustainable. This is the real challenge for future landfills (and to make sure the circular economy really works!) Let's see how.



Frederico Poli
General Director, La
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The role of landfills in the circular economy

In the hierarchy of waste management operations established by Europe, disposal in landfills is the final option after reduction at source, re-use, recycling and recovery for other purposes (including energy production).

Clearly, then, landfills cannot disappear, but should become part of a modern and integrated sustainable waste management system

Waste cannot be endlessly re-used, recycled or recovered. Recycling and recovery themselves produce various types of residual waste which, for technical or environmental reasons, cannot be further recycled or recovered. The most appropriate solution for this waste is to send it to a landfill.



With the continuous updating of European legislation on landfills, the disposal of residual waste in landfills is safer than ever. The law establishes stringent operating requirements for the entire landfill lifecycle, covering both waste and the actual sites, to prevent pollution of groundwater and aquifers, the soil and the air and, at global level, to prevent the effect of climate-altering gas emissions and all other effects on people's health.

That is not all. The law also sets significant specific technical requirements, compliance with which ensures that the IPPC regulations on integrated pollution prevention and control are met in full. In addition, it defines new criteria for the qualification of waste sent to landfills. Only residual, treated, non-biodegradable waste, that is preferably stable and non-reactive, may be disposed of in landfills.

Application of the principles of the European waste management hierarchy means that only residual waste will be produced, which by its nature will be suitable for disposal in landfills, as it will meet the new criteria.



It is clear then that an integrated waste management system needs access to landfills intended for residual waste; at the same time, the circular economy will produce only specific residual waste, whose disposal in landfills will be completely safe and sustainable.

The objectives of the modern integrated waste management system

To support the transition to the circular economy, with the Landfill Directive the European Union has introduced new provisions under which, as from 2030, it will not be possible to landfill waste that can be recycled or recovered as material or a source of energy, and, as from 2035, only 10% of solid municipal waste will be allowed to be sent to landfills.

European legislation on waste requires that appropriate measures be adopted to gradually increase the re-use and recycling of municipal waste, which, based on the volumes produced, must rise from a minimum of 55%, to 60% and 65% by 2025, 2030 and 2035 respectively.

This means that as from 2035 about 25% of municipal waste must be managed in energy recovery systems.

Climate-altering emissions from landfills

The climate-altering emission from landfills is methane, which constitutes around 50% of the landfill gas produced as organic waste decomposes biologically in the anaerobic conditions inside the landfill.

The other main component of landfill gas (50%) is carbon dioxide, which is also produced by the biological activity in the landfill, but, unlike the emissions generated by fossil fuels, it is neutral in terms of effects on the climate, since it is biogenic, part of the natural carbon cycle.

The specific production of methane from waste sent to landfill (cubic metres of methane per metric ton of waste) is changing as a result of application of the treatments envisaged by the waste management hierarchy. While specific methane production from traditional municipal waste has always been considered to be 100–150 m³ per metric ton, for selected and treated waste it does not exceed 10 m³ per metric ton.

Emissions from traditional landfills are approximately 30% of the methane produced (given that around 70% can be captured and used for energy purposes), so that in this case the emission of climate-altering gases is approximately 800 kg of CO₂eq per metric ton of waste. Emissions from modern landfills are approximately 20% of the methane produced (given that around 80% can be captured and used for energy purposes or oxidised through heat or biological processes), and in this case the emission of climate-altering gases is around 40 kg of CO₂eq per metric ton of waste.

Consequently, if the objectives of the European directive on waste are achieved, the climate-altering emissions (methane) from waste management will be significantly reduced (more than 700 kg of CO₂eq per metric ton). Furthermore landfilling becomes totally sustainable because it is sure to achieve, in a generation time (30 years), the emission quality level for which an active control is no longer required.

Conclusions

In the circular economy, the landfill concept is totally different to the concept with which people and some 'supposed experts' are familiar.

Landfilling will continue to be an essential element of a modern integrated waste management system. Correct application of the European laws on the circular economy makes it possible for landfilling to be a wholly sustainable option, since the landfill will become a necessary and virtuous final container to close the materials management cycle in an environmentally friendly and safe manner.

The only point that has not yet been brought up to date in this virtuous conversion process is the term 'landfill', which, in light of the above considerations, is associated with a world that (fortunately) no longer exists.

The landfill? Like a secret lover who calls at Xmas.

The dangerous paradox in public debate on the circular economy.

by Massimo Vaccari

The concept of the circular economy is gradually winning over hearts and minds, to the point where it is now one of the main topics of public debate on the ecological transition. Yet, one detail seems to be deliberately overlooked by many of these discussions: the essential role of sustainably managed landfills. And the obvious question is: why?

Why are landfills not talked about?

The reason why so many people tend to neglect or minimise the role of sustainable landfills when talking about the circular economy is easy to understand. Mainstream thinking tends to idealise a waste-free society, where everything is recycled, re-used or regenerated. So the meaning of the term 'zero waste' is artfully transmuted into 'zero trash'. Although this is a laudable vision from an ethical viewpoint, it bears no relation to current reality and is liable to generate harmful consequences.

Concealing the function of landfills may be rooted in a negative historic perception that sees these sites as symbols of waste and poor environmental management. But ignoring or underestimating their current and potential contribution to the circular economy is not only unwarranted, it is also dangerously misleading.

The hidden value of landfills

Sustainably managed landfills are not the enemy of the circular economy: rather, they are indispensable allies as we move towards more responsible and efficient waste management. The ultimate goal, of course, is to minimise the volume of waste sent to landfill. At the same time, however, the residual fractions of waste we are left with after all the various phases of the circular economy have been completed (reduction at source, re-use and regeneration of products and spare parts, recycling of raw materials and recovery of secondary materials and energy) are scrap from which no further



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value can be obtained, and they need to be safely disposed of. And that must surely be in a limited number of modern, correctly managed landfills serving the circular economy.

Leaving the role of landfills out of the debate on the circular economy is a short-sighted attempt to present a rosy picture. Yet another short-cut that rejects the complexity of the challenge presented by the ecological transition. And on the subject of short-cuts that lead to a dead end, this loser's game also includes the clumsy attempt to use landfills as scarecrows by people trying to fend off attacks on waste-to-energy plants, who underestimate the risk of taking part in the gameplay favoured by the No committees and the huge cross-cutting NIMBY front.

The need for genuine comprehensive debate

In conclusion: if we persist with the paraphernalia of tactical manoeuvring, overblown clichés and short-winded, long-nosed storytelling, we risk receiving a phone call from the lover we've been keeping secret just as the family is sitting down for Xmas dinner. Because sooner or later the truth will be out. This is why, if the public debate on the circular economy is to have a real impact on the growing challenges for institutions, business and communities posed by the climate crisis and the ecological transition, it has to up its game and become more transparent, more authentic and more comprehensive. We cannot afford to ignore or undervalue the tools and solutions provided by today's best available technology, which play an essential role in current waste management and prevention of serious harm to health and the environment. Sustainable landfills are a part of this, and it is vital that we recognise them as such to move towards a truly circular future: Federico Poli's article – What do landfills have to do with the circular economy? – demonstrates this by entering into the merits of the question and highlighting the value of the solutions available today and the urgent need to bridge a systems gap that is becoming daily more critical. As the FEAD's payoff says: 'waste management is the mirror of the entire economy'.



FEAD's Comments

From the Waste Early Warning Report to
Packaging and Packaging waste Regulation and
the carriage of dangerous goods

Articles by FEAD, European Waste Management Association





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FEAD Members' reactions to the Waste Early Warning Report

by FEAD

In a report published on 8 June 2022, the European Commission identifies Member States at risk of not meeting the 2025 preparing for re-use and recycling targets for municipal and all packaging waste and the 2035 landfilling target.

FEAD asked its members to provide national feedback on the findings of the Report.

To better reflect the EU's ambition to move to a circular economy, in 2018 several amendments to EU Directives were adopted, including ambitious targets for the preparing for re-use, recycling and landfilling of municipal and for the recycling of packaging waste.

In order to ensure better, more timely and uniform implementation of these ambitious targets and to anticipate any implementation weaknesses, the EU rules adopted in 2018, established a system of early warning reports to detect shortcomings and allow action to be taken ahead of the deadlines for meeting the targets. Under these rules, the Commission is tasked, in cooperation with the European Environment Agency, to draw up reports on the progress of Member States towards the attainment of the targets.

The report summarises main findings, key recommendations to Member States at risk of not achieving certain waste targets, and examples of best practices of waste management intended to help improve waste recycling performance. It is complemented by staff working documents containing country-specific information and recommendations for those Member States at risk of missing the 2025 preparing for re-use and recycling targets for municipal waste and all packaging waste.

The activity conducted by FEAD

The data used in the Waste Early Warning Report 2023 come from official sources, mainly generated by national administrations and delivered to Eurostat. It means that there is an unavoidable delay between the descriptions of national situations provided in the report (June 2023) and the timing of their collection (Eurostat data are published at least with a delay of 2 years).

FEAD, based on local and time-related perceptions of waste professionals, reacted to the Waste Early Warning Report with:

1. comments on the findings of the EWR
2. support or nuanced reaction on the proposed improving measures
3. suggestion of additional measures above those included in the report.



 FEAD EU full members



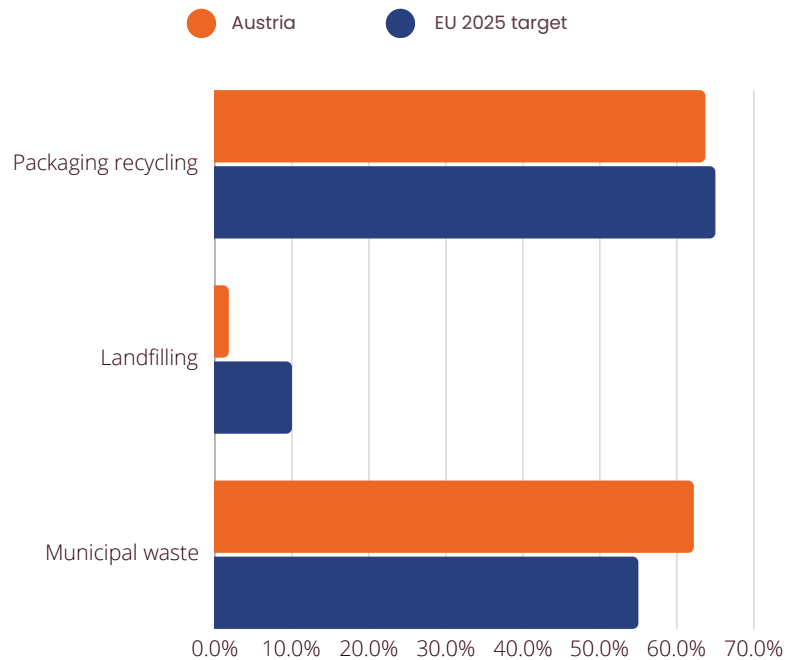
Austria is on track to meet the 2025 targets, however, the seemingly paradoxical statistics, such as a 1.8% landfilling rate coexisting with a landfilling ban on municipal solid waste (MSW) is source of confusion. Delving deeper into the intricate landscape of Austria's waste management reveals a series of nuanced factors that shape these statistics.

At first glance, the discrepancy between Austria's landfilling rate and its explicit prohibition of MSW landfilling raises eyebrows. The answer lies in the distinction between MSW and non-MSW waste streams. While landfilling of MSW is strictly forbidden, certain non-MSW waste streams might still find their way to landfills, contributing to the overall landfilling rate. This illustrates the importance of nuanced definitions in waste management reporting.

VOEB posits that the Early Warning Report might cast a negative light on waste-to-energy (WtE) success in Austria. The association explains that the remarkable landfill rate is intricately linked to the country's robust and high-quality deployment of WtE technologies.

Austria is poised to implement a Deposit-Return System (DRS) for single-use beverage packaging in 2025, targeting plastic bottles and aluminium cans. Despite its potential to bolster recycling rates, concerns linger regarding the pending legislation, material quality resulting from sorting and baling processes, and deviations from the German model. The implementation of a well-crafted DRS is crucial not only for material recovery but also for reducing the environmental footprint of single-use packaging.

Recent changes in calculation rules, not factored into the data on which the EWR is based, bring attention to the dynamic nature of waste management reporting. Accurate and up-to-date information is crucial for making informed policy decisions and evaluating the effectiveness of existing measures.



VOEB advocates for a holistic approach to waste management taxonomy, emphasizing that the entire value chain must be considered to meet ambitious targets. Recognizing the interconnectedness of production, consumption, and disposal processes is pivotal in crafting comprehensive policies that address waste challenges at every stage.

In a bid to mitigate the hazards associated with batteries in MSW and packaging waste, VOEB advocates for a European Union-wide deposit on batteries. Such a measure aims to reduce the volume of batteries in waste streams, a common source of dangerous fires, underlining the importance of targeted interventions to address specific waste streams.

Austria's innovative Repair Bonus, designed to curb e-waste by incentivizing repairs, has faced a temporary suspension due to reported cases of fraud. The anticipation of its relaunch in September 2023 highlights the ongoing efforts to balance encouragement for sustainable practices with the need for stringent oversight.

To conclude, Austria's waste management landscape is a testament to the nuanced realities of waste management. The relationship between WtE success and landfill avoidance highlights the need for a holistic perspective on waste management achievements.

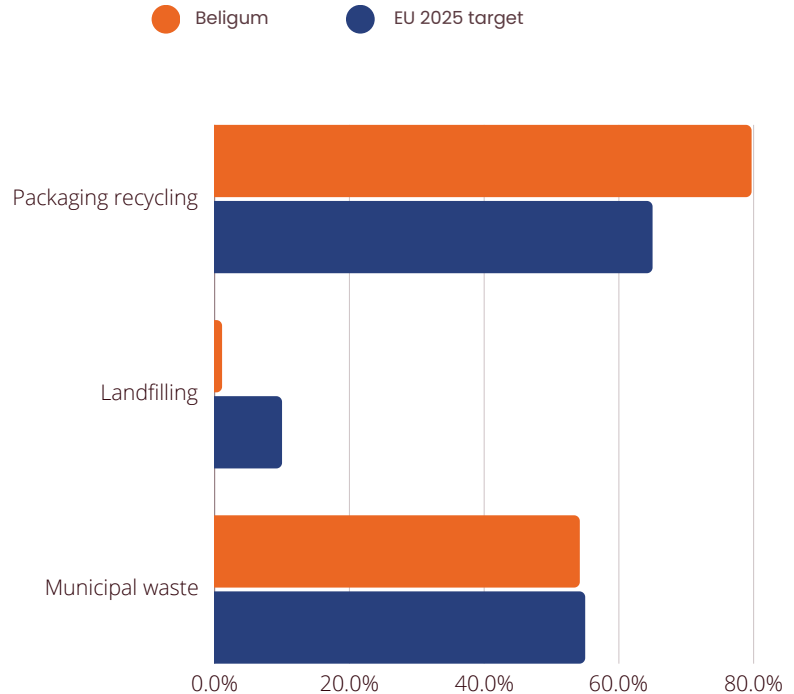


Belgium is on track to meet all the targets with a recycling average of Municipal Waste (MW) of 54.2% in 2020.

One notable initiative in this direction is the incorporation of binding provisions within the approvals of all Extended Producer Responsibility (EPR) management bodies, a strategy designed to catalyze recycling and reuse initiatives at the local level. Drawing inspiration from successful models like Valipac, which has introduced a premium system for recycling professional plastic packaging waste, this approach involves not only a reward for recycling in the broader EU context but an additional premium for recycling within Belgium or its immediate vicinity and processing by certified recyclers. By infusing financial incentives into the approval framework, Belgium aims not only to adhere to the European directives but also to create a tangible impetus for stakeholders to actively participate in sustainable waste management practices.

Echoing the principles of eco-modulation, Belgium places eco-design at the forefront of waste management considerations, recognizing its pivotal role in steering products towards sustainability from the inception of their design. Aligning with this philosophy, financial incentives are embedded within all Extended Producer Responsibility (EPR) systems.

A case in point is Valipac's progressive approach, offering a bonus of 50 euros per ton of recycled material in professional plastic packaging when the packaging contains at least 30% recycled material. This not only promotes the use of recycled materials but also encourages producers to embrace eco-friendly design practices, fostering a holistic and proactive approach to waste reduction.



At the European level, Belgium underscores the necessity of active engagement in the evaluation of the Waste Early Warning Report 2023—a crucial exercise in gauging the effectiveness of waste management strategies across member states. Belgium advocates for adherence to existing European regulations, emphasizing the importance of a collective commitment to follow and apply these regulations. By positioning itself as a proponent of rigorous evaluation, Belgium not only ensures accountability within its borders but contributes to a broader European discourse on refining waste management practices for a sustainable future.

In conclusion, Belgium's waste management is on the right track. However, it is crucial that regional authorities ensure that, for each new measure, sufficient resources are provided and available.

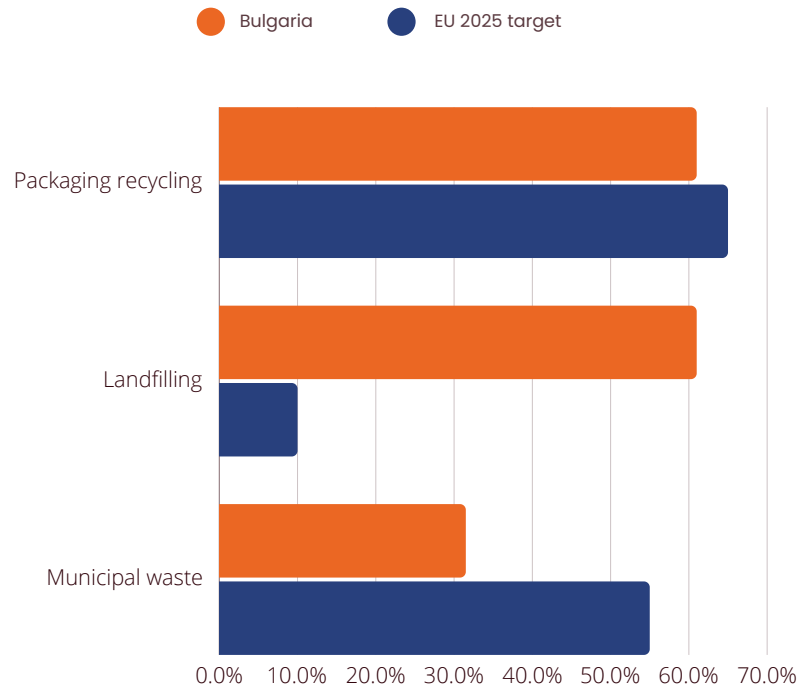


Bulgaria is at risk of missing the 2025 targets. For the year 2021, Bulgarian Recovery Organizations demonstrated a recycling rate of 47.53% for plastics, exceeding the quota set by the Bulgarian Government. Even more noteworthy is the progression witnessed in 2022, with a recycling rate of 52.11%, once again surpassing the mandated target. A parallel success story unfolds in the domain of glass recycling, where, for the year 2021, Bulgarian Recovery Organizations achieved a recycling rate of 65.07%, and in 2022, this figure soared to an even more impressive 68.81%, once again eclipsing the government-mandated quota.

Adding another layer to Bulgaria's waste management outlook is BRRRA's endorsement of the implementation of Deposit-Return Systems (DRS).

While BRRRA stands in agreement with certain aspects of the report, particularly concerning the collection of bio-waste and the substantial quota for landfilling, it emphasizes that these issues should be accorded priority status by the government. The importance of focusing on the sustainable management of bio-waste cannot be overstated, as this fraction constitutes a significant portion of municipal solid waste and has considerable potential for conversion into valuable resources such as compost or biogas through efficient processing.

The call for prioritizing landfilling quotas underscores a nuanced perspective on waste management priorities. While reducing reliance on landfills is an overarching goal, it is essential to recognize the practicalities of managing certain waste streams, especially in the absence of viable alternatives. BRRRA's stance encourages a comprehensive evaluation of landfilling practices, with a focus on optimizing waste management strategies that balance environmental concerns with the practicalities of waste disposal.



In navigating Bulgaria's waste management challenges, BRRRA emerges not only as a vigilant custodian of accurate reporting but also as a proactive advocate for sustainable practices. By challenging assertions that do not align with the demonstrated achievements in packaging recycling, BRRRA exemplifies a commitment to transparency and accountability in waste management reporting. Moreover, by supporting the adoption of Deposit-Return Systems, BRRRA embraces progressive solutions that can contribute to the country's broader goals of resource conservation and waste reduction.

In conclusion, it is crucial that waste management reporting not only be accurate but also transparent in order to correctly reflect the realities of the sector.



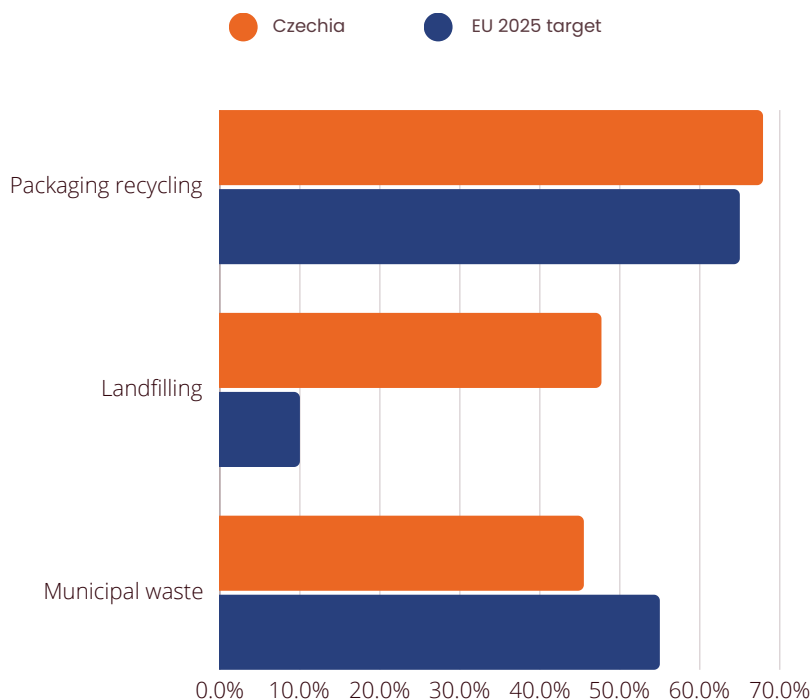
Czechia is on track to meet the EU 2025 recycling targets for municipal waste and for packaging waste. The country had a recycling rate of 45.5% for municipal waste and an impressive 67.9% for overall packaging waste. While these figures underscore Czechia's dedication to sustainable waste management, there looms a shadow of concern over the distance to the 2035 target for landfilling of municipal waste. The landfill rate of 47.7% in 2020 becomes a critical point of focus, signalling a need for strategic intervention.

As Czechia navigates its waste management landscape, key challenges emerge such as maintaining and augmenting performance levels in waste prevention, preparing for re-use, and recycling.

A significant recommendation to bolster recycling efforts and deter landfilling is the increase of the landfill tax. The planned substantial hike in Czechia's landfill tax, initially slated for 2024, has been postponed by five years to 2029. Another challenge is the limited coverage of pay-as-you-throw schemes, with only approximately 20% of the population falling under such schemes based on taxes and fees. This gap signifies the potential for broader adoption of incentive-based waste management systems, encouraging responsible waste disposal practices through financial mechanisms.

Another area of improvement lies in the coverage of high convenience collection services for bio-waste, as the current share of the population benefiting from such services remains low.

The introduction of mandatory deposit refund schemes for packaging emerges as a potent recommendation to boost re-use and augment the capture of recyclable waste. Such schemes not only incentivize the return of packaging materials for recycling but also cultivate a culture of circularity, aligning with the broader goals of a circular economy.



In response to these recommendations, CAObH articulates a comprehensive strategy for reducing the landfilling of municipal waste. CAObH envisions a multifaceted approach, starting from sorting at the source of municipal waste and progressing through subsequent re-sorting stages. Crucially, the separation of bio-waste and textile waste, facilitated by existing and accepted Czech legislation, emerges as vital in mitigating the need for landfilling municipal waste. This strategic alignment with existing legal frameworks exemplifies the potential for leveraging regulatory tools to drive meaningful change.

The collective efforts of Czechia and CAObH underscore a commitment to charting a sustainable course for waste management. By acknowledging the challenges posed by current landfilling rates and proactively implementing recommendations, Czechia positions itself as a nation responsive to the evolving imperatives of waste reduction and environmental stewardship.

In conclusion, Czechia's waste management journey reflects both achievements and challenges. The positive strides made in meeting 2025 recycling targets underscore a commitment to sustainable practices. However, the looming concern regarding landfilling rates necessitates strategic interventions and the implementation of recommendations to align with broader EU directives and ensure a trajectory consistent with long-term environmental sustainability.

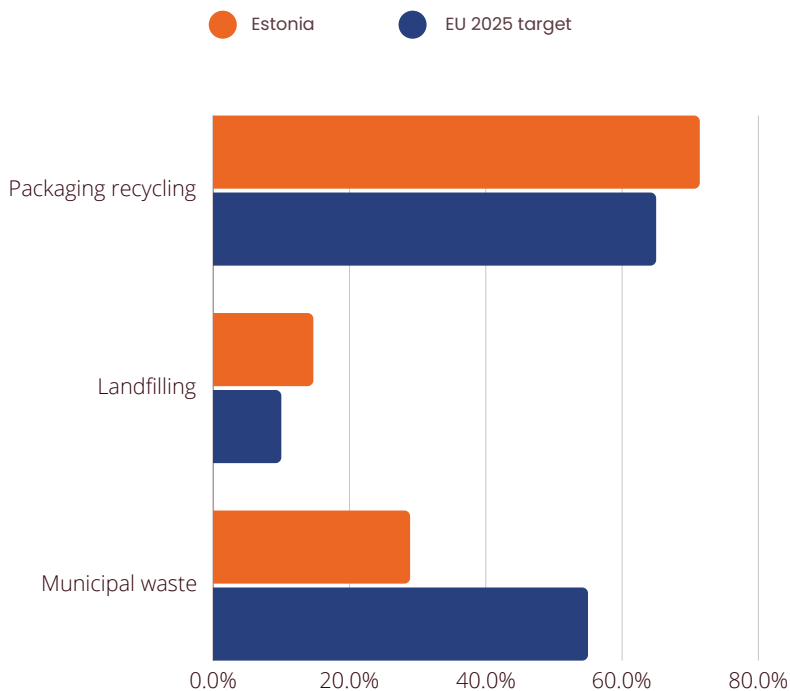


Estonia is on track to meet the EU 2025 recycling target for all packaging waste and the 2035 target for landfilling of municipal waste. However, a notable concern in Estonia is the persistently low recycling rate for municipal waste (MW), standing at 30.4% in 2021.

At the heart of this challenge lies the overcapacity of facilities for mechanical biological treatment of mixed waste and for incineration which leads to lock-in effect; as well as the low separate collection and recycling rates for bio-waste from households.

ECEIA emerges as a proponent of making municipalities directly responsible for meeting mandatory separate collection targets. This approach aligns with the principle of localized accountability, acknowledging that effective waste management is not only a national directive but requires active engagement at every level. By endorsing this idea, ECEIA advocates for a holistic and decentralized approach that empowers local authorities to play a more direct and consequential role in improving recycling rates.

An intriguing facet of Estonia's waste management revolves around the certification of compost and digestate produced from biodegradable waste. Currently, only certified compost and digestate contribute to the recycling rate, necessitating clear directives from state authorities to producers for certification. In many instances, these valuable products remain within the waste regime due to a lack of certification. ECEIA contends that a mandate to certify compost and digestate will catalyze a significant boost in the recycling rate, offering a tangible solution to enhance the overall sustainability of waste management practices in Estonia.



Delving into the intricacies of packaging waste, a substantial 32% forms part of mixed municipal waste. Presently, public containers serve as the primary collection points for the majority of sales packaging in Estonia. ECEIA, however, asserts that a shift to door-to-door collection mechanisms would yield more robust results.

With the generation of municipal waste in 2021 standing at 525,000 tons, the implementation of pay-as-you-throw schemes is deemed economically challenging. This underscores the need for tailored solutions that account for the economic realities of smaller nations, emphasizing the importance of scalable and adaptable waste management strategies.

The 'Not In My Backyard' (NIMBY) syndrome, pervasive in Estonia, poses a formidable obstacle for recycling companies seeking permits for various waste recycling activities and facilities. ECEIA addresses this challenge by proposing compensation schemes, often referred to as toleration fees, for local authorities. This innovative approach seeks to balance the aspirations of recycling companies with the concerns of local communities, recognizing the importance of aligning environmental goals with localized socio-economic considerations.

In essence, Estonia, through the insights provided by ECEIA, is navigating the intricate landscape of waste management with a keen eye on tailored solutions. The call for localized responsibility, certification mandates, and innovative packaging waste collection mechanisms signals a commitment to addressing the root causes of low recycling rates.



Finland is on track to meet the 2025 recycling target for all packaging waste, and the 2035 landfill target. The country renewed its national waste legislation in 2021. This legislative revamp, aimed to enhance separate collection practices for packaging waste materials and bio-waste and signifies a strategic step towards aligning with evolving waste management imperatives. However, the impact of these changes is currently in the beginning stages, with transition periods in effect.

Despite these positive legislative strides, Finland faces a formidable challenge in the form of an overcapacity of incineration, emerging as a significant hindrance to municipal solid waste (MSW) recycling. The reduction in gate fees for incineration, while economically advantageous, introduces a counterproductive dynamic, incentivizing incineration over other waste management methods. This economic nuance is further compounded by binding contracts between municipal waste management companies and incinerators, where predetermined capacities must be filled. Such agreements diminish the motivation for waste management providers to actively encourage source separation and prioritize recycling over incineration. Within households, a critical need for behavioural changes becomes apparent to elevate the MSW recycling rate. A key bottleneck lies in the substantial amount of biowaste in mixed waste, constituting approximately 30-40% of the total. Addressing this challenge requires a multifaceted approach, encompassing both legislative interventions and community-level initiatives.

A pivotal proposal put forth involves obligating municipal waste management providers to implement incentive pricing. The core tenet of this proposal is to ensure that the cost of managing mixed waste is consistently higher than the cost associated with recyclable, source-separated waste. While incentive pricing is currently an option, the lack of obligatory implementation underscores a gap in the existing waste management framework. Mandating incentive pricing is poised to reorient economic incentives, compelling waste management providers to prioritize and actively promote source separation and recycling practices.



An intricacy in the Finnish waste management landscape revolves around door-to-door packaging waste collection, which, unfortunately, is not free of charge for households. This pricing structure stands in contrast to the principle of incentivizing source separation, a critical component of efficient waste management. The rationale behind this discrepancy lies in the national Extended Producer Responsibility (EPR) system, where producers, in the current system, do not bear the complete financial burden of managing packaging waste. The efficacy of this system in meeting the requirements of Article 8a in the Waste Framework Directive (WFD) is questioned, reflecting the need for a nuanced evaluation of the existing EPR framework.

A notable point of contention arises from the recommendation to 'support preparing for re-use of municipal waste and re-use systems for packaging.' This recommendation appears enigmatic, as the emphasis, according to the perspective presented, should be on (source) separation and subsequent recycling rather than preparing for reuse of MSW. The intricacies of this recommendation warrant clarification to align it with the broader objectives of a circular economy and sustainable waste management practices.

In conclusion, Finland's waste management landscape, while marked by commendable legislative updates, faces a set of intricate challenges that demand nuanced solutions. The overcapacity of incineration, contractual arrangements favoring incinerators, and the need for behavioral shifts at the household level underscore the multifaceted nature of waste management. Proposals for incentive pricing, reevaluation of the EPR system, and clarification of recommendations are pivotal steps in aligning waste management practices with the principles of sustainability and circularity.



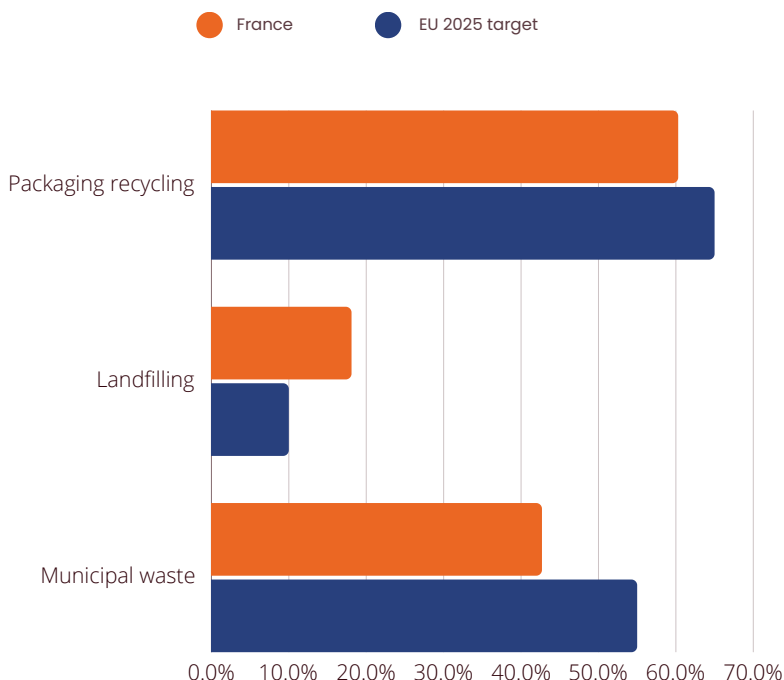
France is at risk of missing the 2025 targets for municipal waste. FNADE proposes some recommendations to help the country reach this goal.

The call for more source separation and the implementation of Pay-As-You-Throw (PAYT) systems emerges as practical and important measures to increase the reach of.

Another essential aspect of FNADE's approach involves active involvement and collaboration with local associations and civil society. Recognizing the social impact of waste management projects, FNADE emphasizes the importance of incorporating local perspectives and understanding the needs and reasons that underpin community dynamics. This recognition aligns with the understanding that successful waste management strategies not only depend on technological solutions but also on social engagement and understanding the intricacies of local contexts.

FNADE places a spotlight on the critical role of data in advancing waste management practices. The assertion that 'what one cannot measure, one cannot improve' underlines the importance of robust data collection and analysis.

Navigating the complexities of waste management requires a keen understanding of the right level for actions, given the division of competences at national, regional, and local levels. FNADE's recognition of this multilevel governance structure reflects an awareness that effective waste management solutions must be tailored to the specific competences and capacities at each administrative tier. This calls for a harmonized and collaborative approach, ensuring that strategies are not only effective but also seamlessly integrated into the broader governance framework.



A notable point of contention arises in FNADE's skepticism about Deposit-Return Systems (DRS) being the right tool. While acknowledging the end goal of combating climate change as paramount, FNADE raises concerns about potential side effects associated with DRS. These side effects, including extra emissions and a potential reduction in the value creation of waste management, prompt a cautious evaluation of the trade-offs associated with this tool.

To conclude, FNADE's approach to waste management is a multifaceted strategy that combines incentives, social engagement, data-driven decision-making, and an awareness of the potential impacts of specific tools such as DRS.



Germany is on track to meet the 2025 targets, reflecting a robust performance in 2020 with a municipal waste recycling rate of 67% and packaging recycling at 68.1%. However, amidst these accomplishments, challenges emerge.

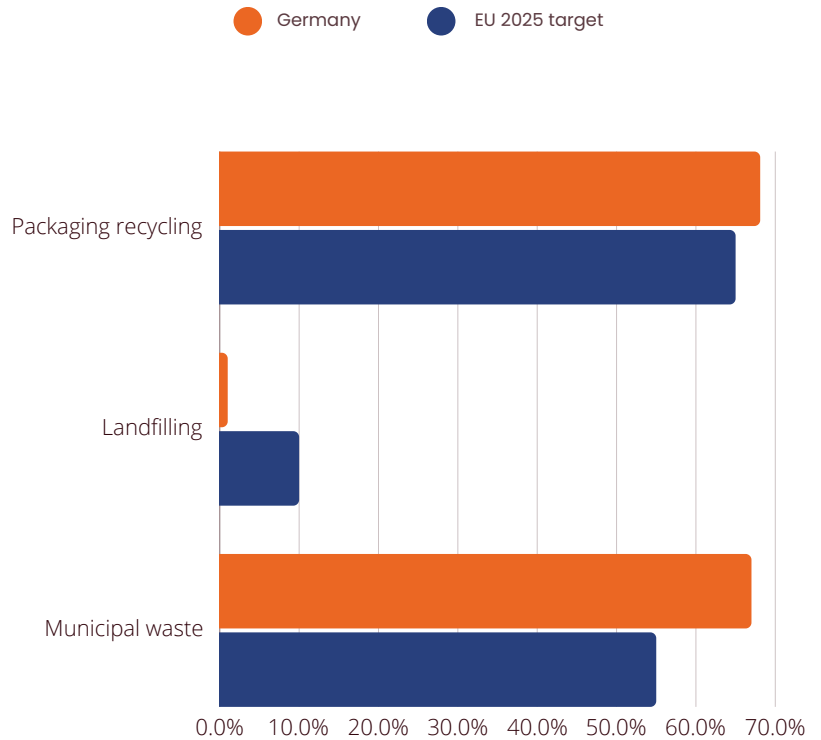
The overarching recommendation for Germany is to persist in policies that not only maintain but further improve performance levels in waste prevention, preparing for re-use, and recycling. It is important to recognize that achieving and sustaining high recycling rates requires ongoing efforts and strategic interventions.

The proposal to apply economic instruments specifically to packaging aims to reduce the generation of packaging waste and influence material choices, encouraging recyclability and eco-design. This aligns with a broader strategy to tackle the root causes of waste generation by incentivizing sustainable packaging practices. However, the effectiveness and implications of such economic instruments necessitate careful consideration and evaluation.

Another pivotal recommendation involves the implementation of a pay-as-you-throw system for residual waste on a national scale. Currently, only around 30% of the population in Germany is covered by such schemes.

BDE does not recommend the introduction of incineration citing the existing inclusion of Waste-to-Energy (WtE) in the German Emissions Trading System (ETS).

The association also sheds light on the lack of enforcement of commercial waste law in Germany, signalling a regulatory gap that warrants attention. Additionally, they highlight that despite the mandatory requirement since 2014, 13% of citizens in Germany still lack access to separate collection of bio-waste, and a substantial 39% of residual waste comprises organic matter.



These observations underscore the importance of effective enforcement mechanisms and the need for targeted strategies to address specific waste streams.

The issue of data consistency is a common thread in waste management discussions, and Germany is no exception. BDE raises concerns about the consistency of data collection, emphasizing the need for standardized and reliable metrics. This is crucial for accurate assessments, benchmarking, and the formulation of effective policies.

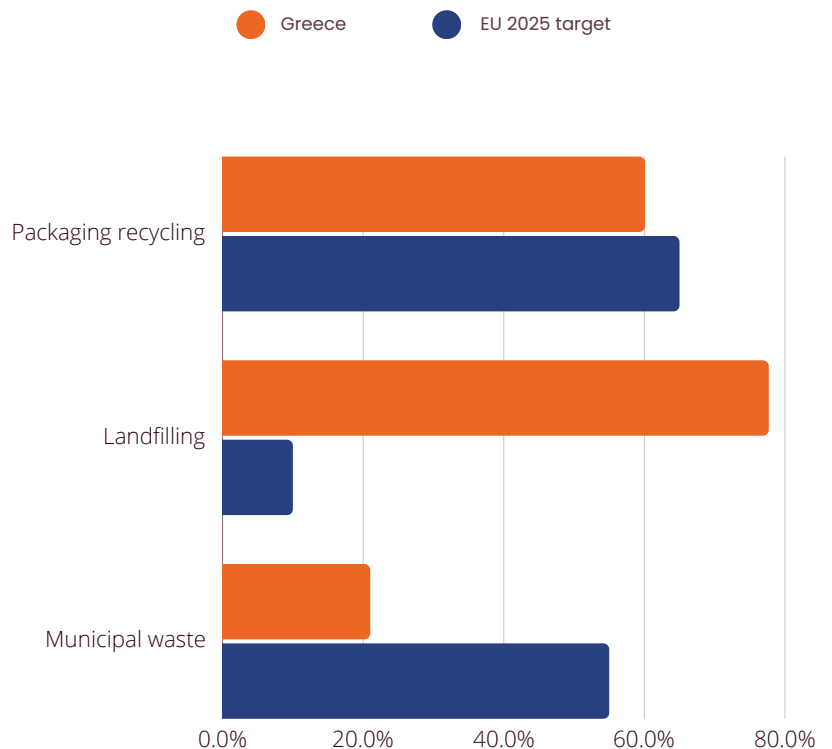
In brief, Germany's trajectory in waste management is one of notable achievements but also ongoing challenges. The recommendations and comments provided by BDE offer valuable insights into the complexities of the German waste management landscape. Balancing economic incentives, regulatory enforcement, and the need for consistent and accurate data collection requires an adaptive approach.



Greece is at risk of missing the 2025 targets for the recycling of municipal waste and of all packaging waste. PASEPPE, aligning with the recommendations of the European Waste Framework Report (EWR), provides a comprehensive overview of Greece's waste management landscape, acknowledging both achievements and ongoing challenges. The acknowledgment that Greece is not among the first countries in Europe to implement the 2025 targets underscores the existence of challenges, particularly related to delays in the implementation of necessary infrastructure by municipalities. However, the commitment to recover lost ground is palpable, as significant efforts have been underway in the last four years to enhance the recycling of municipal waste and all packaging waste.

One key aspect of this commitment is reflected in the procurement of many municipal solid waste (MSW) treatment units through public procedures. Currently, 10 facilities are in operation, with an additional 15 under construction. This infrastructure investment is expected to yield positive results in recycling indexes in the coming years. Greece, led by the Ministry of the Environment, has demonstrated a collective and inter-ministerial effort in advancing towards a circular economy. Involving nine ministries and 17 stakeholders, including businesses, banks, engineers' associations, and NGOs, a new Road Map for Circular Economy has been published. This roadmap encompasses 73 distinct actions across various sectors such as production and consumption, waste management, secondary raw materials, competitiveness, and innovation. Importantly, the roadmap aligns with EU directives and institutional initiatives, integrating EU indexes and evaluation criteria into national benchmarks.

To ensure rigorous monitoring and evaluation, a dedicated National Circular Economy Observatory has been established, highlighting a commitment to transparency and accountability in the implementation of the plan.



In a significant development, Greece has introduced a landfill tax for the first time in January 2022. The gradual increase of this tax up to 35 euros reflects a commitment to discouraging landfilling. Despite the existence of the landfill tax in legislation for many years, its application had been postponed due to opposition from municipalities and the impact of the Greek financial crisis. Ongoing discussions to modify the tax are taking into consideration the recycling and circularity levels of each municipality in conjunction with pay-as-you-throw systems.

In a nutshell, PASEPPE's perspective sheds light on Greece's journey towards achieving European waste management targets. The tangible efforts in infrastructure development, inter-ministerial collaboration, and the introduction of a landfill tax demonstrates a commitment to overcoming challenges and steering the country towards a circular and sustainable waste management model.

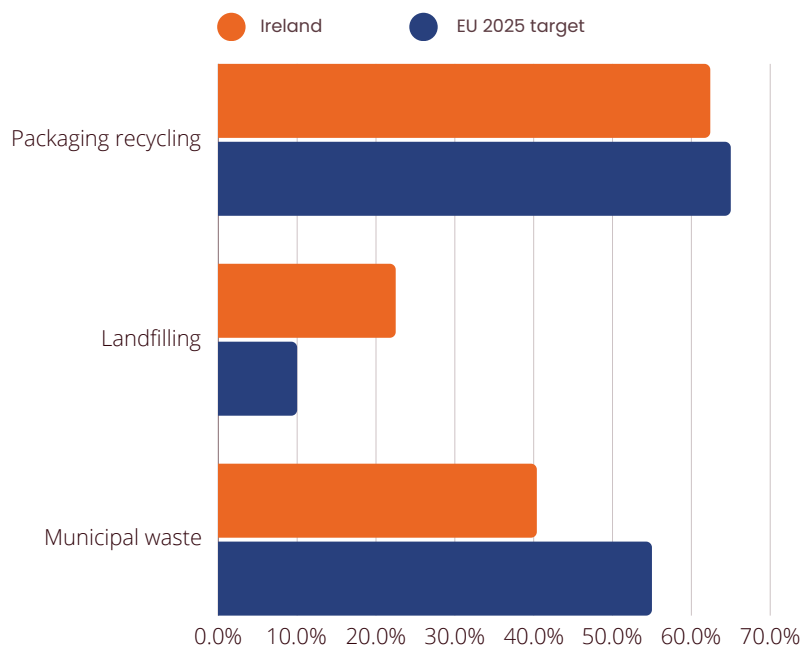


Ireland is on track to meet the 2025 recycling target for all municipal waste and will likely meet the 2035 target for the landfilling of municipal waste. However, it is considered at risk of missing the 2025 target for the preparing for re-use and recycling of municipal waste.

IWMA paints a nuanced picture that challenges certain perceptions and emphasizes the importance of adopting a comprehensive approach in evaluating waste management performance. A key point raised by the IWMA concerns the reported landfill rate of 22.5%, directly quoting information from the Environmental Protection Agency (EPA) website to clarify that Ireland's landfill rate for municipal waste was 16% in 2020. This highlights the need for accuracy in data reporting and interpretation, crucial for a thorough understanding of a country's waste management dynamics.

Another significant point of contention arises from the EU's lack of recognition of Ireland's waste prevention success. Despite achieving low levels of household waste generation per capita and subsequent low levels of residual household waste per capita, Ireland's modest recycling rate faces scrutiny. This scrutiny is attributed to the incentivized 'Pay by Use' household waste collection system, a model that is extending to commercial waste collections.

A key proposal from the IWMA involves updating the Early Warning Report using new EU calculation methods for recycling, moving away from reliance on data submitted to Eurostat. The call for an updated report considers the importance of comparing like with like and emphasizes the need to include Municipal Solid Waste (MSW) generation per capita and residual MSW for each Member State.



The IWMA asserts that chasing MSW recycling targets without considering per capita residual waste generation may have negative consequences in terms of climate change and waste prevention impacts. By emphasizing residual waste generation as a crucial measure of waste management performance, the IWMA advocates for a more nuanced and comprehensive assessment.

In essence, the IWMA's perspective highlights the importance of accuracy and context in evaluating Ireland's waste management performance. The emphasis on recalibrating reporting methodologies and the inclusion of metrics that better reflect the principles of the waste hierarchy demonstrates a commitment to transparency and accountability.



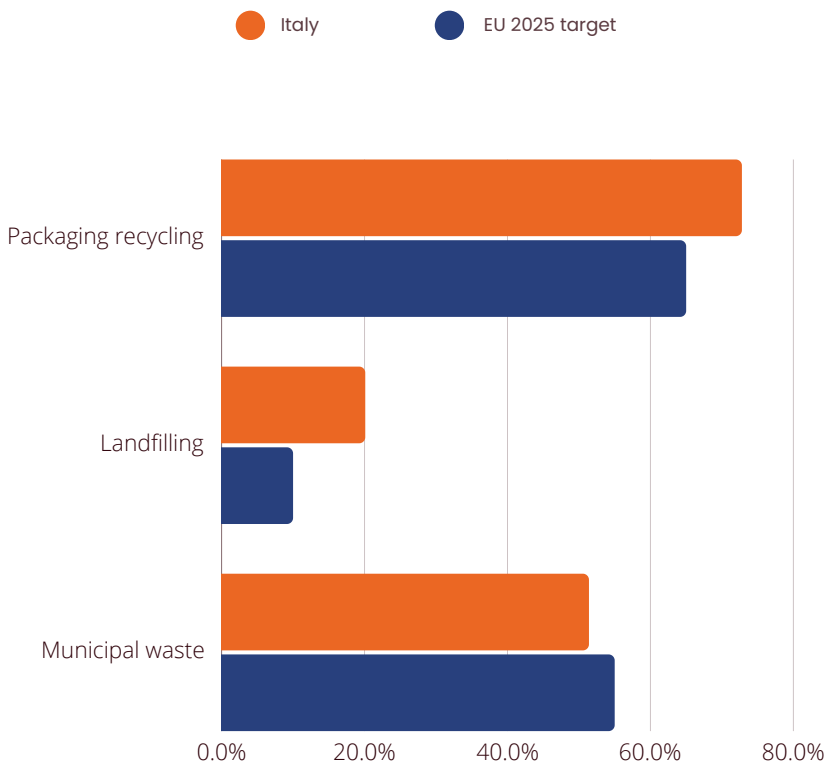
Italy is on a trajectory to meet the 2025 targets, with a 2020 municipal waste recycling rate of 51.4%, packaging recycling at 72.8%, and a landfill rate of 20.1%.

The overarching recommendation for Italy is to maintain and enhance performance levels in waste prevention, preparing for re-use, and recycling. This aligns with a commitment to continuous improvement and reflects an awareness that sustained progress is essential to meeting and exceeding waste management targets.

A key proposition involves expanding the coverage of pay-as-you-throw (PAYT) schemes. While Assoambiente recognizes PAYT as an effective tool, the implementation of such schemes is acknowledged as challenging, with precise measurements at the citizen level incurring significant costs. The need for a balanced and efficient PAYT system necessitates careful consideration of its practical implications and the associated costs.

The suggestion of mandatory Deposit-Return Systems (DRS) is not the only solution, explains the association. DRS is positioned as one among several solutions, recognizing that a multifaceted approach is essential to address the complexities of waste management effectively.

Assoambiente highlight regional disparities within Italy, particularly between the north and south, suggesting that a one-size-fits-all approach may not be appropriate. Additionally, Assoambiente raises a critical point about the utilization of tax revenues on incineration and landfill, emphasizing that these funds should be directed towards developing recycling infrastructure.



The association further engages with the definition of 'treatment before landfilling,' seeking clarification on whether separate collection alone is sufficient or if Mechanical Biological Treatment (MBT) is deemed necessary.

In conclusion, Italy's waste management journey, as depicted by Assoambiente's insights, showcases the importance of taking into account the intricacies of each country and the differences that exist in these countries.

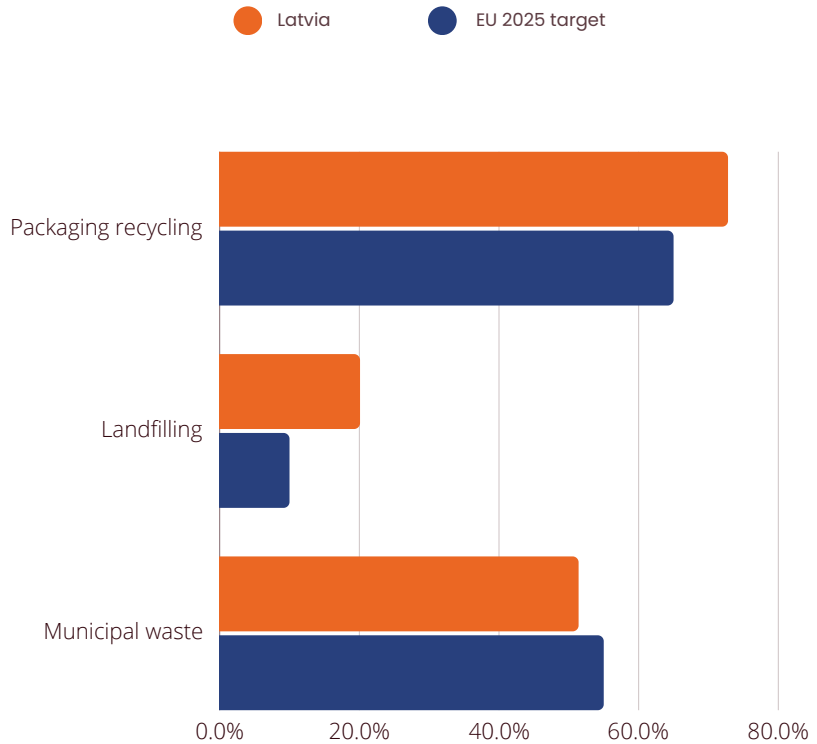


Latvia is at risk of missing the 2025 targets for the preparing for re-use and the recycling of municipal waste and for the recycling of plastic packaging. The distance to the 2035 target for landfilling of municipal waste is also of concern.

In the realm of packaging collection, Latvia has taken significant actions to improve selective collection without passing on additional costs to citizens. The introduction of a new deposit system for plastics, metal, and glass beverage packaging in February 2022 is a noteworthy step toward enhancing recycling practices. Importantly, this initiative does not reduce the number of collection points for glass (bottle banks), maintaining accessibility for citizens and promoting the responsible disposal of packaging materials.

Latvia's plans to construct a second Waste-to-Energy (WtE) facility align with a broader strategy to reduce landfill waste. Recognizing the limitations of a single cement kiln for specific high calorific waste, the decision to build a second WtE facility, financed by the private sector due to the absence of EU funds, is a significant investment. The anticipated completion of the new facility by 2027 promises to further reduce reliance on landfilling, contributing to Latvia's waste management goals.

Lasua's involvement in ongoing discussions with the government and participation in the formulation of regional waste management plans for the next five years reflects a collaborative and proactive approach. The planned reorganization, reducing the number of regions from 10 to 5, is expected to streamline waste management efforts and improve data collection. This restructuring is anticipated to enhance the reliability of waste statistics, providing a more accurate representation of Latvia's waste management performance.



The collaboration between the public and private sectors emerges as a strength in Latvia's waste management landscape. With private companies serving over 60% of the population and the public sector overseeing waste services for more than 50% of the territory, this balanced partnership reflects a cohesive and inclusive approach to waste management.

One of the main recommendations for the country is to implement a pay-as-you-throw- (PAYT) system to further incentivize citizens to separate waste at the source.

To summarize, Latvia, while at risk for not meeting the target, is taking actions to remedy this issue.

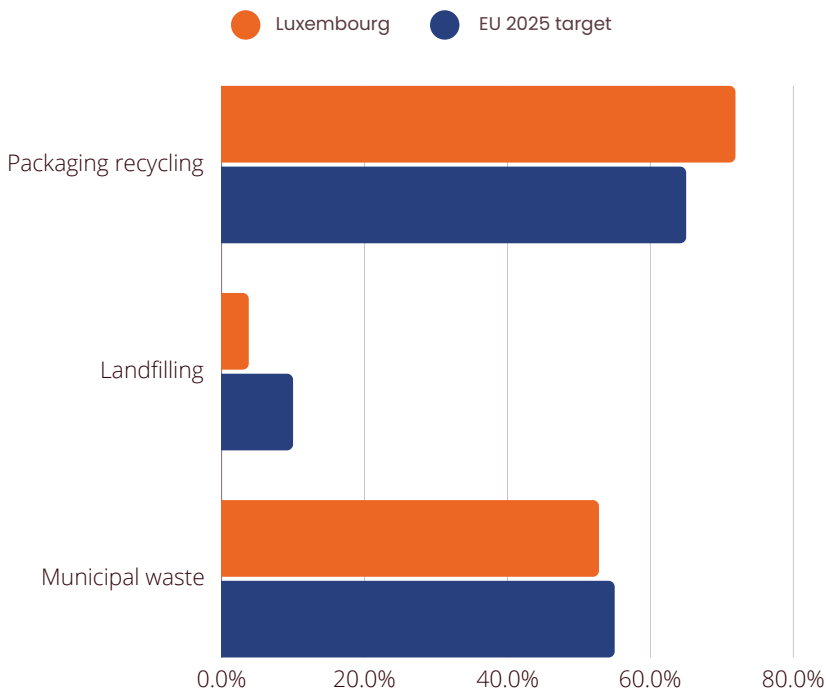


Luxembourg is on track to meet the 2025 targets. In 2020, Luxembourg achieved a municipal waste recycling rate of 52.8%, packaging recycling at 71.9%, and a low landfill rate of 3.8%. Despite these achievements, the report identifies challenges and opportunities, offering valuable insights and recommendations for further enhancement.

A central recommendation for Luxembourg is the continuation of policies aimed at maintaining and improving waste prevention, preparing for re-use, and recycling. This aligns with a commitment to sustained progress in waste management practices and the broader objectives set by European waste management directives.

One of the key challenges highlighted is the very high waste generation per person in Luxembourg, amounting to 790 kg/year/person. This figure significantly exceeds the EU average of 505 kg/year/person, emphasizing the need for targeted measures to address excessive waste generation. The report identifies the potential expansion of the pay-as-you-throw system for residual waste as an avenue to mitigate this challenge. Currently, approximately 60% of the population is covered by such systems, and a broader implementation could contribute to reducing waste generation per capita.

The comments from FLEA, confirm the reported data for Luxembourg, provide additional insights and considerations. The observation regarding high waste generation per person and the impact of the pay-as-you-throw system raises the question of the inclusion of commercial waste in the definition of municipal waste. FLEA suggests that a more precise definition, excluding commercial waste, coupled with equitable management practices between municipalities and the private sector, could stimulate a reduction in waste production per capita.



Considering Luxembourg's limited surface area and the habitual cross-border shopping of citizens in neighbouring countries, FLEA suggests that the effectiveness of a deposit-return system would be enhanced if introduced at the European level or, at the very least, in neighbouring countries.

In conclusion, Luxembourg's waste management achievements are commendable, but the identified challenges and recommendations offer a roadmap for continuous improvement.



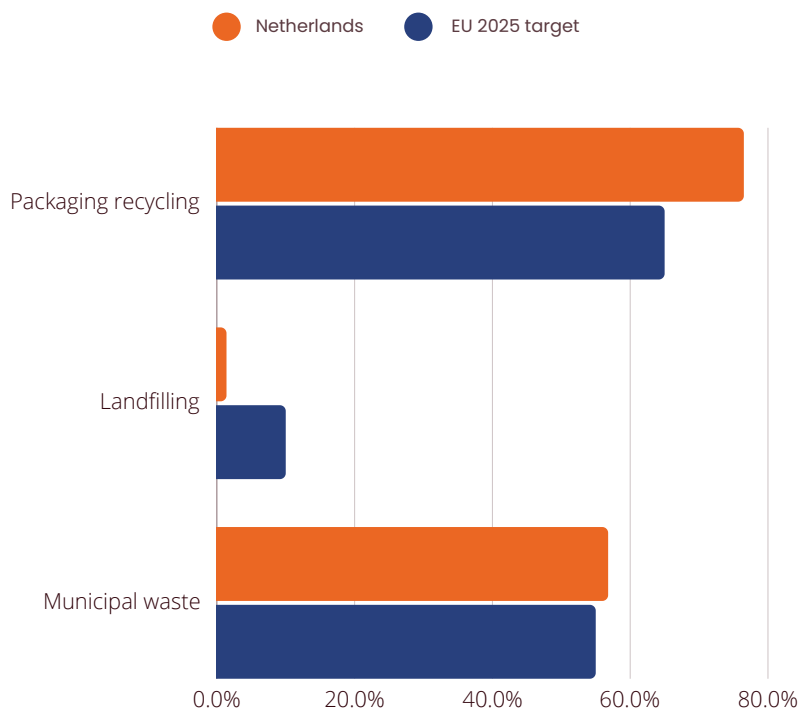
The Netherlands are on track to meet the 2025 targets. However, the DWMA emphasizes the need for a more detailed examination of the statistics and a clarification of discrepancies, reinforcing the importance of nuanced analysis for accurate cross-country comparisons.

One of the primary concerns raised by the Netherlands revolves around the comparability of municipal waste (MW) recycling rates at the EU level. The DWMA highlights differences in reporting by member states, using the example of the reported MW recycling rates for the Netherlands and Germany. The call for a more in-depth examination of these figures underlines the need for standardized reporting practices to facilitate accurate benchmarking across European countries.

An intriguing challenge pointed out by the Netherlands is the reported landfilling rate of 1.4% for MSW (Municipal Solid Waste). The association asserts that landfilling of MSW is not permitted in the country, seeking an explanation for the seemingly contradictory figure. This inquiry prompts a deeper exploration into the data sources and methodology used in the report, aiming to reconcile reported figures with the actual waste management practices in the Netherlands.

Additionally, the DWMA requests more transparency in the process leading to the recommendations provided by the European Commission for each country. Understanding the contextual factors considered in the formulation of these recommendations is deemed essential by the Netherlands.

A specific point of contention arises regarding the European Commission's suggestion for the Netherlands to implement a pay-as-you-throw (PAYT) system at the national level. The DWMA argues that such a recommendation surpasses the scope of the EU's mandate, emphasizing the importance of member states determining practical pathways for implementing EU legislation based on local conditions.



The Netherlands underscores its commitment to diverse waste management systems, citing the [CPB report](#) on PAYT in the country as evidence of the varied approaches in place. An important aspect highlighted by the Netherlands is the absence of a general mechanism in EU legislation for defining minimum treatment standards per waste stream. The Dutch approach, with minimum standards for the treatment of recyclable and burnable waste streams, emphasizes recovery over landfilling, a practice not yet standardized at the EU level. The Netherlands advocates for EU-wide landfill bans and reduction targets for all recyclable and recoverable waste streams, signalling a potential area for improvement in EU waste management legislation.

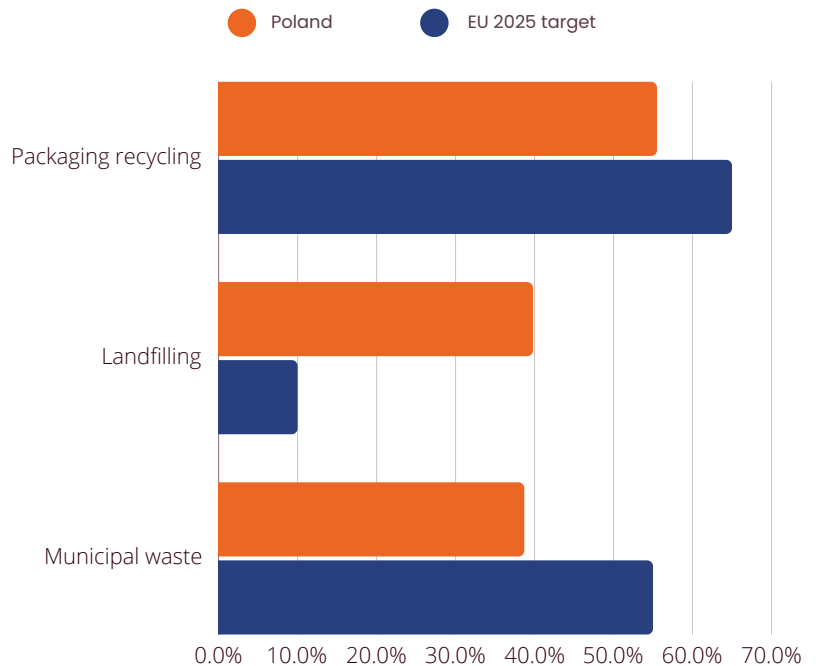
In conclusion, the DWMA, similarly to other European associations, is asking for more transparency and accuracy in the reporting of figures.



Poland is at risk of missing the 2025 targets for the preparing for re-use and the recycling of municipal waste and for the recycling of all packaging waste. Effective municipal waste management is a multifaceted challenge, and PIGO recognizes the importance of several key factors in enhancing the efficiency and sustainability of its waste management system.

The first one is public Involvement and Segregation Awareness: to enhance municipal waste management, there is a pressing need to involve the public actively. Citizens must understand the environmental significance of waste separation. The success of selective waste collection depends on the reliability of data concerning the amount and types of municipal waste generated. Therefore, educational initiatives and awareness campaigns are essential to promote effective segregation at the source. The recently implemented deposit-refund system is recognized as a mechanism that encourages citizen involvement in the segregation and recycling process. This system provides both a financial incentive and an opportunity for citizens to actively contribute to recycling efforts. Public awareness campaigns about the benefits of such systems can further strengthen their effectiveness. The implementation of a "pay-as-you-throw" system is acknowledged for promoting informed citizen involvement in waste management. This system encourages responsible waste disposal practices by tying the cost of waste disposal to the amount generated. Such financial incentives can drive behavioral changes and encourage citizens to reduce, reuse, and recycle.

Selective collection of bio-waste is also very important. The current state of selective collection of bio-waste in municipalities requires better management. Achieving adequate levels of recovery and recycling demands improvements in the quality and efficiency of bio-waste segregation. Enhancing infrastructure, providing clear guidelines, and conducting regular audits can contribute to the optimization of bio-waste collection processes.



PIGO also states that lack of efficiency in the operation of public waste management contribute to low recycling. The efficiency of public waste management companies plays a pivotal role in determining recycling rates. The Supreme Audit Office (NIK) inspection reports reveal that nearly 70% of municipal companies responsible for selective waste collection points face operational challenges. Addressing these difficulties, whether through better training, improved infrastructure, or enhanced oversight, is essential for boosting recycling rates.

Furthermore, the role of the private sector in waste management must be increased. Private companies, equipped with specialized technologies acquired through international collaboration and well-trained personnel, can offer more efficient waste disposal solutions. Encouraging private sector participation can introduce innovation and foster competition, ultimately contributing to improved waste management practices.

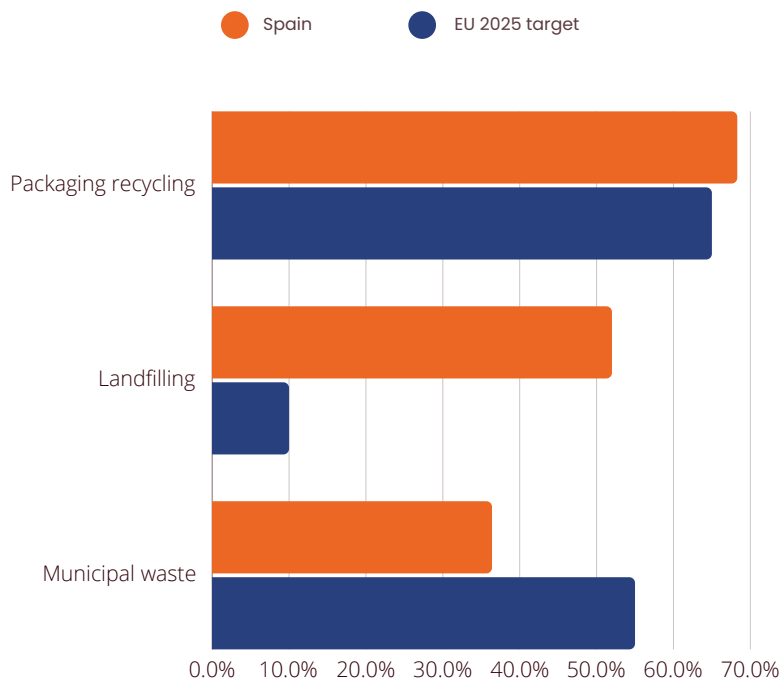
In brief, PIGO encourages citizens to be more involved in the waste separation process and for Poland to use the private waste sector more in order to help the country achieve its goals.



Spain is on track to meet the 2025 packaging waste recycling target. However, it is at risk of missing the recycling target, and the distance to the landfilling target is of concern.

ASEGRE highlights the positive impact of Spain's new waste management and packaging law, which came into effect recently. The legislation includes a tax on landfill and packaging, indicating a commitment to improved waste management practices and outcomes. The introduction of several extended producer responsibility (EPR) schemes for packaging is noted as a positive development, contributing to healthy competition in the waste management sector.

However, it is emphasized that this competition should be constructive, ensuring that EPRs guarantee adequate and sustainable waste treatment methods. The national Waste Management Plan, open for consultation, reveals a focus on addressing Spain's high landfill rate. However, there is room for further emphasis on specific waste streams, such as furniture, textiles, and organic waste, to comprehensively address the waste management landscape.



Finally, while Spain has made strides in packaging recycling, there are critical challenges to overcome in relation to furniture, textiles and organic waste.

More legal certainty for the carriage of waste dangerous goods from 2025

by FEAD

This article was originally published by fead.be on 30 November 2023

The 2025 ADR and RID will bring important new provisions for the waste sector. Dangerous goods are subject to transport, workplace, storage, consumer, and environment protection regulations, to prevent accidents and damage to persons, property or the environment, to other goods or to the means of transport employed. To ensure consistency, the United Nations has developed mechanisms for the harmonisation of hazard classification criteria, communication tools, and for transport conditions for all modes for transport (air, rail, road and water transport). These rules are regularly amended and updated.

With the exception of clinical waste, hazardous waste is classified with the same classification criteria as other substances in international agreements on the transport of dangerous goods. Wastes are, however, often mixtures of dangerous goods of unknown origin or composition, which have made some original dangerous goods rules, especially the classification rules, inapplicable for the waste management industry, creating huge challenges and legal uncertainty to the sector. The regulations were developed for dangerous goods as products for commercial purposes and did not consider, originally, that the same products must also be transported at the end of their life to an appropriate treatment facility as a waste. As waste, the conditions around the dangerous goods, products, are no longer the same.

To address the situation, FEAD was appointed in 2005 as the recognised stakeholder by the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods (hereafter, Joint Meeting). From that date onwards, the association has actively participated in the development of specific 'waste rules' in ADR and RID, not only on its classification, but also on the information requirements in transport documents, or on packaging requirements, among others. A dedicated working group of interested countries, parties to the international agreements, was established for this purpose by the Joint Meeting in 2018, under the coordination of FEAD.

New packaging rules for waste

Of particular relevance for the industry will be the new rules on chemical compatibility for plastics packaging containing liquid waste as well as the new rules for the transport of certain waste contained in different individual (inner) packaging's packed together in one outer recipient (outer packaging). These new rules were finally approved in autumn 2023 after several years of work within FEAD and the Informal Working Group on the Transport of Hazardous Waste. The new packaging provisions will be included as new paragraphs 4.1.1.21.7, 4.1.1.5.3 and 5.4.1.1.3.3 in ADR and RID 2025.



Hazardous waste ©Copyright FEAD

1. Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) and Regulations concerning the International Carriage of Dangerous Goods by Rail (RID), respectively

2. See in addition to ADR and RID, the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations, the International Maritime Dangerous Goods Code (of the International Maritime Organization), and the Technical Instructions for the Safe Transport of Dangerous Goods by Air (of the International Civil Aviation Organization)

3. The working group is known as the Informal Working Group on the Transport of Hazardous Waste

Claudia Mensi, FEAD President said:

‘This is an important achievement for FEAD as it provides our companies with the necessary rules to operate safely and compliantly. We will continue to work hard to make sure that the dangerous goods regulations are fully applicable to the waste sector’.

When we talk about dangerous goods, we can think about a series of different products that are used daily by households and industries, including paints, solvents, mixed waste from production processes, or even match boxes. As new products, these goods are packaged for transport in a very specific position, with a combination packaging specifically tested and certified for this purpose, and avoiding reactive mixtures, among many other technical provisions. At the same time, to pack, for example, liquid dangerous goods in plastic packaging, the exact composition of the goods must be known to ensure and perform the required chemical compatibility tests.

When these products reach the end of their life, the individual waste producer will never have the amounts nor conditions of single waste dangerous goods to be transported again as legally foreseen for commercial products. What waste management operators encounter is a big variety of different wastes to be sorted and packed for transport. Original packages may be damaged, disappeared, or substances may have been repacked, being so the required information gone or unreliable. It then occurs that the exact composition of waste may not be known and that the original packaging combination conditions cannot be recreated.

In the absence of easily workable rules in the international agreements, and to respond to the requests of the industry, some countries had already developed specific national rules, which were taken by FEAD as a basis to propose harmonised and general provisions at international level. FEAD has worked on rules that clarify the situation faced in waste management, without increasing the current level of risk, and backed by the knowledge and practice acquired by the sector in the past 20 years from different countries. While the rules can be (temporarily) adapted to the national needs, their inclusion in RID and ADR from 2025 ensures a basic and permanent level playing field and provides the necessary legal certainty to the sector to operate, where there were no rules at all until now.

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Other new waste-related rules

Other new and relevant provisions for the waste industry, and that will enter into force in 2025, include the extension of the special provision for paint residues (ADR Special Provision 650) to water-based paints, following their classification as dangerous goods from March 2022. To cover the transition period, the German competent authority initiated a multilateral agreement (M346) in May 2022, which has been signed by France, Luxembourg and Sweden, and will expire on 31 July 2025.

Considering the interpretative challenges posed by Special Provision 168 and, consequently, the challenges to transport asbestos waste in some countries, due to restrictive interpretations at national level, the ADR 2025 will also include the possibility to carry asbestos waste in bulk outside Special Provision 168. These new rules will be contained in new Special Provision 678, new paragraph 5.4.1.1.4, new AP 12, and new CW 38.

Finally, another important update for the sector will be the extension of the rule for estimated quantities in transport documents to clinical or (bio)medical waste. The rule for estimated quantities of waste (see paragraph 5.4.1.1.3.2) was introduced in the 2023 version of ADR in response to the demands of the sector. The rule is, however, rather restrictive, reason why FEAD welcomes this extension and will continue working within the Informal Working Group on the Transport of Hazardous Waste to make a new formal proposal to further extend the rule for estimated quantities also to transports in tanks.



Aizea Astor-Hoschen and Damien Rambault at UNECE Working Party on the Transport of Dangerous Goods ©Copyright FEAD

The packaging and packaging waste regulation one step closer to becoming reality

by FEAD

This article was originally published by fead.be on 23 November 2023

FEAD welcomes the adoption in the European Parliament of the position on the Packaging and Packaging Waste Regulation. This is a step closer to new and ambitious rules for more sustainable and circular packaging in the EU, where the fundamental role of proper waste management is recognised.

Sustainability begins with reduction and design. The European Parliament has introduced new reduction targets and voted for all packaging in the EU to be recyclable by 2030. This measure was one of the cornerstones of the new Circular Economy Action Plan in 2020 and today, we are closer to having it transformed into a legal requirement, and showing tangible results of the EU Green Deal. In addition to this, the Parliament set the bar high with a welcomed target of 90% separate collection for packaging materials that will help deliver the needed feedstock of mandatory recycled content in new plastic packaging.

Mandatory recycled content targets are essential to pull demand and stimulate recycling markets. Therefore, it is essential that biobased plastic feedstock is not equated to recycled materials. The Parliament's position is all but clear on this, with different and contradictory amendments that were adopted in plenary. Bio-based materials are made of raw materials from biomass and does not come from a waste recycling process, so it cannot be considered recycled content.



Cardboard packaging ©Copyright free

Market restrictions work against a circular economy because they prevent the sector from being the competitive and innovative industry we need it to be, to achieve the EU objectives. This is why FEAD especially celebrates that the Parliament has found the right balance to define high-quality recycling while remaining in line with the Waste Framework Directive. At the same time, FEAD remains highly concerned about the priority access to recycled materials linked to closed loop recycling that the Parliament has granted to specific market players. This is a free market distortion that must be corrected immediately, because every actor should contribute to the circular economy without shortcuts.

In this sense, FEAD looks forward to (further) improvements during the inter-institutional negotiations and is confident in the role of the Council, which can further support the European recycling and waste management sector to become a stable and sustainable reality in the long term. The association continues its work on the file with its unwavering commitment to the circular economy.

Resource organisations unite for genuine reporting of recycled content in plastic products through transparent calculation methods

by FEAD

[This article was originally published by fead.be on 10 November 2023](#)

F EAD, EuRIC and Municipal Waste Europe, representing the full extent of the European waste management sector including prominent players in the plastic value chain, urge the European Commission and EU Member States to adopt a genuine and reliable Mass Balance Accounting (MBA) credit method in the context of the Implementing Decision under the Single Use Plastic Directive (SUPD). This approach aims to create a fair playing field and promote the advancement of emerging recycling technologies. It emphasizes technology-neutral rules for calculating and reporting recycled product content while ensuring the highest level of traceability. It is crucial to emphasize that the hindrance to meeting SUPD targets does not primarily occur during the end-of-life treatment stage but, instead, manifests earlier in the value chain, such as in collection and product design. Additionally, the recycling industry has recently encountered a decrease in production linked to factors like the cost of virgin plastics and the influx of rPET imports. Therefore, more than ever, a thoughtfully crafted Implementing Decision on Mass Balance Accounting (MBA) is of paramount importance to not further obstruct those processes that have the lowest environmental impact and the highest environmental performance, in terms of greenhouse gas emissions (GHG), yield, maturity, traceability and quality. Concerning the MBA, it is important to note that the fuel use excluded allocation is not a genuine method and creates an unlevel playing field as it cannot be universally applied to all technologies. For instance, pyrolysis generates credits on materials that are unsuitable for polymer production (e.g., chemicals, solvents, wax) that would be allocated to plastic outputs.

This discrepancy leads to an unfair treatment of recycling technologies that exclusively target plastics-to-plastics production and will overshadow established lower-carbon footprint solutions and drive competition for feedstock.

The future interplay of various calculation methods is inevitable because downstream users may receive both chemically and mechanically recycled plastics. In these cases, ISO 22095 states that the lowest traceability requirement applies and therefore, the downstream user would have to apply a mass balance method. This implies that mechanical recyclers would be the sole entities mandated to utilize a non-mass balance approach.

Therefore, to optimise the uptake of recycled plastics, foster the development of all new technologies while ensuring their complementarity, the use of a credit system with well-defined boundaries is necessary.

A 3-step proposal for a genuine and reliable mass balance enforcement:

1. Confront the issue head-on: in the context of recycled content in plastics products, only plastic waste can be used to generate credits. Credits cannot be generated from tyres and waste oils (e.g., cooking oil, motor oil)
2. Plastics waste-to-plastics: methods that allocate credits from additional materials to plastics outputs, such as the fuel-use excluded calculation method focusing on plastics-to-chemicals, should not be considered valid for calculating recycled plastic content.
3. Legislation must set clear boundaries for mass balance with credits:
 - Plant-Level Conversion factor: calculate conversion factors at the plant level to maintain accuracy.
 - Zero Negative Credits: prohibit the sale of unearned credits during the balancing period.
 - Location-limited: prevent credit transfers between sites for simplicity and traceability.
 - Mandatory Third-Party Certification: demand third-party certification aligned with defined boundaries for accountability.

The undersigned associations advocate for a technology neutral approach that will result in a fair open market for all recycling technologies. To further stimulate investment in recycling capacity and innovation, regulatory incentives are critical for both the mechanical and chemical recycling industry. This will strengthen the EU's recycling capacities, decrease the need for – and dependency on – fossil resources, thereby helping them stay on track for climate neutrality by 2050.

EVENTS

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Conference "Higher energy and raw material security"

by Miloš Kužvart

At the end of October, 2023, our association, the Czech Association of Circular Economy (ČAOBH), organized the second annual conference entitled 'Higher energy and raw material security.'

'I haven't been to such a well-attended conference in a long time,' we heard to our delight from many of its participants.

Our effort was to cover the topic both with the scope of companies and institutions, as well as contributions of innovative solutions from industry players such as Orlen Unipetrol, EF Group, Holcim or Veolia and others.

While last year's included international participation, this year's focused on the Czech position. To a certain extent, he confronted the point of view of industry and its umbrella organizations with the point of view of ministries, chairmen of the environment committees of both chambers of the Parliament of the Czech Republic and Czech MEPs. And in this regard, it was heard most often: The long permitting process fundamentally complicates the development of innovations.

Three thematic blocks: Energy, Recycling, Economy and Climate

We repeated last year's proven format of three consecutive blocks – Energy, Recycling and the Economy and Climate block connected to the final discussion. Petr Špičák (Recovera Use of resources Recover Resource usage), Zbyněk Kozel (EKO-KOM – Authorized packaging Company) and Aleš Rod (CETA – Center for Economic and Market Analysis) took on the roles of moderators.



Miloš Kužvart
Executive Director,
ČAOBH

The question that ran through all the blocs like a red thread: How to ensure sustainable energy prices in the economy and the necessary raw materials for industry in a time of ongoing problems, while meeting climate protection efforts?

The Recycling Block was opened by the Minister of the Environment, Mr. Petr Hladík, who answered the questions of those present, for example, how to solve the different approaches of individual regional authorities or the situation surrounding the stopping of the third boiler project at SAKO Brno. In the interview we recorded with the minister after the speech, we also asked about emission allowances for ZEVO Equipment for energy utilization of waste facilities.

Examples of innovative, completely new approaches were the contributions of representatives of the ORLEN Unipetrol group, the Hydrogen Platform of the Czech Republic or a representative of the Platform for the Bioeconomy of the Czech Republic.



Chairman of the executive committee of ČAOBH Petr Špičák ©Copyright:ČAOBH

Main conclusions from the conference

Although the final discussion only took place in the late afternoon, it brought the whole program to a great close thanks to the discussants (pictured from left: Ondřej Knotek, European Parliament, Jan Řečtáček, Holcim, Jan Maršák and Pavel Zámyslický, both Ministry of Environment, Ms. Kateřina Kupková, Union of Industry and Transport of the Czech Republic, Pavel Míčka, Veolia and Pavlína Kulhánková, Ministry of Industry and Trade).



Final discussion ©Copyright CAO BH

The goal of the conference was to present new projects that can bring a shift towards raw material and energy security, but also to agree on some basic points. Petr Špičák, Chairman of the ČAOBH executive committee, summed up the conclusions of the conference: "We cannot do without intensive involvement and support of science and research, and we must continue in the spirit of the circular economy. What we urgently need is for the state administration to help in this transformation process by simplifying the administration and shortening the permitting processes". /PS photo No. 18 /

Next year 2024

The only exception in the purely Czech representation was the president of the European Association of Waste Companies FEAD, Ms. Claudia Mensi, who delivered an introductory video greeting to the participants with the European context of promoting the circular economy in EU countries and the fight against climate change. It was a reminder that the next, third year of the conference, which will take place in autumn 2024 in Prague, will again have international participation. Representatives of FEAD, CEFIC, EuRIC or MWE bring a view of the European context and also the hope that new regulations from the European Union will not surprise us in the Czech Republic.

The sustainable Green Table space in Prague's Florentin suited the conference very well.

FEAD is on a mission

by Jean-Paul Judson

F EAD is on a mission to support the European Union's ambition to double its Circular Material Use Rate (CMUR) by the end of the decade, by setting a 75% recycling target for all materials by 2035. This vision was set out at an event on the 6th of July 2023.

It's not going to be easy. Between 2010 and 2022, the CMUR increased by 0.8 percentage points, from 10.7% to 11.5%. Despite all the manifest political ambitions in support of the circular economy, the reality is that secondary raw materials remain secondary for the EU economy and there is still a massive reliance on primary raw materials. In 2022, only two countries exceeded a CMUR of more than 20%: the Netherlands (27.5%) and Belgium (22.5%).¹



Jean-Paul Judson
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Why is FEAD concerned?

The waste management sector is the mirror of the whole economy. It is on the receiving end of all the products and materials that flow through our societies, get consumed and eventually discarded. In a circular economy, the waste management sector has a key role to play: create resources out of waste. It's only a part of the picture, and policymakers, producers and users all need to work on many other actions such as waste prevention, reuse or repair. These strategies to extend material and product lifetime or, even better, avoid waste altogether, are of course welcome. But to imagine a world without waste is more of a utopia or political slogan. The real challenge is to imagine a world where waste is transformed into resources, and this is what drives all the investments and ambition of the waste management sector.

How will FEAD respond?

Waste legislation is obviously a key component of the way waste is treated or valued in society. In the European Union, there is an ambitious legislative framework, setting targets that should support the achievement of ambitious waste management objectives.

Unfortunately, the reality is that implementing these targets is extremely difficult on the national, regional and local levels. As pointed out in the recent Early Warning Reports by the European Commission,² there is a massive problem with implementation of European legislation. There is no use of being antagonistic over these issues. The only way out is to be convincing with the circular economy strategy, as well as coherent. Policymakers must also realise that implementing existing targets and objectives may well have to come before adding extra layers of ambition, which usually come with every revision of existing legislation. This is not to water down circular economy objectives, it's to level them up.

Where FEAD wishes to contribute is on making the circular economy a convincing argument. The way to make this convincing is to make sure that it is fully embraced by producers when placing products on the market. The responsibility that producers have is massive: their business model is based on product consumption and they must factor in the inherent risk that those products will inevitably end up as waste, sooner or later. Obliging producers to be part of the circular economy through regulatory measures, such as for instance mandatory minimum recycled content in specific products, may be a good idea – but on the other hand, the secondary raw materials need to be available and of sufficient quality to meet the market requirements. If these conditions are not met, there is no market.

Legislation can help, but for the circular economy to become a long-term solution for our societies, it should ideally become autonomous and not require legislation at all.

Circular Economy Value Chain Partnerships in the making

Therefore, it's the waste management's sector responsibility to demonstrate the equivalent value of secondary raw materials and primary raw materials. In a report released last year by the European Environment Agency,³ the situation is still far from optimal when considering the value of secondary raw materials.

That is why FEAD is working on launching "Circular Economy Value Chain Partnerships". Work on this project is ongoing, but in broad terms, the idea is to launch up to five high-impact partnerships with decisive value chains towards achieving the increased recycling of materials. These partnerships will need to respond to four major challenges:

- Establish large-scale separate collection systems in sectors which are underperforming on total amount of waste collected compared to waste generated;
- Improve the recycling process for collected waste materials in sectors which are underperforming on total waste recycled compared to waste collected;
- Increase the recycled content of products being placed on the market, to ensure the necessary market pull towards the circular economy;
- Eliminate hazardous substances from the waste stream, notably by working on ecodesign and decontamination techniques, to preserve human health, the environment and safeguard the potential for recycling.



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Against the backdrop of these four major pillars, FEAD will be building its partnership strategy to double down on its commitment towards the circular economy. These partnerships will provide operational responses to the challenges posed by legislation, and may even go beyond those commitments where voluntary agreements can be secured. If all operators are convinced of the value of secondary raw materials, there is no reason why these materials would end up anywhere else but back in the economy. Of course, there will always be arguments on quality, safety and traceability. But the waste management sector is ready to find solutions where needed. The goal is to present these partnerships at a FEAD event in Brussels on the 16th of April 2024. Until then, FEAD members will have a lot of work to do, and I have the honour of facilitating this process. It's a challenging task ahead, but the ambition within the association is high.

³ <https://www.eea.europa.eu/publications/investigating-europes-secondary-raw-material>

Our Members



Our Affiliate Members



Waste Management: The mirror of the entire economy



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