FEAD
European Waste Management Association

From circular economy to the fight against climate change

40th Anniversary of the European Waste Management Association

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Foreword

The climate and biodiversity crises are an existential challenge for humankind. With half of today's total greenhouse gas emissions and over 90% of biodiversity loss resulting from resource extraction and processing, the transition to a circular economy is at the heart of the European Green Deal.

To build a fair and sustainable society, become climate-neutral by 2050, preserve our natural environment, while strengthening our economic competitiveness, we need a fully circular economy. It will also enable us to reduce Europe's overdependence on primary natural resources, fossil fuels, and outside suppliers. Investing in the circular economy is investing in our collective security and in the future of our children and grandchildren.

It's why we need to rethink how products are designed, produced, sold, and used. Enable circular business models to thrive, make repair and reuse services widely available: instead of consumers owning a product, prompt businesses to offer their use as a service. And products should be durable, repairable, reusable and recyclable, chemically safe, energy-efficient, and made as much as possible of recycled materials.

In a fully circular economy, we use less natural resources and essentially turn trash into cash. Because the end of a product's life becomes the start of a new one.

With a thriving European market for the highest quality recycled materials, we can make 'Recycled in the EU' a global benchmark, create jobs for the future and boost the resilience of our economies.

On its 40th anniversary, I would like to congratulate FEAD and the European waste management industry for its valuable contribution to the European circular economy and the objectives of the European Green Deal. You play a crucial role in Europe's green transition and we count on you to continue driving the necessary change.

Frans Timmermans
Executive Vice-President of the European Commission

Introduction

FEAD is undoubtedly celebrating its 40th anniversary during some of the most politically challenging times in recent history. Seldom has the aspirational legislative framework of our members been so aligned with the work of the European Commission, Council, and Parliament.

For now, politicians have understood – thanks to our **persistent advocacy** - that a well developed 'waste management industry' is one of the most important levers to achieve a successful climate strategy in the coming years. Certainly, FEAD has helped shape and create this understanding amongst our politicians. If Europe wants to remain a highly competitive continent while striving for climate neutrality by 2050, safeguarding the environment, resources, and citizens, we urgently need to take ambitious measures with appropriate public support. The way forward is to increase and improve the EU's current recycling performances, reform the current mismanagement of raw materials within the European marketplace and consolidate recycling and recovery markets. Now that EU legislators are more focused on waste prevention, we must **galvanise recycling** as one of the main solutions towards less waste and more circularity.

Having the same objectives as the EU legislator is a **success story** for FEAD and collaborative efforts have paid off over time. But this welcome development - as good as it is - is also complicated. In rapid succession, we have been confronted with the most demanding proposals for new regulatory instruments, and these must not be underestimated in their importance for our work. They require our utmost attention to successfully represent the interests of our members during consultation processes, discussions with EU legislators, and with interest groups at public events.

The decision-making process at EU level brings together a wide variety of concerns from national and international stakeholders which can often bring about positive results, but on occasion the process misses **the bigger picture**, putting environmental legislation at risk of creating adverse effects. We can sometimes see this happen within FEAD when finding a **common consensus** raises additional complexities. Our members must look for compromises because business models can be different, and national legal frameworks often misalign. Self-evidently, each member of FEAD must represent the interests of their businesses above all else, much in the same way as Member States represent their countries' views and interests in European negotiations. So, part of our job at FEAD is to find **internal compromises**, represent the interests and vision of all our members, and ultimately prevail in the decision-making process at EU level by delivering meaningful change for the entire waste management sector. This is **not always easy**, but we are fully committed to **seek and advocate for better conditions** under which waste management companies are operating. It gives our investments an economic sustainability by making our industry **future-driven**.

40 years of FEAD brings together 40 years of commitment and hard work. In 2022, our work is not yet done, nor will it end anytime soon. FEAD is essential for superior waste management in Europe because we are 'making it happen'. We bring together the industry that gives new life to waste by rendering it into a valuable resource. From politicians to our members, we intend to keep developing our valuable partnerships in the years and decades to come.

On our 40th anniversary, I would therefore like to thank all those who have taken on this task with a commitment that has rarely been as excellent as it is today. Clearly, we give thanks to FEAD's team working in the Brussels office, but we especially give thanks to the many participants and collaborators who make up the core of our working groups and form part of our strongest asset, our members.

Peter Kurth
FEAD President

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The history of FEAD:
40 years of successful partnerships

40 years ago, in 1981, FEAD - the acronym for Fédération Européenne des Activités de la Dépollution et de l'Environnement - was founded as the European umbrella organisation of national federations representing the private waste management industry.

- The foundation of FEAD was a reaction to the growing significance of the European Community in environmental legislation and hence in shaping the framework conditions for economic activity in the waste sector. Founded by the three national federations of our sector in Germany, France, and Great Britain, FEAD today represents the private waste management industry in 17 EU Member States plus the UK and Norway.
- The association was intended to monitor the activities of the EU institutions, to take an active part in discussions and debates on legislative proposals, and to build up a network of like-minded federations. The aim was to stimulate a lively exchange of experiences and information on technical, legal, and economic issues relevant to the waste management industry in the Member States of the European Union.

1989

FEAD gained five new members from Spain, Italy, Belgium, the Netherlands and Luxembourg.

Between 1989 and 1999

the first full-time Secretary General Mr Dieter Vogt strongly developed the internal organisation and strategy of FEAD with great dedication.

Between 1995 and 2000

the number of FEAD members increased to 15, when national federations from Austria, Sweden, Slovakia, Czech Republic, and Greece joined.

Between 2000 and 2021

EU enlargement of central and eastern Europe.

Nine new members join FEAD, between 2000 and 2021, from the following countries:

2001 POLAND
2002 FINLAND
2003 NORWAY
2004 IRELAND
2005 HUNGARY
2007 ROMANIA
2008 LATVIA
2009 ESTONIA & LITHUANIA
2021 BULGARIA

Although the **number of FEAD's members has grown from 3 to 19 over the last 40 years**, there is still potential for gaining new members in a European Union that now has 27 Member States.

FEAD European Waste Management Association

1.1 Historical overview of EU waste legislation

From environment protection to sustainable development, circular economy and the fight against the climate change

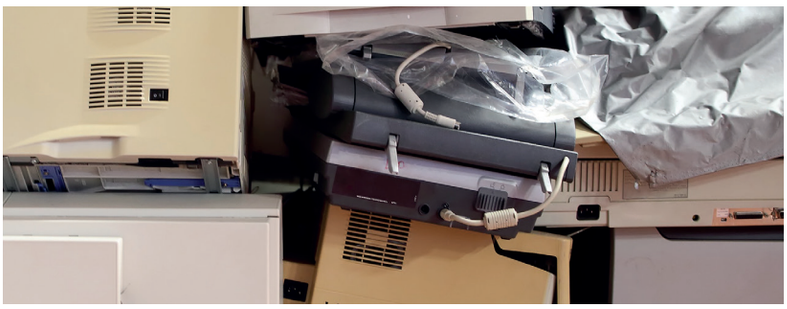
An overview of 50 years of EU waste-related legislation shows how the environment and health protection has gradually become an essential pillar of EU policies, structuring and stimulating waste management activities. The concept of circular economy and the EU Green Deal incorporated the climate dimension. In parallel, this legislation acknowledges the role of private markets and companies to build EU recycling and recovery markets, despite national frameworks that are still very differentiated and fragmented.

The environmental and climate challenges we are facing today are marked by environmental pollution, and scarcity and overexploitation of resources. To tackle this, we are confronted with enormous structural, financial and technical challenges that require the innovation, creativity and entrepreneurial risk-taking of a strong and competitive private waste management industry, that gives a second life to discarded items, conserving raw materials and avoiding CO_2 emissions. The EU legislative framework needs to provide investment security and create a level playing field across the Member States, to allow the waste management industry to fulfil its fundamental role in our society, as well as to create the right incentives to move to a fully circular and carbon-neutral economy.

From the last Eurostat data, more than a half of the waste was recovered in the EU through recycling, backfilling or energy recovery. But still over 40% was either landfilled, incinerated without energy recovery or otherwise disposed of, significant differences being observed among the EU Member States. A sustainable product policy with strong ecodesign rules is thus the next, large, and greatly expected step of the EU legislator in 2022. For products to be sustainable, ecodesign has to mean 'recyclability by design' and mandatory recycled content. Only a holistic and coherent approach to product and waste management policy and legislation can close circular life-cycles and enable the necessary transition from waste as a good to waste as a resource.

1973:

Following the Stockholm Conference (1972), the first major UN conference focusing on international environmental issues, the first Environmental Action Programme (EAP) stated the principles and objectives of the Community's environmental policy. It focused on linking the environment with economic development and the welfare of European citizens.



1975:

The concept of 'waste' was defined for the first time in the first European Waste Framework Directive (75/442/EEC), as 'any substance or object which the holder disposes of or is required to dispose of pursuant to the provisions of national law in force'. This was the basis of future waste legislation, aimed at establishing hazard control and at protecting the environment and human health.

1977:

The 2nd EAP was essentially a continuation of the first programme. It covered the same areas, water quality and protection, waste prevention, and air quality and protection.

1982:

The 3rd EAP promoted policies to support the control and reduction of pollution.

1984:

The European Economic Community (EEC) Commission published the Directive on the supervision and control of transfrontier shipment of hazardous waste, which together with the Waste Framework Directive laid the foundation for further waste legislation.

1989:

The Basel Convention was signed, establishing a world-wide framework control on transboundary movements of hazardous waste. Furthermore, the EEC Strategy for Waste Management was published. The Council emphasised that environmental considerations, and in particular the principle of **sustainable** development, should form the basis of the Community's waste management strategy.

1987:

The 4th EAP aimed to improve integration of environment policy.

1991:

The first revision of the Waste Framework Directive introduced the concept of recovery as the third definition in the directive, along with waste and disposal, symbolising the transition from a linear to a circular economy, and the transition from waste management as a means of protection against health hazards to a dynamic environmental protection policy instrument. The publication of the Directive on hazardous waste (91/689/EEC) in the same year determined that hazardous waste and non-hazardous waste, as well as different categories of hazardous waste must not be mixed with each other and will be subject to different rules in most contexts.

1992:

The Organisation for Economic Cooperation and Development (OECD) adopted a decision (OECD Decision) on the control of transboundary movements of waste destined for recovery operations, which applies to all OECD countries. **In the same year, the European Court of Justice (ECJ) established (C-2/90) that waste, whether recyclable or not, is to be regarded as 'goods' and therefore subject to free movement in the single market, thus laying the foundation stone for the liberalisation of the waste management industry across the EU. But the ECJ also determined that it is 'matter of a special kind' with respect to the environment, meaning that environmental concerns justified import restrictions in the concrete case**. This decision moved closed cycles to the forefront, being an important steppingstone for policies that started to point for the first time in the direction of economic instruments such as taxes, subsidies, and tradable emissions. The precautionary principle was enshrined in the Maastricht Treaty in 1992 and is still today a main principle in EU environmental policy.

1993:

The EU Regulation on the supervision and control of shipments of waste within, into and out of the European Community (Waste Shipment Regulation (EEC) No 259/93) transposed for the first time into the EU legal order the commitments taken by the EU under the Basel Convention and the OECD Decision. It established procedures and controls, depending on the origin, destination and route of the shipment, the type of waste shipped and the type of treatment to be applied to the waste at its destination. In this sense, non-hazardous waste destined for recovery may freely circulate between Member States, under conditions of traceability, enabling it to undergo recycling and recovery activities EU wide, where they are the most efficient, whereas shipments of waste for disposal are subject to principles of proximity and self-sufficiency. The 5th EAP (1993-2000) confirmed the principle of sustainable development. It proposed for the first time a mix of instruments that would acknowledge the shared responsibility of actors in society, including legislative measures, market-based instruments, horizontal measures, and financial support mechanisms.

1994:

The European Waste Catalogue is published (Council Decision 94/904/EC) for the first time as a harmonised, non-exhaustive list of wastes. In the same year, the EU rules on packaging and packaging waste entered into force (PPW Directive 94/62/EC). They aim to deal with the increasing quantities of packaging waste, as a first attempt to limit their generation and improve their collection and treatment.

1996:

The Directive on integrated pollution prevention and control (IPPC Directive 96/61/EC) is adopted, which sets out common rules for permitting industrial installations and controlling their emissions of pollutants.

1999:

The Landfill Directive (1999/31/EC) was adopted to set out operational and technical requirements for landfill sites, establishing acceptance and pre-treatment requirements for waste according to its characteristics. It also aims at restricting the amount of biodegradable municipal waste going to landfills.

2000:

The Waste Incineration Directive (2000/76/EC) entered into force. It repealed former directives on the incineration of hazardous waste (Directive 94/67/EC) and household waste (Directives 89/369/EEC and 89/429/EEC) and replaced them with a single text. The aim of the Directive is to prevent or to reduce as far as possible negative effects on the environment caused by the incineration and co-incineration of waste. At the same time, the EU adopted the Directive on end-of-life vehicles (2000/53/EC). It sets clear targets for their reuse, recycling and recovery and aims to prevent and limit waste from end-of-life vehicles.

2002:

In the 6th EAP, climate change, biodiversity, and over-consumption of resources were at the heart of the programme. **In 2002, the ECJ also determined (C-6/00) that any treatment of waste must be classifiable either as disposal or recovery of waste, in order that the separate rules established for those two categories of operations can be applied. In addition, it also determined, that the essential characteristic of a waste recovery operation is that its principal objective is that the waste serve a useful purpose in replacing other materials which would have had to be used for that purpose, thereby conserving natural resources.** This concept is key for our current understanding of R1 waste-to-energy installations as recovery installations, and those that do not reach the required degree of energy efficiency as disposal installations.

2003:

The Directive on waste electrical and electronic equipment (WEEE Directive 2003/108/EC) was published. It aims to contribute to sustainable production and consumption of such waste, which contains a complex mixture of materials, including hazardous substances.

2005:

The Commission's Thematic Strategy on the prevention and recycling of waste set the EU long-term goal to become a recycling society that seeks to avoid waste and uses waste as a resource.

2006:

The Waste Shipment Regulation (Regulation 1013/2006) was adopted, revising the previous regulation from 1993 in line with the adjustments made to the Basel Convention and the OECD Decision.

The EU also adopted the Batteries Directive (2006/66/EC) which seeks to minimise the negative impact of batteries and waste batteries on the environment.

2007:

The export for recovery of 'green-listed' waste was regulated in Commission Regulation (EC) No 1418/2007.

2008:

The Waste Framework Directive was revised (Directive 2008/98/EC), establishing a binding five-step 'waste hierarchy', which determines the order of preference for managing and disposing of waste: prevention, preparing for reuse, recycling, other recovery (material or energy recovery) and disposal. It also introduced essential concepts, such as by-product and end-of-waste, to differentiate waste from non-waste, as well as the extended producer responsibility. The 2008 revision put the responsibility for waste management for the first time on the 'original waste producer', in addition to the holder, as it was in previous versions. Such producer responsibility was already embedded in the Packaging and Packaging Waste (PPWD), End of Life Vehicles (ELV), Waste Electric and Electronic Equipment (WEEE) and Batteries Directives, and puts the financial and organisational responsibility of managing post-consumer products and packaging on producers, to strengthen the reuse and the prevention, recycling and other recovery of waste. The self-sufficiency principle was extended to recovery facilities for mixed municipal waste, while the proximity principle remains for disposal operations only. **This revision also included quantitative targets for preparing for reuse and the recycling of waste in EU Member States. To fully reach the aimed European recycling society, it is however also essential that such recyclates have an outlet and demand on the market.** Mandatory recycled contents were introduced for the first time in EU legislation in 2019 (see on page 10).

2009:

The EU Ecodesign Directive (2009/125/EC) was adopted and establishes a framework under which manufacturers of energy-using products are obliged to reduce the energy consumption and other negative environmental impacts occurring throughout the product life-cycle.

2010:

The Directive on industrial emissions (IED Directive 2010/75/EU) was adopted. It repealed the IPPC Directive 2010/75/EU). It repealed the IPPC Directive and the sectoral directives (the Large Combustion Plants Directive, the Waste Incineration Directive, the Solvents Emissions Directive, and three Directives on Titanium Dioxide), covering now also some recycling activities.

2012:

The WEEE Directive is revised (Directive 2012/19/EU), addressing environmental and other issues caused by the growing number of discarded electronics in the EU.

2014:

A new Directive on Concessions and a revised Directive on Public Procurement (Directives 2014/23/EU and 2014/24/EU) aimed at harmonising public procurement procedures, recognising concessions at EU level, and making their procedures transparent and flexible. The new rules seek to ensure greater inclusion of common societal goals in the procurement process, including environmental protection, innovation and combating climate change. They set up explicit criteria for public-public cooperation and clarify the conditions for exempting inhouse services (of local public authorities that are competent for organising the collection and treatment of municipal waste) from the tendering process under competition and open market rules. This was an additional step for clarifying and strengthening the principles of open markets and fair competition in the waste management sector. In addition, the 7th EAP (2014-2020) included a call to consider legislation governing soil quality throughout the EU.

2015:

The first Circular Economy Action Plan, aimed at saving resources and reducing waste, was adopted.

2016:

The Paris Agreement set out a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C.

2018:

The EU adopted a Plastic Strategy, to define a vision for a more circular plastic economy, and to reduce plastic litter. It incorporates the objective set out in Commission Work Programme 2018 that by 2030, all plastics packaging placed on the EU market is reusable or easily recycled. A revision of the Landfill Directive limits the share of municipal waste landfilled to 10% by 2035.

2019:

The European Commission presented the European Green Deal (EGD) – a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all. It foresees a Circular Economy Action Plan 2.0, a Sustainable Product Initiative, and reviews several waste legal texts (batteries, shipments of waste, etc.). It also recognises the need to strengthen recycling markets, creating more open and competitive trade. **The Single Used Plastics Directive (SUP Directive (EU) 2019/904) set up, for the first time, mandatory recycled contents in products**, with a first target of 25% recycled plastic in PET beverage bottles by 2025 and of 30% in all plastic beverage bottles in 2030, accompanied by increasingly high collection targets to reach 90% of waste single-use plastic products in 2029.

2020:

The 8th EAP will guide European environmental policy until 2030, supporting the environment and climate action objectives of the EGD. In the same year, the Commission published a chemicals strategy for sustainability as part of the EU's zero pollution ambition. The Regulation (EU) 2020/852 on the establishment of a framework to facilitate sustainable investment (Taxonomy Regulation) was adopted and entered into force in 2020, establishing a classification system in form of a list of environmentally sustainable economic activities. Technical screening criteria for each environmental objective under the EU Taxonomy are developed through delegated acts. The first delegated act, describing activities substantially contributing to climate mitigation and adaptation was adopted in 2021, and the second one, describing activities substantially contributing to the remaining objectives is expected in 2022.

2021:

The European Commission adopted a set of proposals, known as the Fit for 55 Package, to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared with 1990 levels. The EU also introduced specific rules on the export, import and intra-EU shipment of plastic waste through Commission Delegated Regulation (EU) 2020/2174.

1.2 Past FEAD Presidents

Colin Drinkwater
from ESA (UK)

1981 – 1985

Colin Drinkwater sadly passed away on 19 May 2020 at the age of 88 (United Kingdom)

'Colin's contribution to the waste and recycling sector, over six decades, was huge. He was one of the founding members of NAWDC (National Association of Waste Disposal Contractors) in 1968 and was its Chairman from 1980 to 1982. NAWDC changed its name to the Environmental Services Association (ESA) in 1996. He was elected a Life Member of ESA in 1996 in recognition of his services to the Association.

Colin was a key player along with Keith Bury and Roger Hewitt in founding FEAD, the European Waste Association in 1981 in partnership with the German trade association BDE.'

Barry Dennis,
former Director General of ESA,
May 2020, Let's Recycle

Norbert Rethmann
from BDE (DE)

1985 – 1989

'On the initiative of BDE, FEAD's German member, together with Gustav Dieter Edelhoff as President, the Federal Managing Director Rudolf Trum and myself as Vice-President, and with the decisive support of British and French colleagues, FEAD was founded 40 years ago as an interest group with European relevance. Before this foundation, there were many discussions with Dutch, French, Spanish and Italian colleagues. Particularly notable was the cooperation with British colleagues that had grown during this time.. Particularly notable was the cooperation with English colleagues that had grown during this time. This cooperation was reflected in the election of Colin Drinkwater as FEAD's first President. Colin Drinkwater, who sadly passed away two years ago, and I always had a mutually deep and extremely good cooperation. His participation in the Presidium opened the way for FEAD's work and contributed to the fact that the interests of our sustainable and future-oriented industry were always well represented in the past. I remember very well the many constructive and also critical exchanges - from the development of the waste management industry to the recycling industry, the development away from landfills to recycling plants or the incineration of residual waste.

The landscape of our industry has changed a lot in the last 40 years. In the meantime, the important and ground-breaking decisions for our industry are no longer made locally, but centrally in Brussels and thus at European level. This was evident not least in the European Green Deal presented in 2019, which will be decisive for Europe in the coming years. Europe has set itself ambitious climate protection targets as part of the Green Deal. We want to be climate-neutral by 2050.

This will only be achievable with a well established circular economy. The primary goal should therefore be the multiple use of materials, with the recycling economy helping to save raw materials and reuse them again and again. The companies that are organised in FEAD through their associations have taken this path early on by constantly implementing innovations. It is amazing how these measures of multiple use have successfully saved CO_2. Sustainability is not just a buzzword for FEAD companies. Every day it is proven anew that private companies in particular, in the sense of the social market economy based fundamentally on competition, are committed to practising circular economy.

In this spirit, I wish FEAD continued success in the decades to come.'

Francisco Jardón
from ASEGRE (ES)

1989 – 1993

I have unforgettable memories of the time in FEAD and all the work and projects that were accomplished during that period.'

Former President of the Spanish Association ASELIP

Riccardo Rossi
from FISE - Assoambiente (IT)

1993 – 1995

'It is with regret that we report that Mr Riccardo Rossi passed away on 22 December 2021, a few days before his 83rd birthday, and we express to his wife and his son and daughter our sympathy at their loss.

Riccardo was a member of the FEAD Board, representing FISE - Assoambiente, from its establishment until 1995 and was President of FEAD from 1993 until 1995.

The family business – Cesaretti & Rossi/La Maddalena, later acquired by BFI Italy, was associated with AUSITRA (currently FISE - Assoambiente) from 1951 to 1998 and during that time he was also on the Board of Directors of FISE - Assoambiente from 1992 until 1998.

Riccardo gave a lifetime of support to both FISE - Assoambiente and to FEAD, and to his company, he also enjoyed his hobbies of travel and photography and enjoyed too, a very active social life.

His presence will be missed by his colleagues and his family to whom we express our deepest sympathy at his passing.' Keith Bury, March 2022.

Keith Bury
from ESA (UK)

1996 – 2000

'Much progress has been achieved over the 40 years since FEAD was first formed, the milestone of our 30-year anniversary set the tone on which our future activities and practices would be based and since that time some remarkable changes in practices have been achieved. From the impact of new legislation, which has significantly influenced the work of FEAD, recognising how new technology has influenced practices now adopted, and how the culture of waste management in a changing environment has influenced the way waste is now managed - as a resource- and not as a disposable product. The structure of our Industry has also significantly changed over the years to meet market demands.

In all the changes brought about over the years by legislation, technology and the management of companies engaged in our industry, FEAD has grown in both stature and presence and is recognised as the professional body of our industry both here in Europe, but also across the world. May the next 40 years continue to enhance our presence and reputation, and may our future Leaders continue to have the successes achieved over the previous years of our presence.'

Dominique Pin
from FNADE (FR)

2000 – 2004

'For forty years, FEAD has been successfully representing waste management professionals at the European level, accompanying them in the dramatic transformation of their job, assisting them with the evolution from basic sanitary waste collection towards environmental protection and resource preservation, and evidencing their essential role in circular economy and energy transition. I am deeply honoured to have presided over the destiny of the federation for four years, from 2000 to 2004.

I am pleased that FEAD, true to its assignment, continues leading the way and innovatively and efficiently acting as the voice of the waste management trade.'

Peter Kneissl
from VÖEB (AT)

2004 – 2006

'It was a great pleasure and a special honour for me to start in February 2004 as the President of FEAD. The most important interest group for the European waste management industry was entrusted to me in my role as the the President of the Austrian Waste Management Association VOEB.

I knew the primary task for this role was to build FEAD into a dynamic and successful association that would environmentally protect the waste management industry.

With great support from active FEAD members, in particular the BDE office in Brussels, there was a promising outlook to achieve this goal.

Efforts were made to strengthen the Secretariat's organisation to allow for an adequate representation of our members from 16 European countries with more than 300,000 employees and over 50 billion euros in sales, so that FEAD could play its role in the creation of optimal environmental policy guidelines for the waste management sector.

From the Austrian point of view, it was very important that the enlargement of Europe did not result in a two-speed Europe as many companies in our industry took entrepreneurial risks to adapt to these new changes. During this period, FEAD contributed with key arguments in the EU legislative work, such as the introduction of producer responsibility, the packaging directive, the waste shipment regulation, the EU Waste Framework Directive, Landfill Directive, and the first discussions on "circular economy", etc.

Today we see clear trends and improvements in professional skills, quality criteria, clear information, and greater international cooperation rooted from that period.

On its 40th birthday, I wish FEAD to keep up their contribution towards the improvement in the quality of life for European citizens even in the difficult times ahead. I am confident that it will continue to do so. I would like to wish all FEAD employees a heartfelt GLÜCK AUF.'

Michael Averill
from ESA (UK)

2006 – 2008

'History has proven and continues to prove in many areas of the world, that whilst waste can be treated indiscriminately that is usually what happens. It follows therefore that our industry is shaped by legislation and relies upon it for its future. To have had the opportunity as FEAD president to influence future legislation for the good of our members was, for me, a privilege and a pleasure. To this day I value the experience gained and the friendships made during this period.'

Pierre Rellet
from FNADE (FR)

2008 – 2009

'To find common positions between the different actors of our sector and to succeed in synthesising the interests of each of the national federations represented by FEAD in front of the European institutions requires a sense of consensus associated with a strong defence of the economic interests of our industry. This commitment was shared by the FEAD presidents that I had the opportunity to meet.

It has been a grand honour and enriching professional experience to preside over FEAD for 2 years, which gave me the opportunity to extend the FEAD network to new members and to defend the great principles emerging from the circular economy, the end-of-waste status and many other fascinating subjects.

Long live FEAD and its members!'

Carlo Noto La Diega
from FISE - Assoambiente (IT)

2009 – 2011

'I remember with great pleasure the years I served as FEAD's president. Years during which important issues in the waste field were addressed at European level and during which I tried to give a voice to the real protagonists of the sector, the companies.

For this reason, I have always encouraged constant dialogue amongst Member States, companies and the European Commission, so that we could work together on uniform and stringent procedures to fight illegality, which has always damaged our image.

I have also tried to transfer my national management experiences to the international level, which over the years have made me understand the importance and value of public-private partnerships.

I firmly believe that FEAD is an important meeting point for the interests of companies and that the work done is an added value for the entire community.'

Peter Kurth
from BDE (DE)

2011 – 2014

'During this period FEAD had excellent discussions about the Waste Framework Directive and its implementation in Member States. At the same time, Green Public Procurement was another big topic in Brussels and a common success for FEAD.

From Carlo Notto la Diega's farewell party over the rooftops of Rome to handing over to David Palmer Jones – my three years of collegial and constructive work for a better waste management and circular economy was on-going.'

David Palmer-Jones
from ESA (UK)

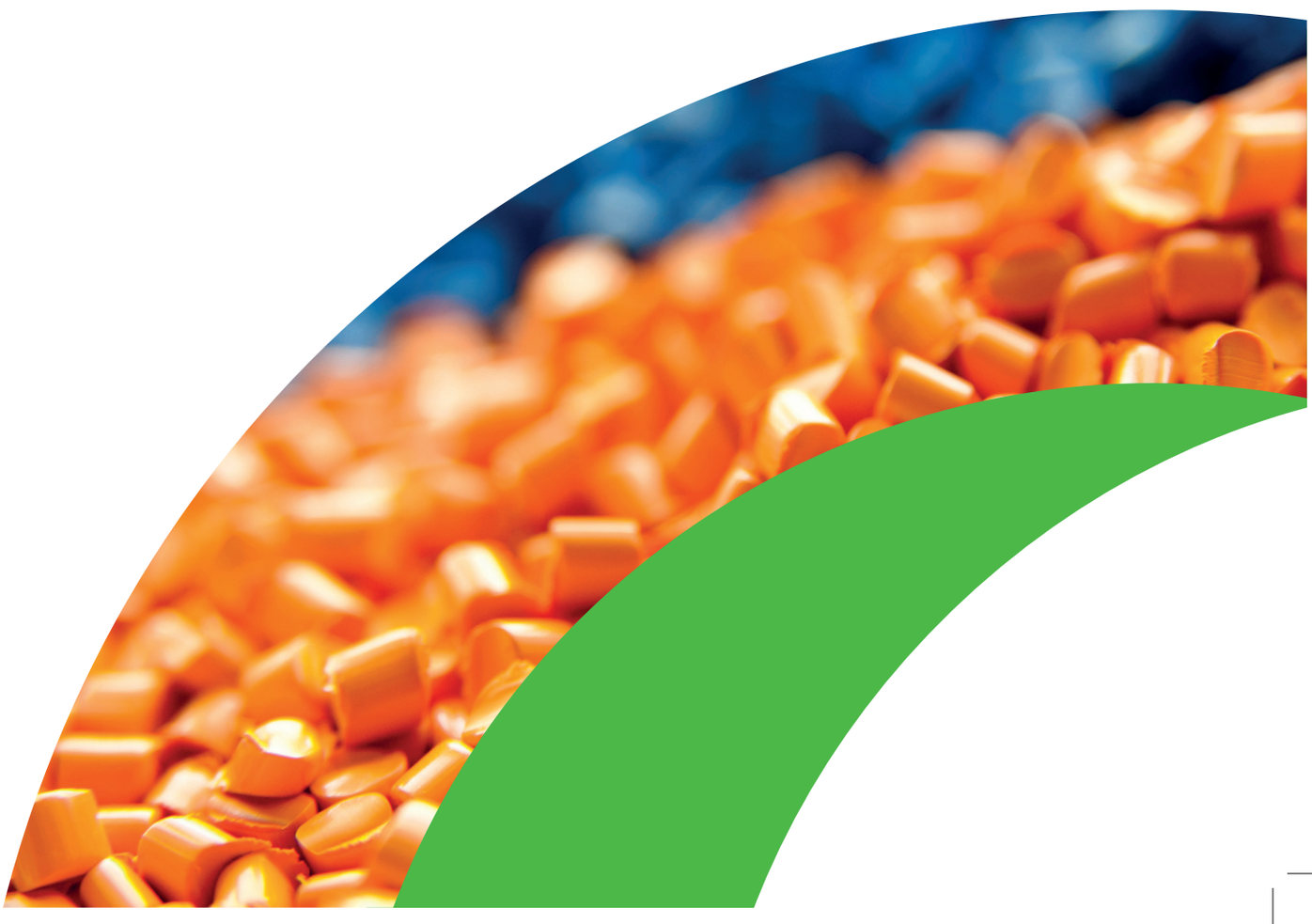
2014 – 2016

'FEAD has always been and will always be the collective voice of our industry across Europe. Our role in helping policy-makers shape better legislation to move to a circular economy continues to be vital in achieving the goal of a more resource-efficient and sustainable Europe.'

Jean-Marc Boursier
from FNADE (FR)

2017 – 2020

'It has been a great honour and pleasure for me to have been President of FEAD for almost 3 years. At a time when European issues are becoming increasingly important, regulations play a major role that can either favour or hinder the development of our companies, and the export of secondary raw materials outside the EU is becoming more difficult, it is very important that our European associations continue to work together in order to create the conditions for the emergence of new recycling and waste recovery businesses in Europe. I have worked enthusiastically on this during my term of office. These professions are formidable and there is no doubt that, in the coming years, FEAD will be able to further strengthen its visibility and its role as a privileged interlocutor of the public authorities. Long live FEAD for at least the next 40 years.'



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2. FEAD and the European Green Deal

2.1 From circular economy to the fight against climate change

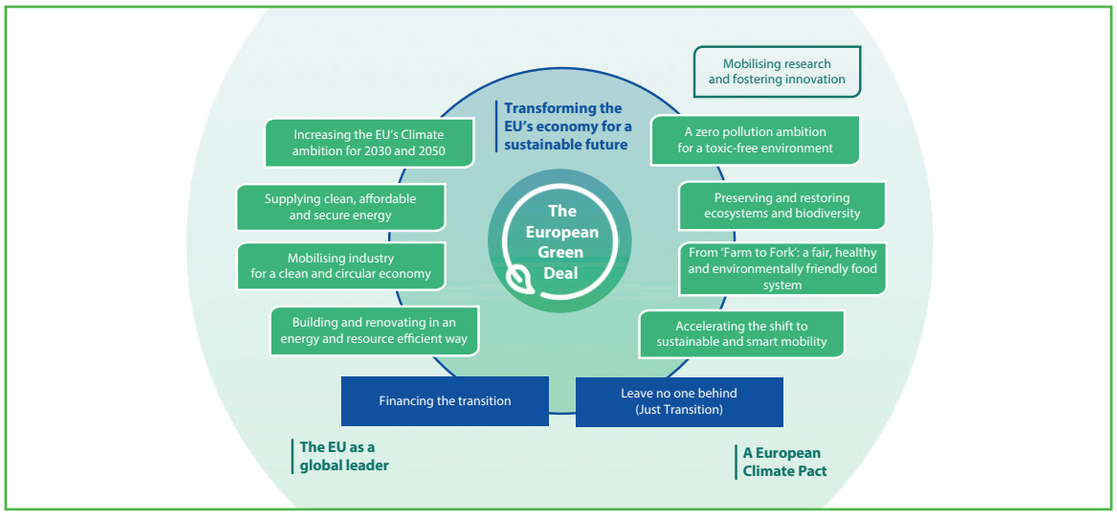
On 11 December 2019, the European Green Deal (EGD) was launched. It constitutes the European Commission's most ambitious commitment ever, considering the unprecedented climate and environmental challenges of our times.

'It is a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are **no net emissions of greenhouse gases in 2050** and where economic growth is decoupled from resource use. It also aims to protect, conserve, and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts. At the same time, this transition must be just and inclusive. It must put people first, and pay attention to the regions, industries and workers who will face the greatest challenges. Since it will bring substantial change, active public participation and confidence in the transition is paramount if policies are to work and be accepted. A new pact is needed to bring together citizens in all their diversity, with national, regional, local authorities, civil society and industry working closely with the EU's institutions and consultative bodies.'

[Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee, and the Committee of the Regions - The European Green Deal, Brussels, 11.12.2019]

The European Green Deal provides an action plan to boost the efficient use of resources by moving to a clean, circular economy, to restore biodiversity, and cut pollution. It explains how to ensure a just and inclusive transition, how the EU aims to be climate-neutral in 2050, and a goal that will be achieved through the legally binding European Climate Law. Reaching the targets of the EGD requires action by all sectors of our economy.

The first key deliverables of the EGD for the waste management sector are already on the EU negotiators' table. They aim at **strengthening recycling markets**, with a strong demand for recyclates, with effective waste shipment rules that ensure safety and traceability, **steering finance** on sustainable investments, and tackling **CO_2 emissions** from the waste management sector.



Source:
European Commission. Communication COM(2019) 640 final on The European Green Deal.

FEAD members celebrating the European Parliament's announcement about mandatory recycled content for plastic bottles.

Mandatory recycled content

Regulatory tools such as mandatory recycled content are beneficial for some priority products and flows, like packaging, automotive, construction products, paper, electrical and electronic equipment (EEE), and textiles. They are essential for the creation of a stable and competitive market for recycled materials, while they ensure the strategic availability of critical raw materials in Europe. It is the very much needed tool to intensify the use of recyclates. Investments in recycling facilities will only happen if companies have real certainty about the uptake of recyclates, which will remain weak if left to market forces only.

That is what the experience of introducing mandatory recycling content in the Single-Use Plastics (SUP) Directive showed. The SUP Directive requires 30% mandatory recycled content in all beverage bottles by 2030, with an intermediary target of 25% in 2025 for PET bottles. This percentage will be calculated as an average for each Member State. This is an essential component to ensure the success of the 90% collection target to be achieved by 2029, as well as a huge step towards stimulating the demand for secondary raw materials, and for driving the necessary investments in collection, sorting, and recycling.

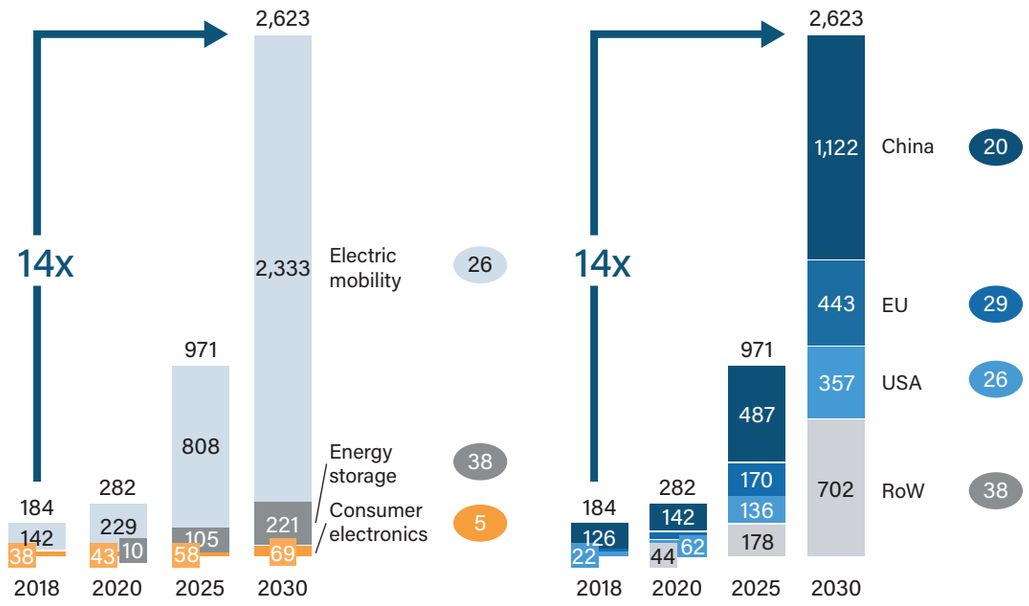
The EU aims to achieve the same success with the future Regulation on batteries and waste batteries. The demand for lithium-ion batteries will significantly increase over the next few years (see data from EU Commission in the graph on the next page), which will be reflected in the rising production rates of new batteries.

The growing demand for pure virgin raw materials is leading the economy into risky resource situations with depleted supplies globally. By fostering battery recycling, with mandatory recycled content, with increased and improved separate collection of waste batteries, the EU aims at ensuring a strategic stability and independence for battery producers in supply chains. Thereby reducing Europe's dependency on third countries for raw materials, diversifying supply from both primary and secondary sources, and improving resource efficiency and the circular economy.[1]

Setting mandatory recycled content targets for batteries will also generate environmental benefits. Adopting this measure could save a cumulated total of about 2.3 million tonnes of CO_{2eq} by 2035, compared to the baseline situation, with similar results for resource depletion and human toxicity.[2]

[1] European Commission. Commission announces actions to make Europe's raw materials supply more secure and sustainable https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1542 (last access on 24.11.2021).
[2] European Commission. Impact Assessment Report - Proposal for a Regulation of the European Parliament and of the Council concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) 2019/1020.

Compared to today, global battery demand is expected to grow by a favor of ~14 to reach ~2,600 in 2030



Source:
European Commission. Impact Assessment Report – Proposal for a Regulation of the European Parliament and of the Council concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) 2019/1020.

Ecodesign

All products need to be designed, manufactured, and used in a way that ensures the sustainable use of natural resources and reinforces the recycling and/or reuse of parts or materials, while taking into consideration the need to enhance their sustainability performance. Ecodesign should strive for true dismantlability and recyclability of products through targets and use of mandatory standards for products, reducing or phasing out harmful chemical substances and preventing waste. Which will turn into the saving of greenhouse gas emissions. A study published by CLASP Europe shows a potential CO_{2eq} emissions reduction by type of improvement and product category. The development of an improved recyclability would represent interesting options to reduce the total CO_2 emissions associated to the life-cycle of especially consumer electronics and related products. The highest potential for savings is found in this impact category.

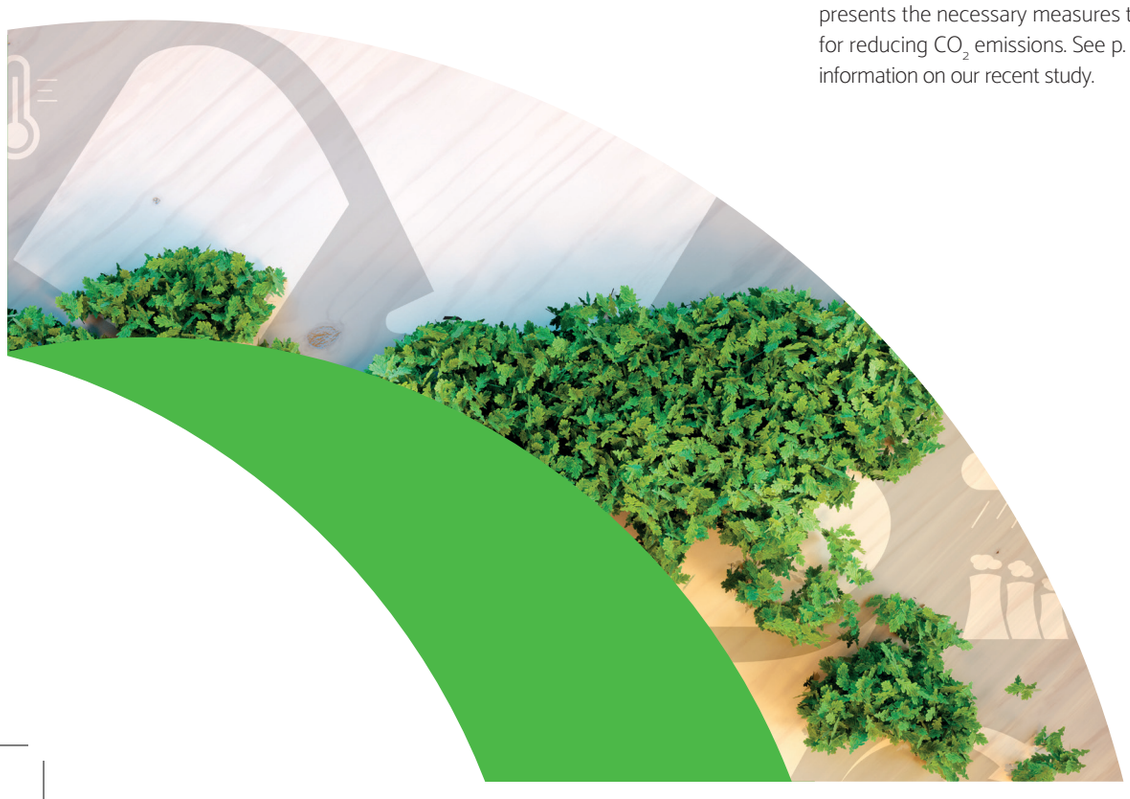
Impacts for 2020 sales	Estimated impact of improved recyclability	Estimated impact of extended service life	Estimated impacts of Low Adoption Rate scenario for service economy	Estimated impacts of High Adoption Rate scenario for service economy	Estimated impacts of High Adoption Rate scenario with average efficiency for service economy	Estimated impact Ecodesign and energy labelling
Products	*(kt CO_2-eq.)*	*(kt CO_2-eq.)*	*(kt CO_2-eq.)*	*(kt CO_2-eq.)*	*(kt CO_2-eq.)*	*(kt CO_2-eq.)*
White Goods and related products	71	1,762	3,138	17,014	3,023	39,600
Consumer electronics and related products	12,632	57,991	2,787	16,027	14,115	60,000
Lighting	-0.41	1,238	6,399	12,365	n.a.	38,822
Motors and Motor Systems	208	1,028	4,991	24,964	1	91,200
Heating and Cooling products	189	1,340	1,148	6,069	716	78,100

Source:
CLASP Europe. Potential Greenhouse Gas Emissions Reduction from applying Circular Economy Principles to Ecodesign Products. October 2016.

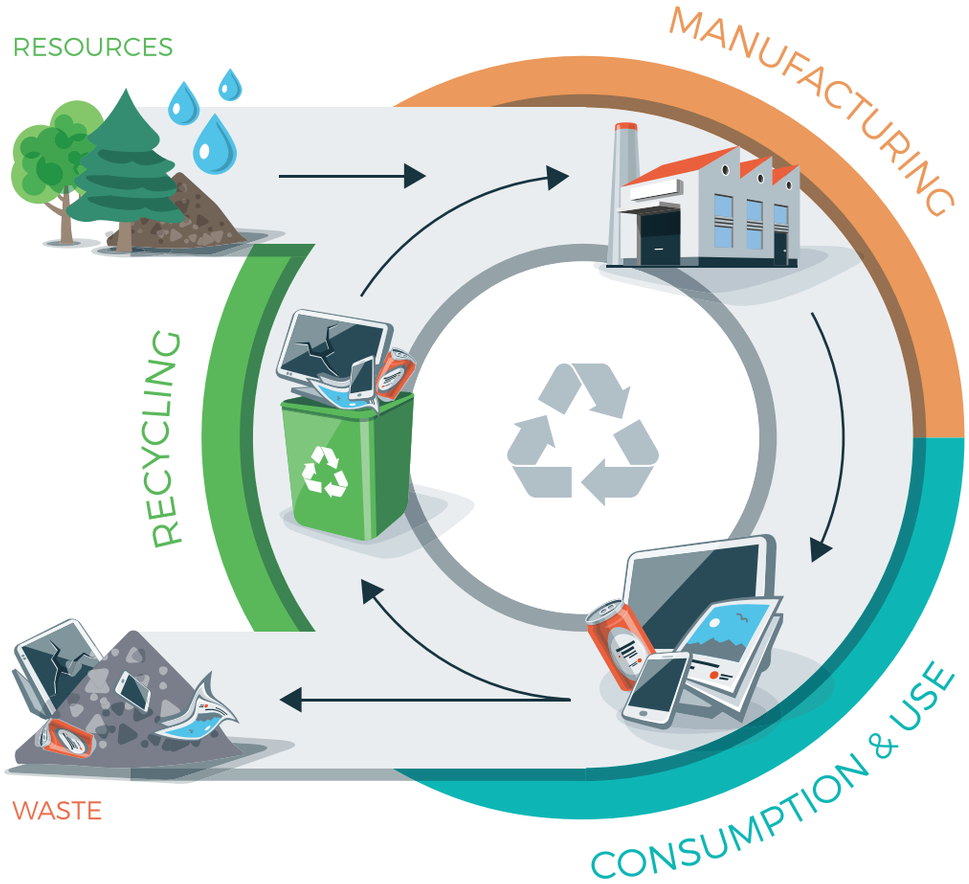
The EU Sustainable Products Initiative (SPI) will result in revising the Ecodesign Directive to make products placed on the EU market more sustainable, introducing a digital product passport that will include all relevant information. It is essential that the waste management sector is recognised as a key actor in the product life-cycle in collaboration with the producers. A robust ecodesign policy is another key tool for the prevention and recyclability of waste. For more detailed information on the SPI see p. 29.

CO_2 emissions from the waste management sector

The CO_2 emissions from the waste management sector are currently covered by national measures, under the EU Effort Sharing Regulation with ambitious revised caps now proposed at minus 40% (instead of 30%, compared with 2005 emissions). Our sector considers that the EU's Emission Trading Scheme would not be the right tool for reducing emissions in the entire waste management chain, in the absence of an impact assessment showing its appropriateness and benefits. FEAD's study on reducing CO_2 emissions in the waste management industry explains why avoided emissions in its sector, the manufacturing and energy sector should be taken into consideration and presents the necessary measures to achieve the potential for reducing CO_2 emissions. See p. 30 for more detailed information on our recent study.



CIRCULAR ECONOMY



LINEAR ECONOMY

2.2 Waste Shipment Regulation

The waste management industry forms an important part of our economy. It has steadily grown in importance, alongside the development of environmental policies in the EU, and will continue to do so as we move towards future driven, fully circular business models. Achieving a circular and more resource efficient economy requires major changes in our production and consumption models and is based on logistical chains across the EU and from around the world. Facilitating the safety of waste shipments through consistent and effective rules, enables the re-looping of valuable secondary raw materials back into the value chain and incentivises circular economy models.

42 million tonnes of secondary raw materials was exported intra-EU27 in 2020, representing 20 billion euros in trade.[3] As facilities are becoming more specialised, and no Member State has on its territory facilities for all waste streams and treatments, waste shipments within the EU are indispensable. 91% of all waste exports destined for recovery in 2019 were performed within the borders of the EU27.[4] Nevertheless, achieving circularity inextricably relies upon exports beyond the EU borders where a large fraction of global manufacturing is located. In 2020, 27 million tonnes of raw materials was exported outside the EU27, representing 10 billion euros in trade. It is therefore essential that operators are allowed to safely export waste beyond EU borders to be integrated as secondary raw materials from recycling in the manufacturing process, and thus avoiding the use of virgin raw materials.

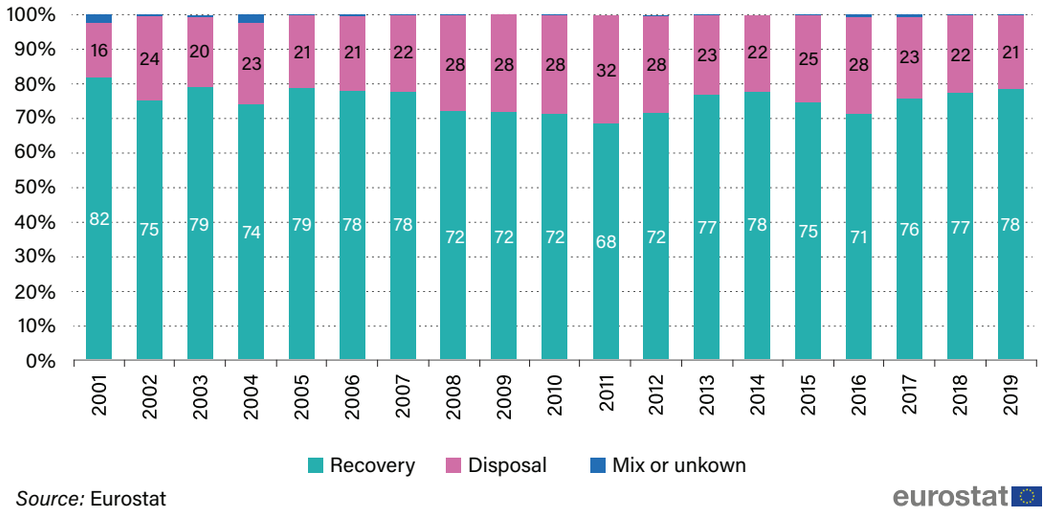
To supervise and control the export, import and intra-EU shipment of waste, the EU revised in 2006 the Waste Shipment Regulation[5] (WSR), which aims at protecting the environment and reducing risk to human health. More specific rules on plastic waste were introduced in 2021.[6]

The WSR includes a ban on the export of hazardous wastes to non-OECD countries, as well as a ban on the export of waste for disposal outside the EU/EFTA area. In case of cross border shipments to OECD countries, a procedure of prior written notification and consent (notification procedure) is stipulated for all hazardous waste. These rules ensure hazardous waste is treated in facilities under full environment and health and safety regulations. To speed up the procedure, Member States can designate 'pre-consented recovery facilities' for which more lenient procedures apply.

Shipments of 'green-listed' non-hazardous wastes within the EU and OECD do not usually require the prior consent of the authorities, but information requirements apply. In case of non-OECD countries, Commission Regulation (EC) No 1418/2007 regulates the export for recovery of such 'green-listed' waste.

[3] Eurostat. Trade in in recyclable raw materials by waste. https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do (last access on 09.03.2022).
[4] Eurostat. Transboundary shipments of notified waste by partner, hazardousness and waste management operations. https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_wasship&lang=en (last access on 09.03.2022).
[5] Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste.
[6] Commission Delegated Regulation (EU) 2020/2174 of 19 October 2020 amending Annexes IC, III, IIIA, IV, V, VII and VIII to Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste.

Treatment of hazardous waste shipments from EU Member States, 2001-2019
(%)



Source: Eurostat

eurostat

On 17 November 2021, the Commission adopted a proposal for a new Regulation on waste shipments. This revision should bring clarity, simplification and effectiveness to the waste shipment rules. It is essential to continue the distinction between hazardous and non-hazardous waste to guarantee the highest level of protection in health and safety and for the environment. Furthermore, improving the procedures for 'pre-consented facilities' will accelerate the shipments of waste intended for recycling and recovery purposes. As shown in the Eurostat chart, most hazardous waste shipped from EU Member States is destined for recovery (e.g. 78% in 2019).[7]

To tackle increasing amounts of waste prepared for recycling, while at the same time achieve the EU circular economy objectives, FEAD considers it crucial that any restrictions in the exports of waste are preceded and accompanied by measures that encourage the recovery and recycling markets. In such cases, mandatory recycled contents provide the necessary long-term stability in the demand for recycled materials in manufacturing processes in the EU.

[7] Eurostat. Waste shipment statistics. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_shipment_statistics#Shipments_of_waste (last access on 28.04.2022).

2.3 Sustainable investment and taxonomy

To trigger a genuine shift of capital flows towards more sustainable economic activities, there needs to be a shared understanding of what 'sustainable' means. The EU took the lead internationally in this field. On 12 July 2020, the Taxonomy Regulation[8] entered into force, providing an overarching classification for environmentally sustainable activities to determine which investments (independently of the financing tool, such as loans, stocks, bonds, 'green' funds) are environmentally sustainable, making it easier for market participants to finance these activities and limit the risk of 'greenwashing'. Through delegated acts, the Commission is establishing the technical screening criteria that determine if, and to what extent, an economic activity is environmentally sustainable.[9]

The classification introduced by the EU taxonomy is essential for the waste management sector and represents a decisive mechanism for circularity. FEAD deems it crucial that waste-to-energy from residual, non-hazardous waste is included under defined conditions amongst the environmentally sustainable activities as it is integral to circular economy and thus contributes to the achievement of the EU taxonomy objectives.

The final text of the Taxonomy Regulation provides that an activity qualifies as contributing substantially to the transition to a circular economy, including waste prevention, reuse and recycling, where that activity 'minimises the incineration of waste and avoids the disposal of waste' (art. 13.1(j)). The text also describes activities considered as 'significantly harming' the circular economy (art. 17.1 (d)). In particular, activities that significantly harm the circular economy are described as those leading to a 'significant increase in the generation, incineration or disposal of waste, with the exception of non-recyclable hazardous waste' or activities whose long-term disposal may cause significant and long-term harm to the environment. The interpretation of this provision is key for the classification of waste-to-energy activities in the taxonomy.

[8] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088

[9] Two delegated acts are currently on the table, one of them already fully adopted. The first delegated act describing activities substantially contributing to climate mitigation and adaptation (adopted 4 June 2021 and applicable from 2022, although a phased entry into force is foreseen until 2026), and the second delegated act describing activities substantially contributing to the remaining objectives (including the transition to a circular economy) (expected to be proposed in 2022).

The term waste incineration is not defined in the Taxonomy Regulation and no distinction is made between waste incineration for recovery and waste incineration for disposal. However, from a legal perspective, a clear distinction should be made between incineration and waste-to-energy activities.[10] The first one is a disposal activity and the latter a waste recovery activity (R1), falling as such under different sections of the waste hierarchy.

Waste-to-energy from waste that cannot be reused or recycled contributes to a circular economy. Furthermore, waste-to-energy also contributes to the environmental objectives of the Taxonomy Regulation 'climate protection' and 'pollution prevention and control' as it avoids the combustion of fossil fuels to produce heat and energy.

FEAD proposed the following conditions (to be cumulatively and rigorously met) for the inclusion of waste-to-energy activities from residual, non-hazardous amongst the environmentally sustainable activities in the 2nd Delegated Act to the Taxonomy Regulation:

- there is a waste management plan in the given country;
- only residual waste, resulting from selective collection or sorting, is subject to energy recovery under application of the R1 formula;
- the CCS/CCU feasibility is examined.

[10] Legal analysis from 11 September 2020 by PricewaterhouseCoopers Legal on 'the suitability of waste incineration for energy recovery ("waste to energy") under Regulation 2020/852 of the European Parliament and of the Council establishing a framework for sustainable investment'. Available online at https://fead.be/wp-content/uploads/2020/10/FEAD_20200911_Legal_Analysis_Regulation_2020-852_WtETaxonomy_final_EN.pdf (last access on 04.05.2022).

3

3. How will FEAD respond to the challenges of the future?

3.1 What comes next after the EU Green Deal?

Regulatory action under the European Green Deal (EGD) will continue to intensify during the present term. In particular for waste, the continued revision of the Packaging and Packaging Waste Directive under the new Circular Economy Action Plan will remain an important issue. FEAD believes the most important actions will be to strengthen recycling markets and a push for regulatory reforms on pollution control or complete phasing-out.

Green Public Procurement

When creating a market for recycling, legislation should not only rely on industrial and household actors, but also oblige public authorities to fully engage.

European public authorities spend 13.6% of the EU's Gross Domestic Product (GDP) on works, goods, and services.[11] By tapping into their purchasing power to choose environmentally friendly goods, services, and works, they can become a key driver for sustainable consumption and production – this is known as Green Public Procurement (GPP) or green purchasing.

Mandatory GPP rules are strong tools to boost market demand for secondary raw materials. Public authorities at all levels will have to provide incentives for promoting the use of recycled materials via GPP. This can be done through a mandatory sectorial approach as already laid down in Directive 2009/33/EC. GPP should become the default choice with a 'comply or explain' clause, allowing for exemptions only on objective and justified grounds.

Zero Pollution Strategy: chemicals and emissions

Chemicals are an important part of our everyday lives. For this reason, it is important to minimise any potential harmful impact from exposure. Proper and sound management/disposal of waste containing chemicals is mandatory and is needed to protect citizens and the environment.

Under the EGD, the European Commission is developing a Zero-Pollution Strategy and has already adopted the EU Chemicals Strategy for Sustainability towards a toxic-free environment (14 October 2020). To further protect the environment and human health, the European Commission will also revise legislative instruments such as REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals), RoHS (Restriction of the use of hazardous substances in electronics) and POPs (Persistent Organic Pollutants).

In parallel, the forthcoming revision of the Industrial Emissions Directive (IED) is the main EU instrument regulating pollutant emissions from industrial installations. The IED aims to achieve a high level of protection of human health and the environment by reducing harmful industrial emissions across the EU.[12]

[11] santé-achat.info. Le poids de la commande publique dans l'union. January 2022. https://sante-achat.info/sourcing/le-poids-de-la-commande-publique-dans-lunion/ (last access on 08.03.2022).
[12] European Commission. Industrial Emissions Directive. https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm. (Access on 08.03.2022).

Waste Framework Directive

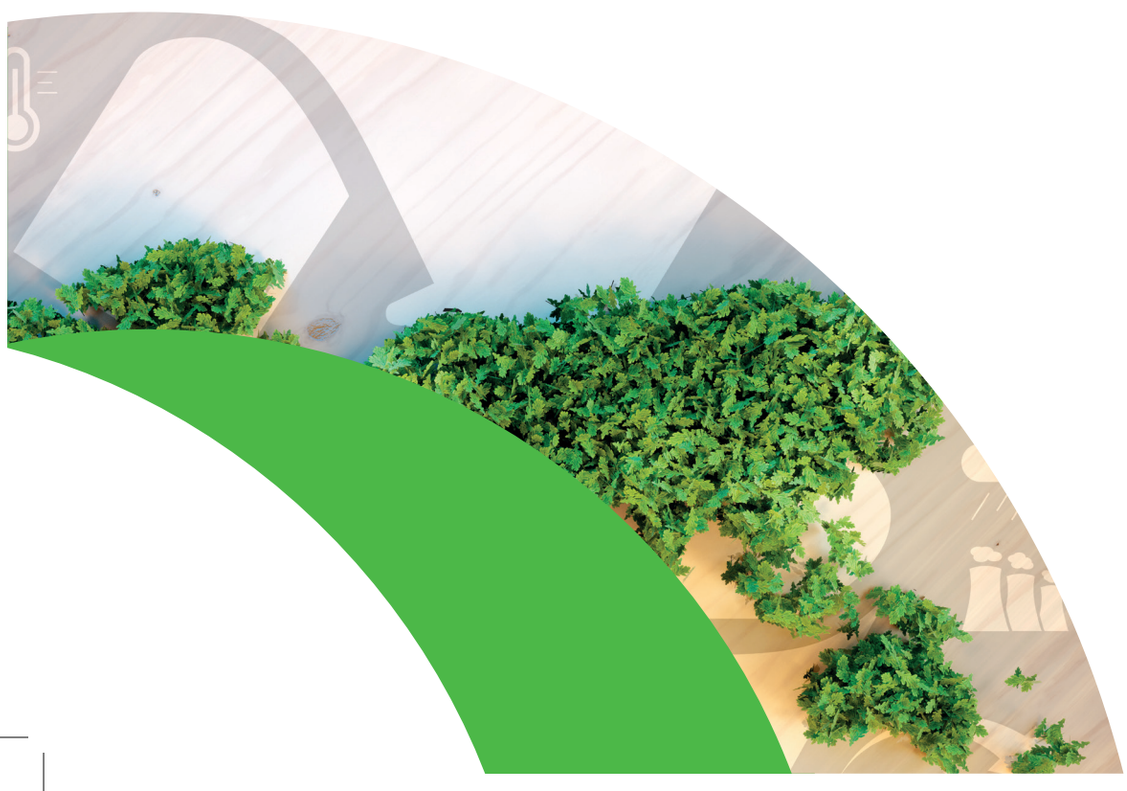
While we would welcome recycling targets for industrial and municipal waste as the main novelty for the revision of the directive and as mentioned in the Circular Economy Action Plan, a few other directions are under review. Improving separate collection is undoubtedly needed in several Member States, but FEAD warns this should not mean 'harmonisation' because separate collection schemes very much depend on the local situation. To halve the total amount of residual (non-recycled) municipal waste generated by 2030, promote safer and cleaner waste streams, and ensure high-quality recycling, ecodesign and recycling are the stronger and surer way to reach results.

FEAD reiterates its unwavering commitment to the EGD and its aim to enhance the circular economy in Europe and reduce global greenhouse gas emissions. We believe that under a 'green economy', businesses need robust and predictable rules. They also need a strong implementation policy – currently missing in several areas including for the current regulatory framework – and public support to develop selective collection and sorting.

Sustainable Products Initiative

The increasing complexity of products placed on the EU market hinders (high-quality) recycling. Product design dictates up to 80% of its life-cycle environmental impact (COM (2022) 140 final). Therefore, the European Commission proposed in March 2022 a completely new and holistic approach to sustainability by introducing mandatory ecodesign in its 'Sustainable Products Initiative'.

This initiative will ensure that environmentally sustainable criteria will be integrated into the whole value chain of a product and will promote closed circular life cycles. Strong ecodesign requirements should limit the placement of hard-to-recycle products and materials onto the EU market, and as much as possible determine levels of mandatory recycled content. Finally, improved and consistent information flows through labels and a digital product passport are an essential tool for transparency and traceability, but will also improve product durability, reusability, reparability, recyclability, and end-of-life management, whilst empowering consumers in the green transition.



3.2 CO_2 study

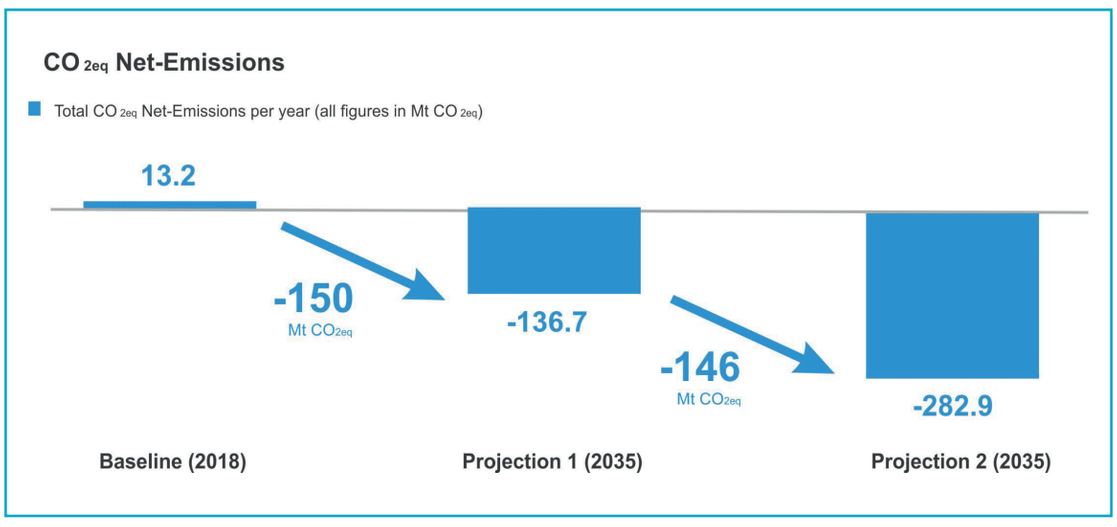
The waste management sector is the vanguard of circular economy and climate change in Europe. With huge support and engagement from national authorities our sector can reach the recycling and landfill targets assigned to Member States, placing our companies well ahead in reaching the Paris climate goals.

In 2035, our sector is projected to have a remarkable potential of saving of up to 296 million tonnes CO_{2eq}/ year. This is the equivalent to half of the emissions for a country like Spain in 2020. This analysis forms part of a study that was commissioned by FEAD and three other waste management associations representing the entire waste management chain from collection to recycling, recovery and disposal. The study was conducted by the consultancy firm Prognos and shows that there is a clear connection between the reduction of CO_2 emissions and increased recycling, keeping in line with EU and UK environment policies.

The study uses figures from 2018 as a baseline and examines two projections to evaluate the potential of CO_2 in 2035 in the EU. For the following 10 waste streams: paper, glass, plastics, ferrous metals, aluminium, wood, textiles, waste tyres, biowaste, and residual waste/WDF (non-separately collected waste and rejects from waste treatment/waste-derived fuels), the results showed that our sector is already nearly carbon-neutral.

In 2018, the waste industry delivered only 13 million tonnes CO_{2eq} net emissions per year. This includes CO_2 savings from the manufacturing sector using materials and energy derived from waste. By successfully applying current municipal waste legislation, and the same recycling and landfill targets to industrial and commercial waste (Projection 1) by 2035 across the EU27+UK, the CO_2 emission avoidance potential is significantly improved to minus 137 million tonnes CO_{2eq}, delivering a saving of 150 million tonnes CO_{2eq}. The savings potential would almost double in the more ambitious projection 2. The current baseline CO_2 net emission burden of 13 million tonnes CO_{2eq} in the 20-year perspective could drop to minus 283 million tonnes CO_{2eq} net emission avoidance which results in yearly savings of 296 million tonnes CO_{2eq} as shown below.
In both projections, using the 20-year perspective, the key to achieving maximum CO_2 avoidance is to make full use of recycling and waste-to-energy capacities throughout EU27 and the UK.

What would be the conditions for success? Discernibly, the first condition is to fully implement the existing EU waste management targets. The second condition is to facilitate recycling activities, with ambitious rules on ecodesign - a key step for recyclability - including mandatory recycled contents in products. The third condition is to ensure strong public support and investments in separate collection and sorting.



Source:
prognos; CE Delft. Study: CO2 reduction potential in European waste management. December 2021.

3.3 Innovation in waste management

In recent years, the waste management industry has taken on important roles in both social and industrial levels. It represents not only an essential public service, covering the whole urban waste chain, but also a driving force for the development of a circular economy model with the recovery and production of raw materials from waste for industry, and a key sector to preserve resources for future generations. Integrated waste management is therefore consolidating itself as a constant source of supply of (secondary) materials and energy production.

The EU regulatory framework that has accompanied waste management and guided private investments since 1975 - with Directive 75/442/EEC - to the present day is at the root of the technological innovation that increasingly characterises this sector. From labour-intensive management methods that mainly focused on collection and disposal, today we are witnessing the development of technology-intensive treatment systems, capable of reducing environmental impact and enabling the recovery of materials and energy from waste to be as efficient as possible.

Innovation means changing and giving value to things. Innovation can bring real and concrete changes in the lives of people, businesses, and society. Clearly, having an idea is not enough to be innovative or to change what exists. True innovation requires an understanding of complex processes, technologies, economic dynamics, and behavioural attitudes. Companies managing environmental services are responding to increasingly demanding regulations by developing paths of organisational and technological innovation leading to modern waste management cycles that meet advanced requirements.

There are several examples that can be cited today to highlight innovation in the development of new management technologies from collection to composting.

Collection: technology significantly helps to improve the efficiency of waste collection, empowering citizens, collecting data, and facilitating waste traceability. In this sense, there are more and more examples at local level of how to connect bins and interact directly with users, thanks to operations that help improve logistics, waste sorting, and even citizen behaviour. A perfect example is the 'pay-as-you-throw' (PAYT) scheme, one of the cutting-edge solutions that are revolutionising waste management operations. With this system, waste fees paid by users are modulated according to the amount of mixed waste delivered to the waste management system. The aim of PAYT is to enact the polluter pays principle in a fair way and to stimulate source separation by households. PAYT schemes can lead to outstanding results in waste management performance, increasing the amount of waste that is separately collected. A recent briefing published by the European Environment Agency (EEA) highlighted that 'pay-as-you-throw' (PAYT) schemes are effective instruments that drive recycling up.[13]

Claudia Mensi,
FEAD Vice-President

[13] European Environmental Agency. Municipal waste management across European countries. https://www.eea.europa.eu/publications/municipal-waste-management-across-european-countries/copy_of_municipal-waste-management-across-european-countries (last access on 28.04.2022).

Sorting out: innovation is not always about creating something new out of nothing, but about starting from something existing and adapting it to new situations. This has happened in waste management with **optical sorting** (see graphic below). Starting from a technology born from the industrial sorting of agricultural products, today the equipment using Optical Sorting technology is capable of identifying and classifying different types of waste, both domestic and industrial. Optical sorting technology is now applicable for sorting plastic, food waste, metals, fibres, construction and demolition waste, or even electronics. Effective sorting drives up quality, reduces contamination, and pushes the economy of recycling and recovery forward.

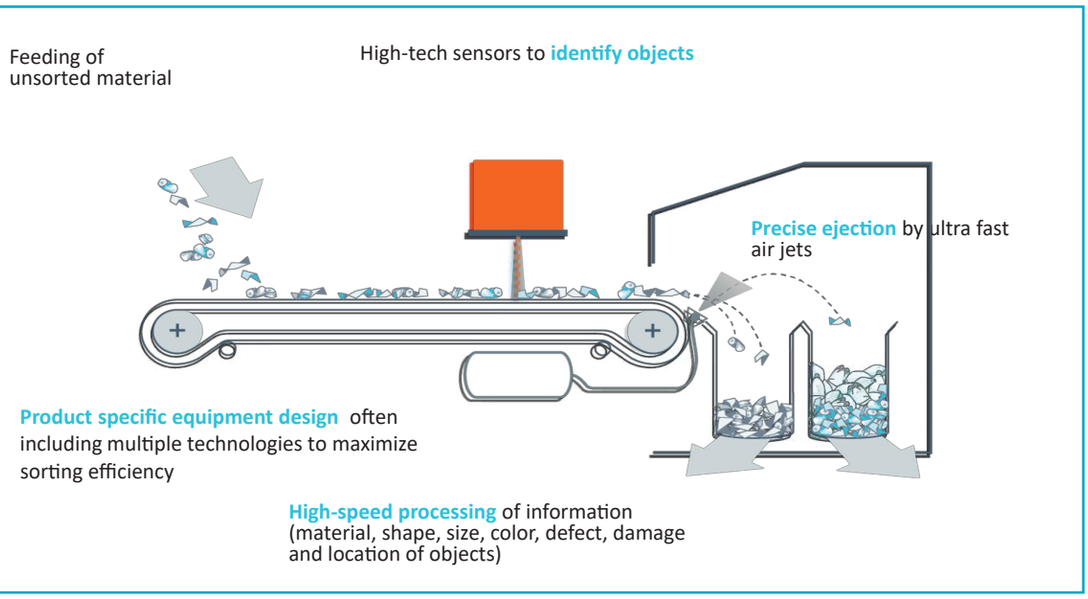
The operating principle of an optical sorter is quite simple: materials on a conveyor belt travel at high speed under a powerful light source. Part of the light's wavelength is absorbed by the materials while the rest is reflected and captured by lenses. These lenses transmit the signal to a spectrometer and/or camera, which associated each reading with a specific curve since each material has its own features or 'signature'. This is what allows the optical sorter to detect different types of material.

Innovation also makes some steps of a process more affordable. Testing and characterisation technology provides companies with fast and reliable data allowing for an easy value assessment and quality control based on the composition of the complete material stream without the need for time-consuming and costly (deconstructive) analysis.

Material recovery: innovation also means value creation. This is what happens in most waste treatment and recovery processes. Material recovery was unthinkable until a few years ago: research is pushing new technologies capable of recovering, with new and experimental processes, some types of plastic that were always destined for landfill.
An innovative and high-tech way that is channelling the efforts of researchers and companies is chemical recovery, mainly applicable for plastic, but not only. Although not yet developed on a large scale and not very energy-efficient, chemical recovery makes it possible to decompose a polymer into the original monomers. Moreover, the chemical decomposition processes also enable isolation of components extraneous to the polymer: impurities are removed and a virgin plastic is obtained which is indistinguishable from new.

In recent years the focus has shifted to the fraction that has always been considered a production residual, such as incineration slag, from which the metal fraction can now be recovered while the remaining materials can be treated for further use in road construction, which substitutes virgin raw materials.

Composting: another example can be given with biowaste. Its transformation into materials and molecules makes it possible to substitute them for carbon-based fossil fuels such as oil and natural gas, thereby contributing to the protection of resources, the development of renewable energies and the incorporation of biofuels in order to limit the impact on the



Source:
Harvard Business School. Digital initiative. TOMRA – Potatoes to the Right, Rocks to the Left.
https://digital.hbs.edu/platform-digit/submission/tomra-potatoes-to-the-right-rocks-to-the-left/ (last access on 28.04.2022).

climate. Furthermore, the conversion into compost and other soil amendment products fights against soil depletion and erosion, and against climate change.

Lastly, production of organic and alternative fertilisers from organic matter limits the use of petrochemical and mineral fertilisers, a key challenge identified in the recent European regulation on fertilisers..

In this context, companies are involved in improving existing treatment solutions and technologies, and exploring new ways of recovering organic waste to produce bioenergies, biofuels, biomaterials, alternative fertilisers and molecules for green chemistry. Providing new innovative solutions to produce new resources on a territorial scale will help to preserve the environment and accelerate the transition to a virtuous circular economy.

In this direction, another example can be the recent investment made by some **WEEE** treatment companies, which, going beyond the requirements of the sector's legislation, have focused on technologies able to guarantee an increasingly advanced and refined selection of plastics from WEEE.

Plastics from Waste Electrical and Electronic Equipment (WEEE) represent on average 25% of all WEEE annually generated by weight and consist of a complex mixture of different polymers containing a wide range of additives. Through a combination of sorting technologies based on density, electric conductivity (electrostatic separation) or infra-red spectra, these polymers can be separated from each other at a high degree of purity and turned into regranulates. This allows an increase in the recyclable and recoverable quantity of waste, a more accurate separation of plastics containing hazardous substances and for disposal.

In order for the activities that 'make' the circular economy continue to operate in an efficient and effective manner, policy-makers need to recognise and legitimise their role as well as support their operations. EU waste-related legislation has not only a key role to play for protecting environment, climate, and health but is also crucial to offer certainty and predictability, that are essential to triggering investment and innovation.

3.4 Digital technologies as a tool for circular economy

Digitalisation is transforming the 21st century, affecting every area of daily life, including the environmental technology sector. Waste management is also benefiting from digital technologies, which improve and facilitate work processes and are expected to bring significant innovation and open further opportunities to the sector. This will allow Europe's economy to recover more of the valuable materials present in waste streams, reducing the amounts of raw materials mined or imported, and hence avoiding the associated environmental and climate impacts.

Examples of specific digital technologies that are currently used and expected to have a major impact in future on the efficiency of the waste industry include robotics, the internet of things, cloud computing, artificial intelligence, and data analytics. FEAD interviewed some of its members, who have first-hand and on-site experience with the solutions that digitalisation currently brings across the EU, but also the related challenges and further potential from today's perspective.

1. Which of these solutions is already widely used and which has the greatest potential for growth?

In the age of internet, where all objects communicate with each other, in recent years the waste sector has also seen an increase in the use of devices to improve control and management. By combining these connected devices with automated systems, it is possible to gather and analyse information, and generate an action to help someone or learn from a process.

RFID (Radio Frequency Identification) is a wireless data collection technology now widely used in the waste sector. An RFID system also consists of a reader that sends radio signals into the air to activate a tag through an antenna, read the data transmitted by the tag and sometimes even write data on a tag. RFID technology in previous years, when the technology remained fairly expensive, was considered the best tool in order to do justice to the 'pay-as-you-throw' (PAYT) scheme. Currently, RFID technology helps municipalities and waste collection and management companies in the tracking of waste streams, in the collection of data, in work order management and repairs of waste containers, in addition to service verification and route management of waste vehicles.

Chips attached to waste containers and bins enable operators to monitor sorting quality, track the number of times a container is placed for collection and track the weight of its contents. They also simplify service billing and support implementation of incentive-based invoicing.

Customers can have access to the most relevant information, such as weights, bills and stats directly from home, on the company's website or app.

The most innovative companies are also trialling a 'Camera Detection System' (CDS), where cameras at the back of bin lorries take pictures as the waste is deposited and link those pictures to the customer via the RFID chip. This system allows for greater control and improves the traceability of the waste, but also prevents contamination by non-compliant fractions.

Robotics seems to be among the most promising solutions for waste management in smart cities. Robots are rapidly disrupting the recycling industry. They are adept at multitasking, scalable and have integrated learning systems that can function tirelessly 24/7. This implies they can be extensively deployed for waste processing and recycling processes. These recycling robots are fast, accurate, and can process a heavy load of waste material.

Robotic sorters can also generate information on the sorted materials, further optimising the subsequent processes or improving the Artificial Intelligence. An example is the use of these data streams to predict patterns of incoming loads of waste and to learn about the waste-sorting efficiency to predict the set-up of sorting lines. If these data are linked to other relevant data, such as prices in secondary raw material markets, then processes can also be adjusted accordingly.

2. How does this change fit into the waste management sector? Are there 'drawbacks' with the use of digital technologies, what are the limits?

These new technologies will certainly increase efficiency in the whole sector and decrease some environmental impacts and carbon emissions.

It must not be forgotten that everything connected to the internet can be hacked: Internet-of-Things (IoT) products are no exception to this unwritten rule. The potential for cyber-attacks and security breaches is high, but this is inevitable, and systems have to be designed to manage those drawbacks.

Waste management must rely on operational and secure software and hardware for its main tasks. Security of IT Systems is therefore critical, as these infrastructure systems are high priority targets for foreign offensive IT-warfare operations or other groups and people. Therefore, software must be well designed and thoroughly checked. These circumstances lead to longer development times and higher development cost.

For many of the new digital solutions to work effectively, an existing digital ecosystem is required, as most of these solutions cannot be designed stand-alone but rely on a balanced system of legal frameworks, broadband access and mobile network coverage, standards for data exchange, interfaces and public digital literacy.

There's also the issue of surveillance. If every product becomes connected then there's the potential for unbridled observation of users. If a connected bin tracks food usage and consumption, what is to stop people with that data using it against consumers.

3. What are the most urgent problems, in terms of process organisation and resource optimisation that companies have to face on a daily basis?

Waste management companies do not have significant problems related to the internal organisation of processes. There could be some problems to implement and maintain the digital tools due to the lack of skilled workers with competences in tasks related to digital activities. There is high demand for such employees in the whole labour market currently, and therefore competition is intense for these skills on the labour market. It can be said that especially in a rapidly changing digital world, training of personnel will play an important role.

On the other hand, there are still critical issues linked to bureaucratic burdens and obstacles, which significantly hinder companies' operations. The digitalisation of processes and, above all, of administrative and authorisation procedures would certainly make the sector more flexible, simplifying and harmonising situations in which companies currently invest a great deal of time and resources.

A digital management model for the fulfilment of certain administrative tasks (waste transport and registration), if truly structured taking into account the criticalities and inputs from companies, could represent the meeting point between the ecological and digital transition and create the basis for the modernisation of integrated waste management.

4. How could European legislation facilitate digital transformation in the waste management sector?

The European Institutions should promote the adoption of measures that move towards an ever greater digitalisation of all administrative and authorisation requirements. This is in line with the proposal to revise the Waste Shipment Regulation, which provides for the digitalisation of all the formalities required for waste shipment. This approach, if extended to other areas, would ensure greater uniformity for the businesses involved, better traceability of materials/waste and savings in time and resources for businesses.

Future electronic passports for products and existing SCIP database (aimed at registering information about substances of very high concern used in products, that are available through the whole life cycle of products, including waste management) are good examples on how EU legislation and digitalisation go hand in hand for an improved waste management and circularity.

Given the rapid changes in the digital sector, European legislation should be more ready to anticipate developments, and not chase them: waste laws need to be modernised on an ongoing basis to make them fit for the circular economy and the digital age. Moreover, implementation of a system to monitor the actual improvement of the European waste management and compliance with targets in all Member States will also be crucial. Waste shipments can also widely benefit from electronic and digitalised procedures, allowing quicker authorisations and facilitated traceability and controls (Electronic Data Interchange).

Another help from European legislation could come from the Sustainable Product Initiative, which would facilitate better management of the material, including digital DRS (Deposit Refund Scheme) and tracking of waste for the purpose of environmental enforcement and analysis of performance.

5. Standardisation of plastics, batteries, industrial emissions: what to expect from digitalisation? The current situation in Europe is heterogeneous: is there a need to harmonise technologies?

The digitisation of plastic and battery waste management, including through standardisation mechanisms, would be extremely important due to nature of this waste, as already done for WEEE.

In some cases, there is a lack of facilities for their management in Europe. Therefore, the possibility of being able to verify compliance with certain management standards for these flows through digital platforms would optimise the management of this waste which, as in the case of batteries, contains critical resources and materials of central importance for the European market.

4

4. FEAD members

The association is comprised of 19 full members and 7 affiliated members from within Europe.

4.1 Full members

ARMD

- Number of tonnes of waste treated per year: **we cannot provide a specific number because we have among members some of the biggest recycling facilities in south east Europe and they treat imported waste from other EU countries, as well. Romania recycle approx. 14% of total municipal waste.**
- Number of installations and employees: **our members operate 21 large installations (recycling plastic, paper, glass and lamps) and other smaller installations that operate compost, wood, etc. Our members have approx. 23,500 employees (out of which one third operate the installations).**

About the association

The Romanian Association for Waste Management - ARMD (former Romanian Sanitation Association - ARS) is a communication platform for all specialists and waste operators specialised in collection, mechano-biological treatment, recycling, incineration, and landfilling. The purpose of ARMD is to promote the development of a successful waste industry that contributes to the development of a circular economy based on economic efficiency, environmental protection and the conservation of natural resources.

Our goals for Romania are:

1. To reach EU targets
2. To avoid EU sanctions
3. To limit landfilling;
4. Increase the quantity of separate waste by streams
5. Increase the quantity of recycling and reuse of materials
6. Increase the quantity of composting

Priority issues at EU level

- Setting reachable targets for Romania
- Promoting incineration with energy recovery in Romania;
- Avoiding EU sanctions.

The association advocates for strengthening EU support for increasing recycling and reuse, limiting waste landfilling, and ensuring full implementation of EU waste policy objectives in Romania.

Name of the association:
Romanian Association of Waste Management

Year of foundation:
1999

Founded by:
more than 900 members individuals, companies, Romanian authorities.

FEAD member since:
2007

Member companies:
57

ASEGRE

- Number of tonnes of waste treated per year: **5 million tonnes**
- Number of installations and employees: **160 installations and 3000 employees**

Name of the association:
ASEGRE – Spanish Association of Industrial and Hazardous Waste

Year of foundation:
1992

Founded by:
five hazardous waste operators

FEAD member since:
2009

Member companies:
80

About the association

ASEGRE represents the interests of industrial hazardous and non-hazardous waste management operators and activities to recover contaminated soil.

It acts as an interlocutor of the competent Spanish administrations.

It promotes the rigorous and homogeneous application of waste legislation, as well as the traceability of waste.

Priority issues at EU level

- Represent Spanish industrial waste operators and ensure the safe treatment of industrial hazardous and non-hazardous waste and the recovery of polluted soils and environment.
- Value the industrial waste activities in the EU taxonomy for sustainable activities.
- Show the capacity of the waste management sector to avoid greenhouse gas emissions.

ASSOAMBIENTE

- Number of tonnes of waste treated per year: **approx. 70 million tonnes**
- Number of employees: **around 36,000 employees**

Name of the association:
Assoambiente

Year of foundation:
1951

Founded by:
companies providing services (mainly transport)

FEAD member since:
1989

Member companies:
450

About the association

Founded as Ausitra in 1951, it changed name to FISE – Assoambiente a few years later, and more recently this year was shortened to Assoambiente. Over the years the Association has represented mainly private companies operating in environmental services (collection, recycling, recovery, disposal of waste and soil remediation). From 2022 it also represents circular economy supply chains.

Assoambiente has always been committed in developing the necessary conditions that allow a fair competition in the market and the industrialisation of the waste sector. Moreover, the association aims to:

- encourage the qualification and industrial development of the sector also through the adoption of the BAT (Best Available Techniques);
- ensure conditions for equal competition between public and private companies in environmental services;
- pursue, on the whole national territory, harmonised and uniform permit conditions and implementation of regulatory provisions;
- represent associated companies in institutional affairs and relations, also by the definition of framework agreements.

Assoambiente aims also to expand the culture of circularity by offering to its member companies and to their sector associations opportunities for networking, for commercial, scientific and technical meetings, training and professional growth.

Priority issues at EU level

The role of waste management in Europe and in Italy is changing and becoming more and more a pivotal sector for the access to resources, social welfare, economic growth and environmental protection. The fast-growing waste management industry enables the use of waste as a resource as well as the ability to recover raw materials from waste. Thus, an updated model of development and governance of the waste sector represents also an essential step towards a model of circular economy, understood as a new approach in challenging the crisis and providing a new example for the market and consumption.

More than anything, it is absolutely necessary, for this sector, a new approach, more pragmatic, allowing companies to deal more and better with environmental sustainability and industrial development.

Several legislative procedures are pivotal nowadays. Just to name a few: Circular economy and waste legal framework, taxonomy, waste-to-energy, WSR

BDE

- Number of tonnes of waste treated per year: **around 250 million tonnes**
- Number of installations and employees: **4,600 installations and 150,000 employees**

Name of the association:
BDE, e.V.- Federation of the German Waste, Water, and Raw Material Management Industry (Bundesverband der Deutschen Entsorgungs-, Wasser- und Rohstoff-wirtschaft)

Year of foundation:
1961

Founded by:
13 SMEs (Small and medium-sized enterprises)

FEAD member since:
1981

Member companies:
800

About the association

BDE was founded in 1961 and is one of the leading industry associations of the environmental service sbranch in Germany and Europe.

The member companies of BDE represent 75% of the privately generated turnover in the economic sectors 'wastewater disposal', 'collection, treatment, disposal, and recycling of waste' and 'removal of environmental pollution and other disposal'. The approximate 800 members of BDE represent the entire value chain of the recycling and resource management sector. This ranges from the collection, sorting, and recycling of waste to the use of raw materials and products obtained from the recycling process. The recovery and recycling plants of the member companies meet the highest technology standards and are world leaders.

Priority issues at EU level

BDE is one of the few associations in the industry to have its own representation in Brussels. From here, contacts are maintained with the bodies of the European Union. With the 'Action Plan for the Circular Economy' as a central building block for the implementation of the Green Deal, the following topics are particularly important to BDE in the interest of its members:

- Creating a legal framework that is suitable for achieving the CO_2 emissions target and increasing resource efficiency.
- Strengthening incentives to remain an economically competitive production location while achieving climate neutrality
- Contribute to a policy mix that creates a level playing field for competition between the public and private sectors
- End landfilling of untreated municipal waste
- Supporting the mainstreaming of the circular economy concept in the public sphere.

BORA

- Number of tonnes of waste treated per year: **over 150,000 (recycled materials)**
- Number of installations and employees: **over 25 installations and over 5,000 employees**

About the association

Bulgarian Recovery and Recycling Association /BRRA/ is a voluntary and non-profit non-governmental association.

We carry out our activity, which is expressed as the formation, representation, and protection of the associated interests of our members.

Our members are more than 30 of the most promising companies in recovery and recycling industry sector of the Bulgarian economy.

Priority issues at EU level

- Circular economy as well as an easy transportation of recyclable materials among EU countries.

Name of the association:
Bulgarian Recovery and Recycling Association

Year of foundation:
2020

Founded by:
several waste management companies

FEAD member since:
2021

Member companies:
29

CAObH

- Number of tonnes of waste treated per year: **around 1.7 million tonnes**
- Number of installations and employees: **107 installations and 8,970 employees**

About the association

CAObH is a member of the Producer Responsibility Organisation EKO KOM which serves 99% of the population and 98.5% of municipalities and cities in the area of separate packaging waste collection.

Priority issues at EU level

- The second taxonomy delegated act must be based on the given situation, it is not realistic to jeopardise entire branches of the national economy of the Member States, it must be a gradual development.
- At the same time, the ambitious goals of the Green Deal must be adapted to a feasible level on the basis of the current energy situation, exacerbated by the war in Ukraine. The intention to include the incineration of suitable, materially unusable waste, or residues after sorting waste into the system of emission allowances goes against the meaning and logic of the circular economy.

Name of the association: **Czech Association of Circular Economy**

Year of foundation: **2016**

FEAD member since: **2017**

Member companies: **17**

DENUO

- Number of tonnes of waste treated per year: **67 million tonnes**
- Number of installations and employees: **240 installations and 14,000 employees**

Name of the association:
Denuo

Year of foundation:
1991

Founded by:
CEM, PAGE, WATCO, BIFFA Waste Services, Soneville, Van Gansewinkel Containerdienst, Tractebel Ingeniere

FEAD member since:
1991

Member companies:
260

About the association

Denuo is the Belgian federation of the waste and recycling sector. In a world where raw materials are becoming scarcer and companies want to produce sustainably, our more than 250 members provide the essential link between used materials and reuse, recycling and final processing. All our members combined, we represent the entire waste value chain, covering a wide variety of material streams (plastics, metals, WEEE, textiles, glass, etc.) and activities (waste collection, sorting, recycling, reuse, trading, final treatment, etc.).

Priority issues at EU level

- A circular economy begins with ecodesigned products that are easy to dismantle so that their components and materials can be reused/recycled.
- A (mandatory) recycled content is needed to increase the sustainability of our products and limit our dependency on the import of scarce raw materials.
- Correct and intensified selective sorting is indispensable to ensure ample supply of raw materials from recycling.
- Recycled materials are vital allies to EU's climate ambitions: local availability of resources, reduced transport and carbon emissions, more energy-efficient production, etc.
- Final treatment (incineration, composting, digestion, landfilling) remains necessary to recover/store recycling residues, unrecyclable waste.
- Denuo supports restrictions on the export of unprocessed waste (mixed plastics, WEEE, ELV). However, Raw Materials from Recycling (RMR) should not be treated the same. The WSR should make a clear distinction between RMR and unprocessed waste streams.

DWMA

- Number of tonnes of waste treated per year: **around 40 million tonnes**
- Number of installations and employees: **30,000 employees**

About the association

Our members are active throughout the whole waste chain and are responsible for collecting, recycling, processing, composting, incinerating and landfilling waste and sewer maintenance. The Dutch Waste Management Association works for a healthy and balanced business climate in the Netherlands and Europe and promotes efficient, practicable and sustainable waste management.

Priority issues at EU level

- Support policy-making and implementation plans that help to reap the benefits of modern waste management in Europe.
- The European standard should be that recyclable and recoverable waste is actually used and no longer landfilled.[15]

Dutch Waste Management Association
Partner in the circular economy

Name of the association:
Dutch Waste Management Association

Year of foundation:
2004

Founded by:
merger of two waste management associations

FEAD member since:
2004

Number of member companies:
about two-thirds of the Dutch waste market

ECEIA

- Number of tonnes of waste treated per year: **our association does not collect data on tonnes of waste collected and treated.**
- Number of installations and employees: **about 26 installations**

About the association

ECEIA stands for the common interests of the members and develops waste management in Estonia directed by the general principles of sustainable development.

Priority issues at EU level

- Fair market conditions for private waste management and recycling companies.
- Critical review of the Green Deal, which has to be adopted to discontinued supply of all energy carriers to EU from the countries under the sanctions and to consider practical availability of resources from international markets.

ESTONIAN CIRCULAR ECONOMY INDUSTRIES ASSOCIATION

Name of the association:
Estonian Circular Economy Industries Association (ECEIA)

Year of foundation:
1996

Founded by:
26 waste management companies

FEAD member since:
2008

Member companies:
30

[15] Dutch Waste Management Association. European waste sector has an impressive climate potential. https://www.wastematters.eu/news/european-waste-sector-has-an-impressive-climate-potential (last access on: 05.05.2022).

environmental services association

ESA

- Number of tonnes of waste treated per year: **our members collect or process tens of millions of tonnes of waste material every year / our members divert more than 10 million tonnes of material from landfill each year and use waste to generate energy instead, producing over 5TWh of low-carbon electricity each year.**
- Number of installations and employees: **44,000 employees – well over a third of the entire sector in the UK.**

Name of the association:
Environmental Services Association

Year of foundation:
1968
(changed name in 1996 to ESA)

Founded by:
Tony Morgan

FEAD member since:
1981

Member companies:
>100
69 full members /
41 associate members

About the association

ESA is the trade body representing the UK's resource and waste management industry. While people talk about the circular economy, our members are helping to bring it about every day.

ESA members collect, process and deliver low-carbon, recycled resources and are innovating and investing for a long-term zero-waste, zero-carbon future, building sustainable infrastructure and creating jobs.

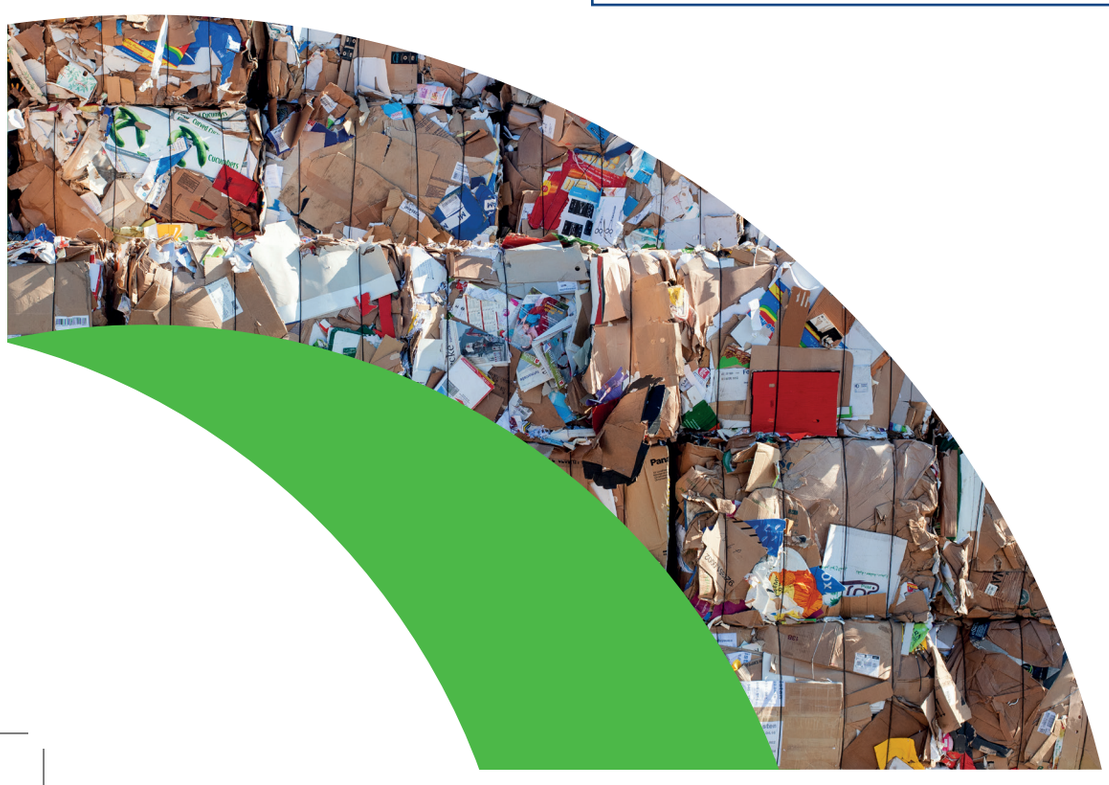
ESA has three strategic priorities that define its core activities:

- **More recycling**- Delivering investment in an efficient and high-performing sector that helps the UK make the most of waste as a valuable resource.
- **Less carbon** – Decarbonising the industry and maximising our contribution to carbon reduction across the economy.
- **Higher standards** - Achieving the highest standards within the sector to protect the environment, the public and our workforce.

Each of these three priorities are characterised by a number of objectives that guide our activities and operational focus.

Priority issues at EU level

- EU approach to carbon pricing for waste-related activities.
- Green taxonomy
- End-of-waste for recovered materials
- Plastics taxes + other demand-pull measures to support use of recycled materials (including mandated recycled content)



FLEA

- Number of tonnes of waste treated per year: **about 400,000 tonnes**
- Number of installations and employees: **about 10 installations and about 1,000 employees**

About the association

Mission: Defending and safeguarding the professional, material and other interests of its members, as well as the extension and improvement of the institutions of the profession, the defence and development of the bonds of solidarity between its members.

Priority issues at EU level

- Competition between public and private sector
- Circular economy
- Climate change.

Name of the association: **Fédération Luxembourgeoise des Entreprises d'Assainissement**

Year of foundation: **1980s**

Founded by: **private companies**

FEAD member since: **1989**

Member companies: **10**

FNADE

- Number of tonnes of waste treated per year: **around 26 million tonnes**
- Number of installations and employees: **2,347 facilities and 48,940 workers**

About the association

The French waste management federation represents the corporate members gathered in eight professional unions. This makes FNADE an expert of the entire waste management value chain (collection, sorting, recycling, organic recovery, energy recovery and storage, remediation of polluted sites and soils, cleaning of urban areas) for all types of waste (non-hazardous and hazardous waste, sludge, polluted soil), with all types of stakeholders specialised in waste management (operators, design offices, manufacturers of waste treatment units and manufacturers of collection equipment).

Priority issues at EU level

FNADE members, who fully support Europe's zero pollution climate ambitions, are committed to the development of an ever more circular economy based on high quality recycling to produce decontaminated materials and the recovery of waste.

Name of the association: **Fédération Nationale des Activités du Déchet**

Year of foundation: **1937**

Founded by: **several waste management companies**

FEAD member since: **1981**

Member companies: **247** **private companies**

Irish Waste Management Association

Name of the association:
Irish Waste Management Association

Year of foundation:
1991

Founded by:
Jim Kells

FEAD member since:
2004

Member companies:
50

IWMA

- Number of tonnes of waste treated per year: **around 5 million tonnes**
- Number of installations and employees: **around 100 facilities and over 5,000 direct employees.**

About the association

The Irish Waste Management Association is the trade association for waste management companies in Ireland. Our members operate to the highest industry standards and have signed up to the rules of the association, that ensure that they provide waste management services to the public and to businesses in a professional and ethical manner.

Priority issues at EU level

1. Promoting the privatised free market structure for household waste collection which is innovative, dynamic, competitive and customer friendly.
2. Reform of Eurostat inconsistencies and WFD metrics – need for independent auditing as data entries by Member States are not consistent and comparisons are incorrect. Recycling targets are a blunt instrument and do not properly reflect waste management performance. Residual waste generation is a better metric.
3. Continuation of export routes for recycled material as completing the circle is a global exercise, whereby recovered materials must be used in new products, wherever in the world they are produced.
4. EU wide end-of-waste decisions, as small countries are less likely to have national end-of-waste decisions.
5. Design and labelling of products to facilitate reuse and recycling.

LASUA

- Number of tonnes of waste treated per year: **around 1 million tonnes**
- Number of installations and employees: **10 regional centres, 6 sorting lines (separate from centres), 6,500 employers**

About the association

LASUA is a professional organisation operating under its Articles of Association. Our members are professional companies engaged in management, collection, depositing, processing, handling, burying of household and hazardous waste and removal of industrial waste, and also providing for other utilities.

The mission of LASUA is to represent business, social and professional interests of its members, facilitating complex development of socially responsible waste management companies in Latvia. We are active defenders of the interests of our members and the only professional organisation representing the waste management industry in relations with state authorities.

LASUA is a member of Latvian Federation of Employers and is a member with Latvian Trade Council for Small and Middle-sized Enterprises, Environmental Consulting Council, Consulting Council of the Environmental Protection Fund, and the Board of Latvian Green Belt. LASAU has also established productive cooperation with Latvian Packaging Association and Union of Local Governments, as well as other organisations related to waste management.

We are a serious, professional organisation and we are taken into consideration.

Priority issues at EU level

The creation of a regulatory framework for environmental law that balances both - vital environmental protection objectives and the economic basis for their implementation.

Name of the association: **Latvian Association of Waste Management Companies**

Year of foundation: **1996**

Founded by: **local waste management companies**

FEAD member since: **2008**

Member companies: **47**

NORSK INDUSTRI

- Number of tonnes of waste treated per year: **8 million tonnes**
- Number of installations and employees: **240**

About the association

The Federation of Norwegian Industries represents industry branches such as oil and gas contractors, onshore petroleum activities, aluminium, biotechnology, cement, chemical industries, electro and energy equipment, furniture, glass and ceramics, machine and hardware industry, maritime industry, aquaculture and aquaculture suppliers, metals, mining, paints and coatings, graphic arts and communication, paper and pulp, pharmaceuticals, plastics, recycling, facility services and textiles, etc. We represent 3,000 companies with approx. 130,000 employees and with a combined annual turnover of 52 billion Euros.

Priority issues at EU level

The Federation's priorities at EU level are diverse and include environmental and climate policies, energy, circular economy and waste management, European harmonisation and standardisation, trade, well-functioning European markets, etc. The members of the Federation of Norwegian Industry are both waste producers and waste management operators, hence developments in European waste legislation are an important policy area for the Federation.

Name of the association: **Norsk Industri**

Year of foundation: **2006** **(through a merger between two industry federations)**

Founded by: **the Federation of Norwegian Process Industries and The Federation of Norwegian Technology Industries**

FEAD member since: **2011**

Member companies: **3,000**

PASEPPE

- Number of tonnes of waste treated per year: **no data available**
- Number of installations and employees: **40 installations and 3200 employees**

Name of the association:
PASEPPE National Association of Environmental Protection Companies

Year of foundation:
2001

Founded by:
Spiridon Karasoulos, Dimitris Karavitis, Ioannis Romais, Ioannis Polychronopoulos, Theophanis Mavroskoufis, Konstantinos Aravosis, Ioannis Lampropoulos, Vasilios Vasileris, Georgios Xouleis, Theophanis Xouleis, M. Vardoulakis, Charilaos Sakalis, Christos Osipidis, Athanasios Vlachos, Christos Tsopanidis, Andreas Loukatos.

FEAD member since:
2007

Member companies:
85

About the association

PASEPPE is the national association of Greek companies offering environmental services. The association aims via proposals, gala events, enlightenment, and synergies between its members to actively contribute into resolution of a problem relating to waste management and enhance the environmental infrastructure of the country, as well as, giving a parallel growth to the companies relevant to the field.

The activities of our members cover the whole chain of hazardous and non-hazardous waste management, marine protection/ spill response services and environmental consulting and monitoring.

Priority issues at EU level

- EU funding schemes for waste infrastructure
- IED for industrial installations and BREF procedures
- Circular economy and decontamination technologies

PIGO

- Number of tonnes of waste treated per year: **4.5 million tonnes**
- Number of installations and employees: **250 installations**

About the association

PIGO associates entrepreneurs who work in the sector of waste collection and management, as well as municipal hygiene, waste recovery organisations, manufacturers and suppliers of technologies, vehicles, and equipment, consulting and education companies. The statutory objectives of the Chamber include the representation and protection of the member organisations as well as fair market competition, activities aimed at the development of entrepreneurship in the waste management sector, environmentally-friendly standards in the selective collection, recycling and treatment of waste in a way that is safe for the natural environment.

The Chamber uses the long-term, international experiences of its member organisations and expert knowledge as a basis for developing the positions and opinions of the sector on all important issues.

Priority issues at EU level

- an open European market of municipal services that will ensure fair, equal competition between entrepreneurs, in particular private and self-government entities,
- promoting Public-Private Partnership in the waste management sector,
- stabilising the costs of municipal waste management,
- ensuring stable and predictable conditions for the construction of modern waste processing and management facilities,
- consistent implementation of extended manufacturers' responsibility,
- ensuring stable principles of trans-border transport of waste,
- promoting high technological and environmental standards,
- activities aimed at improving environmental efficiency,
- supporting investment projects that take into account the concept of circular economy,
- identifying investments that support sustainable development under the taxonomy delegated act.

Name of the association: **Polish Chamber of Waste Management**

Year of foundation: **2003**

Founded by: **leading companies in the waste management sector**

FEAD member since: **2003**

Member companies: **83**

VOEB

- Number of tonnes of waste treated per year: **approximately 47 million tonnes (2/3 of the waste generated in Austria)**
- Number of installations and employees: **1,100 high tech plants and 43,000 employees (direct and indirect)**

About the association

For almost 40 years, the Association of Austrian Waste Management Companies (VOEB) has been active as an independent lobby for the Austrian waste and resource management industry. The reason for its foundation was the lack of an interest organisation and a social partnership representation that was specifically geared to the concerns of the waste management sector.
More than 80% of Austria's commercial waste management companies - both in terms of turnover and number of employees - are organised in the VOEB. The association, which is based on voluntary membership, is thus the strongest economic unit in the sector.
One of the essential tasks of the VOEB is to support the path of the waste management sector towards a modern resource and circular economy.

Priority issues at EU level

- Platform for information
- Strong network
- Constructive relationship with all members and stakeholders
- EU-wide standards
- Studies
- Waste Shipment Regulation
- Batteries Regulation (e.g. Implementation of a battery deposit system)
- POP Regulation
- Taxonomy / waste-to-energy
- End-of-waste criteria

Name of the association: **Association of Austrian Waste Management Companies (VOEB)**

Year of foundation: **1982**

Founded by: **Austrian private waste management industry**

FEAD member since: **1992**

Member companies: **>250**

YTP

- Number of tonnes of waste treated per year: **approximately 7 - 8 Mt**
- Number of installations and employees: **more than 150 installations and 5000 employees**

Name of the association:
Finnish Environmental Industries

Year of foundation:
2013

Founded by:
leading Finnish recycling and waste management companies

FEAD member since:
2014

Member companies:
52

About the association

YTP is a network of recycling and waste management companies, which aims at promoting market-based circular economy. Our members develop practical solutions and service concepts for recycling of different materials. YTP's main topics include contribution of circular economy in the climate change mitigation, policies to increase the demand of recycled materials, promoting investments in circular economy, and fair competition in the market.

Priority issues at EU level

Circular economy must be seen as an opportunity to strengthen European industry. It will promote sustainable growth, employment and welfare in the EU.

The priority issues are creating a well-functioning single market for recycled materials and increasing demand for recycled materials. There is a need for both harmonised end-of-waste regulation and mandatory recycled content in products. Necessary measures also include internalisation of environmental costs for using virgin resources, such as putting a sufficiently high price on fossil carbon.

The most important EU policy files at the moment are Fit for 55 package, Waste Shipment Regulation, Taxonomy, Batteries Regulation, and End-of-Life Vehicles Directive.

4.2 Affiliate members

buhck Gruppe
GERMANY

EEW
GERMANY

HEINZ Gruppe
GERMANY

LOBBE
GERMANY

Nehlsen AG
GERMANY

Séché
FRANCE

SUEZ
FRANCE

FEAD

European Waste
Management Association

5

5. FEAD

5.1 FEAD Governance

FEAD is a not-for-profit organisation and its formal objectives are to promote best practices in the area of waste management, protection of health, resources, and climate; to exchange experiences and information and to coordinate joint actions through studies, proposals, opinions and any other initiatives relating to the European and international institutions and bodies.

FEAD is governed by an elected board of directors presided over by the president of FEAD alongside two vice-presidents, and five board members.

Presidency:

Peter Kurth
FEAD President
BDE

Claudia Mensi
FEAD Vice-President
Assoambiente

Fabrice Rossignol
FEAD Vice-President
FNADE

Board members:

Andreas Krawczik
DWMA

Piotr Manczarski
PIGO

Björn Mittendorfer
VOEB

Luis Palomino
ASEGRE

Kalle Saarimaa
YTP

5.2 FEAD secretariat/team

FEAD's office is in the heart of the European district in Brussels, close to all the European institutions. The five-member team is managed by Valérie Plainemaison the Secretary General of FEAD, and proudly boasts an international, diverse, knowledgeable, and creative set of professionals. Their eyes and ears are wide open to what is currently happening in EU affairs; communicating policy to the waste management industry while advocating on their behalf.

Secretary General
Valerie Plainemaison

Legal & Policy Officer
Aizea Astor Hoschen

Technical Officer
Paolo Campanella

Junior Technical & Policy Officer
Anne-Kathrin Kappler

Office Manager
Orla Kerrigan

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