25 YEARS OF MAKING PLASTICS CIRCULAR

PLASTICS RECYCLERS EUROPE

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1.

FOREWORD

BY TON EMANS,
PLASTICS RECYCLERS EUROPE'S PRESIDENT

OUR VISION IS CLEAR – MAKING PLASTICS CIRCULAR

Plastics recycling in Europe established itself as one of the most important tools in solving the plastic waste crisis. Being among the best alternative feedstocks to virgin plastics, the use of recyclates reduces Europe's dependency on natural resources while decreasing CO2 emissions by up to 90%.

Over the past decades, plastic recycling technologies have evolved immensely. What once seemed impossible is nowadays a reality, with recyclates being used in high-quality applications such as food contact containers or aesthetic automotive components.

The recent legislative environment and industry commitments have further enforced the notion of a circular plastic future. With the groundwork laid out, the transition is guaranteed but its pace will depend on the involvement of all the key actors, their shared knowledge and the combining of solutions at hand.

PLASTIC WASTE ON THE PUBLIC RADAR

Recycled material emerged as a cheap alternative to the virgin plastics for niche markets. In the early 1990ies not many companies were interested in recycled plastics and the sector was dominated mostly by pioneers or small companies. With the main driver being the price there was no real environmental drive for it.

With public awareness, the high pressure from citizens to fight the plastic pollution crisis and the continuous efforts from European recyclers, plastic recycling got high on the policymaker's radar.

The images of the accumulation of plastic litter in natural habitats which started in the 1990ies travelled the world, and plastic waste began to be extensively covered in the media. The turning point for the public opinion's outburst against plastic litter was in 2009 with the release of The World Is Blue: *How Our Fate and the Oceans Are One* documentary by Sylvia Earl and the series of documentaries *The Blue Planet* narrated by David Attenborough, which both show negative consequences of human activity on the Oceans. Yet another trigger for the plastics to get so high on the public radar was the report by Ellen MacArthur which states that 'by 2050 there will be more plastics than fish in the Oceans.'

Public pressure and discontent, in turn, led to a series of policies, regulations, legislation, industry commitments, and initiatives targeting plastics.

INNOVATION & INVESTMENTS

Consequently, this resulted in an increased interest in plastic recycling, recognising it as a sustainable and environmentally friendly process to deal with the growing amount of plastic waste. With new investments, innovation and technological developments, high-quality recycling was made possible. Today plastic recycling processes produce high-end products with nearly the same properties and characteristics as the virgin plastics.

Over the past two decades plastics recycling has been growing and just within 4 years it grew by more than 65%.

plastic recycling industry growth in EU - 60% in 4 years

Back in 1996, the total installed recycling capacity was estimated, roughly, at 200.000 tonnes. Today it amounts to over 8.5 million tonnes with a perspective of quadrupling by 2030. This is a testament to the investment opportunities that are lying in the industry, which is both profitable and sustainable.

plastic recycling industry has a potential to quadruple by 2030

WHERE ARE WE HEADED?

With the rising world population and improving conditions in developing countries, demand for plastics will continue growing. This will put an ever-greater pressure on natural resources as their use is set to increase threefold by 2050, if we continue our economic activity and business models as today.

The pandemic has only exacerbated these trends. It has emphasized the fragility of the supply chains and Europe's dependency on imports of natural resources. The low oil prices took a toll on plastic recycling, highlighting the importance of recyclate prices decoupling from those of primary plastics.

In Europe, currently 30% of plastics are collected for recycling – the rest being incinerated and landfilled, or in the worst case discarded into the environment.

FACT!

Resources extraction sector is responsible for HALF WORLD'S CARBON EMISSION

UN Environment, 2019 Global Resources Outlook

WHAT IS THE FUTURE OF PLASTIC RECYCLING?

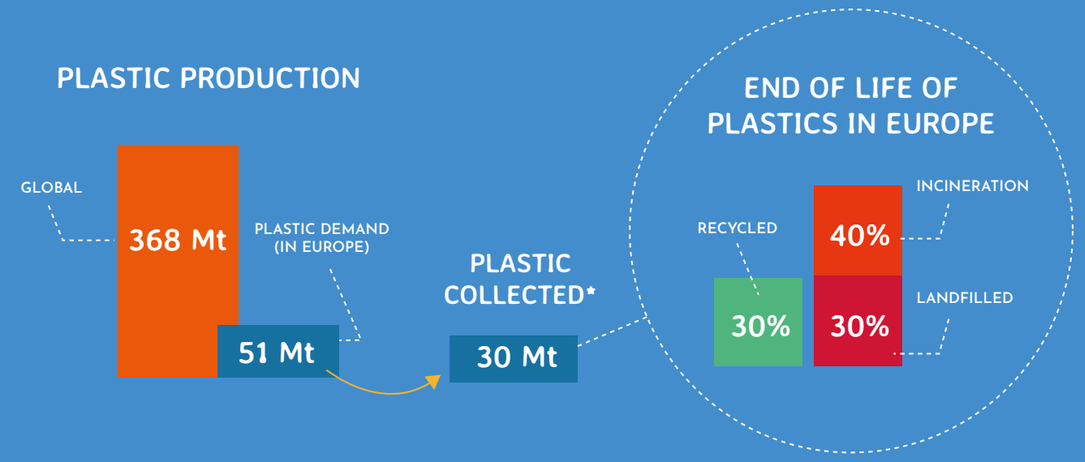
A one size fits all solution does not exist for solving the plastic waste crisis. Instead, systemic change is needed, where Redesign, Prevention, Reuse and Recycling are simultaneously optimised to make a long-lasting and sustainable transformation. With that, by 2030 the recycling and reuse of plastics will halve the virgin production.

Many strategies have been proposed for reducing or even eliminating plastic leakage into the ocean, but there is no single solution able to do so effectively

Breaking the Plastic Wave

Transition to circular plastics is no longer merely a societal demand, but the only way that the plastic industry in Europe can sustain itself. These new business models open a wide array of opportunities. With no time to waste, recyclers are there to take the lead in making plastics circular. Europe's dependency on natural resources, such as crude oil, puts at a disadvantage the ambitious vision for a sustainable and carbon-neutral future. Diversified use of feedstocks is necessary to address this dependency, and currently recyclates are the best available substitute for virgin plastics.

STATE OF THE AFFAIRS IN THE PLASTICS PRODUCTION & EU RECYCLING



*MORE THAN 20MT IF PLASTIC WASTE EVERY YEAR IS NOT COVERED BY THE STATISTICS.

To make that happen, and for recycling to work, however, the first step is to stop the production of unrecyclable plastics while drastically increasing the capacity to collect, sort and recycle them. Without available quantities and their high-quality, recyclers are not able to make plastic fully circular.

In parallel, advanced technologies, boosted uptake of recyclates and legislative support are among the key ingredients to a successful plastics recycling industry in Europe.

Recyclates must be kept in the loop by incorporating them in the original applications. This will allow to look beyond the niche markets, while enabling the circular use of materials – which is essential for the achievement of the EU targets and the fostering of a sustainable, carbon-neutral Europe.

Different actions must be combined to effectively respond to the waste management issue. These actions should tackle the problem at the source, and legislation alone is not enough. The whole plastic value chain including raw material producers, converters, manufacturers, retailers, recyclers, brand owners, and any other concerned industries need to work together. Mobilization of the industry and collaboration among its actors will give rise to the creation of various platforms, as well as voluntary commitments, that have the potential to accelerate the change. The role of consumers and authorities cannot be overlooked either, and here the sharing of knowledge is key.

With this paper, we would like to take you through what the last 25 years have brought to our industry and at the same time highlight what is expected, as well as needed in the road ahead.

25 YEARS OF MAKING PLASTICS CIRCULAR

OUR MISSION & VISION

Making plastics fully circular by advancing highly efficient plastics recycling & producing high-quality recycled plastics in Europe

REACHING **55%** plastics recycling target by 2025...

... will lead to GHC saving equals to the carbon footprint of...

2.5 milions EU citizens

WHAT DO WE STAND FOR

- ✓ Advancing circularity of plastics through increased quality plastics recycling & use of recycled materials in high-end products
- ✓ Improving recyclability of plastic products
- ✓ Harmonising of the recycling standards & practices across europe
- ✓ Transition towards circular economy

Plastic Recycling saves up to **90% of CO_2 emissions**

ABOUT PRE

Plastics Recyclers Europe has been working relentlessly to put plastics recycling in the spotlight of the public debate.

For over 25 years, it has promoted recyclates use and high-quality recycling across Europe, and beyond.

Our actions have facilitated the creation of a Green Paper on Plastic Waste which identified public policy challenges induced by plastic waste, that were not specifically addressed in EU waste legislation. PRE has supported the Circular Economy Package and stands behind an increase of the recycling targets to 55% by 2030.

Through its various activities, PRE has raised awareness on and advocated against waste exports to developing countries. It has enabled the recognition of incompatibilities between the waste legislation and REACH.

Via various projects and research, our organization has aided to the growth of the plastics recycling market.

600 COMPANIES

8,5 MILION TONNES INSTALLED CAPACITY

€3 BILLION TURNOVER

20.000 EMPLOYEES

MEMBERS OF PLASTICS RECYCLERS EUROPE

Back in 1996 the organization was representing a handful of plastics recyclers. Today PRE is the voice of 150 companies, with recyclers at its core but also representing machine manufacturers, raw material producers and national associations of plastics recyclers.

ORGANIZATION'S TIMELINE

1996

EUROPEAN PLASTICS RECYCLERS IS ESTABLISHED

Founding members: Otto Kunststoff Recycling, Pears Plastics, Perstrop plastic System, Polyrecycling Model Holding AG (Poly Recycling AG), Ravago S.A., ARENA Recycling (Cedo Recycling), Rethmann Plano (Remondis), Testa Group, VKRÖ, Vaiplas

2006

10TH ANNIVERSARY IN CYPRUS

40 members

2012

NEW NAME & IMAGE

Plastics Recyclers Europe

EUCERTPLAST ESTABLISHED

First EU certification for plastics recyclers is established

2014

ONLINE RECYCLASS TOOL LAUNCH

2016

20TH ANNIVERSARY IN PORTUGAL

PRE grew from 40 to over 120 members

2017

PLASTICS RECYCLING SHOW EUROPE LAUNCH

First plastics recycling show in Europe

2018

PLASTICS RECYCLING AWARDS EUROPE LAUNCH

2019

RECYCLASS WELCOMES FIRST MEMBERS

2021

25TH ANNIVERSARY

Co-launch of PolyRec with value chain actors

PLASTICS RECYCLING MARKET: STATE OF PLAY

EVOLUTION OF THE CAPACITY

Given the wide range of physical, mechanical, and chemical properties of resins, plastics are used in a multitude of formulations and applications, with a demand of 50 million tonnes per year in the EU. Packaging makes up 40% of this share, followed by building & construction, automotive and electronic & electrical sectors.

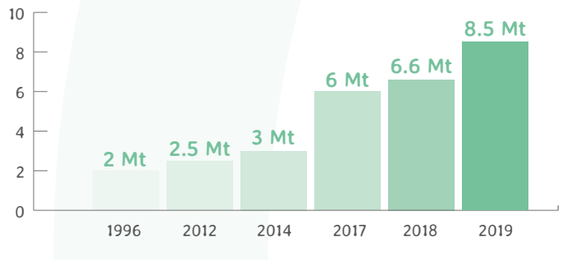
Today, packaging is the only stream for which EU stipulates specific, mandatory recycling target. Its significant market share and legal obligations can explain why with a rate of 40%, plastic packaging is still the most widely recycled stream in Europe.

Nevertheless, other plastic recycling streams, such as building & construction or technical plastics, are equally growing.

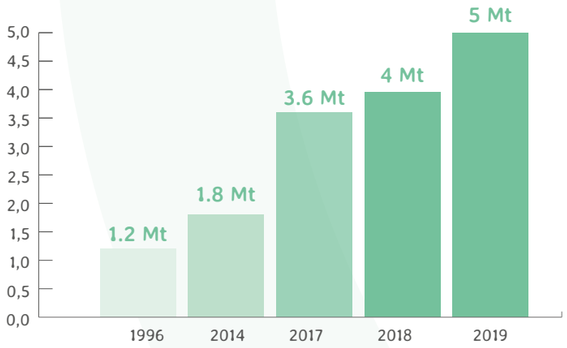
The most widely recycled polymers in Europe, covering circa 70% of the recycled plastic market, are polyolefins (PO) and polyethylene terephthalate (PET).

Legislative environment and, most notably, export restrictions have been among the key drivers of increased recycling since 2016. European plastics recyclers currently produce over 6MT of recyclates.

TOTAL INSTALLED PLASTICS RECYCLING CAPACITY



RECYCLATES PRODUCTION



Source: PRE

WHAT IS PLASTIC WASTE ?

Plastic waste is a material that is discarded and regarded as no longer serving its primary/original purpose.

Recycling is the treatment of waste that was discarded, transforming it into a new product or material.

'Waste' means any substance or object which the holder discards or is required to discard.

Article 3(1) WFD

WHAT IS PLASTIC RECYCLING ?

'Recycling' means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes.

It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

Article 3(17) WFD

PLASTIC WASTE STREAMS

POLYETHYLENE TEREPHTHALATE

GENERAL FACTS

- PET is one of the most widely collected and recycled polymer.
- 25% of total PET demand comes from rPET.
- Recycling capacity rose by 30% in last 2 years.
- Over 90% of virgin PET is used in beverage bottles and food trays.

MARKET TRENDS

- Bottle-to-bottle recycling is set to continue growing.
- Share of PET-to-PET trays recycling will gradually increase.
- Expansion of collection and recycling will come with the new legislative requirements.
- Minimum 1.1Mt of rPET must be used in beverage bottles by 2030.

DESIGN FOR RECYCLING

- Examples of design features that can hamper the recycling of PET:
  - Use of dark colours: limits the end-markets for recyclates;
  - Metallised and oversized labels: hinder recognition of the polymer and cannot be adequately separated during the recycling process.

LEGISLATION

- Single-use Plastic Directive sets several binding targets for PET:
  - Caps & lids must remain attached to the container while in use;
  - Beverage bottles must contain 25% recycled content by 2025, and 30% by 2030;
  - Collection rate for single-use beverage containers must be 77% by 2025, and 90% by 2030.
- Food Contact Material framework regulation.

SUCCESS STORIES & BEST PRACTICES

- Up to 100% PCR food contact packaging is possible today thanks to continuous improvements in recycling processes and technologies.
- 9 out of 10 Member States with established Deposit Return Schemes have sorted for recycling rates for PET bottles higher than 83%.

> *Just a few years back PET beverage bottles were recycled into fibres, for strapping or clothing. Today the biggest outlet is packaging – making circularity real even for food contact applications.*
>
> *Casper van den Dungen, PET Working Group Chairman & PRE Vice-President and Group Business Development Recycling Director, Poly Recycling AG*

RECYCLERS' VISION

Achieving collection and recycling of close to 100% for beverage bottles and trays to be used back in food applications.

RIGID POLYOLEFINS

GENERAL FACTS

- 4 to 6% of demand for HDPE & PP is met by rHDPE & rPP.
- Rigid HDPE & PP represent nearly 37% of the total demand for plastics in Europe.
- Packaging makes up the biggest share of rigid HDPE and PP applications, with 62% and 37% respectively.

TRENDS

- Demand is increasing for white/natural rHDPE in packaging products.
- HDPE/PP recycling has a potential to triple by 2030.

DESIGN FOR RECYCLING

- Notable improvement and innovation, such as the introduction of mono-material tubes for the cosmetics sector, are evident in the sector of rigid polyolefin packaging.
- Among the components with the greatest adverse impact on recyclability are the barriers, labels and multi-materials structures.

LEGISLATION

- Single-use Plastics Directive sets a mandatory recycled content target for beverage containers – this also includes milk containers for which HDPE is used.
- Rigid polyolefin packaging falls within the scope of the Packaging and Packaging Waste Directive and will therefore be counted towards the set recycling rate targets.

SUCCESS STORIES & BEST PRACTICES

- Closed loop recycling of crates & pallets is a long-standing and well-known practice. The re-use and recycling of these crates bears significant savings when it comes to resources, as well as CO^2 emissions. Certain recycling processes even qualify for EFSA food-contact authorization.

> *"The existing trend of fully circular uses of rigid polyolefin recyclates, where rHDPE from bottles is used in bottle production, and HDPE and PP crates can be recycled back into crates, must continue to grow.*
>
> *Herbert Snell, HDPE Working Group Chairman and Managing Director, MultiPort GmbH – MultiPet GmbH (part of Veolia Group)*

RECYCLERS' VISION

Development of a collection system and technology to recycle HDPE and PP back in food applications.

FLEXIBLE POLYETHYLENE

GENERAL FACTS

- Largest end-markets for recycled flexible PE are in non-food packaging and building & construction film applications.

TRENDS

- With a growing number of flexible plastic products there is an increasing demand for PE films.
- Collection of flexible PE from households is set to grow with new projects and developments across the Member States to reach the EU recycling targets.
- Demand for high-quality recycled flexible PE is continuously increasing.
- Flexible plastic value chain players commit to improving recyclability of plastics, as well as incorporating recycled content, with the aim of achieving circularity, reducing emissions, and saving valuable resources.
- EPR systems are willing to give a bonus to brand owners using PCR made from flexible plastic packaging collected from households.

DESIGN FOR RECYCLING

- Difficult to recycle flexible packaging is in the spotlight.
- Multi-material flexible packaging represents the biggest challenge in this stream, positive trends are emerging when it comes to the mono-material packaging.
- Barriers and additives have a significant negative impact on the recyclability of flexible PE.
- There are positive trends in design for recycling developments towards mono-material flexible PE.
- Flexible plastic value chain players are moving towards recyclability.

LEGISLATION

- Legislative support increased awareness of flexible packaging recycling.
- Single-use Plastics Directive introduces a requirement to set up Extended Producer Responsibility (EPR) schemes covering the costs of collection, transport, and treatment, clean-up and awareness-raising measures for packets, wrappers, lightweight plastic carrier bags & fishing gear.

SUCCESS STORIES & BEST PRACTICES

- Recycling of flexible plastic packaging films from households was long perceived as one of the most difficult, but technology and innovation have made it happen. Nowadays, these materials are increasingly collected, sorted, and recycled – and majority is used in non-food packaging applications.
- Member States are committed to increasing collection of flexible packaging from households – for example, this stream is included in Belgian household collection systems since June 2021.

"Flexible polyethylene from households has the highest potential of contributing towards the achievement of the EU recycling targets for plastics, with a prospect of more than tripling in size during the next decade.

However, to achieve these improvements in recyclability, collection, sorting and the uptake of recyclates in high-end applications are key.

Ton Emans, LDPE Working Group Chairman & PRE President and Group Director Recycling, Cedo Recycling

RECYCLERS' VISION

- EU-wide separate collection of flexible plastics
- Development of a collection system and technology to recycle flexible polyethylene back in food applications

POLYVINYL CHLORIDE

GENERAL FACTS

- Window frames are one of the main sources of PVC waste that is collected for recycling.
- PVC represents 10% of the total European demand for plastics.
- Recycling of PVC has experienced steady growth in the last two decades, reaching more than 770,000 tonnes in 2019.

TRENDS

- Germany, France and Poland are the countries with highest potential for post-consumer window recycling.

SUCCESS STORIES & BEST PRACTICES

- Importance of value chain collaboration is highlighted by the PVC industry's voluntary commitment. The commitment gave rise to VinylPlus programme through which, thanks to the involvement of European PVC recyclers and converters, the work on sustainable development of the PVC market continues. Among its latest activities, VinylPlus has pledged to recycling at least 1 million tonnes of PVC waste, per year, by 2030.

"Circularity of PVC has been fostered through strong value chain collaboration & commitments. We must continue building on this progress and increase further collection, sorting & recycling of PVC.

Maribel Cansell, PVC Working Group Chairwoman and Sales Area Manager, Plasper

RECYCLERS' VISION

- Achieving collection close to 100% for PVC plastic waste
- Guaranteeing safe use of additives and substances in PVC products

TECHNICAL PLASTICS

GENERAL FACTS

- Automotive and electrical & electronic sectors represent 10% and 6%, respectively, of the total European demand for plastics.
- Plastics constitute a half of the components found in a modern car, while their weight represents only 10% of the total[3].
- Today, roughly one fourth of the collected Waste Electrical and Electronic Equipment (WEEE) is recycled in Europe, with the remainder being exported.

TRENDS

- Enhanced collection of Waste Electrical and Electronic Equipment (WEEE) and End of Live Vehicles (ELV) is set to increase the availability and quality of recycled materials coming from these streams.
- Harmonised methodology, and thereby practices, of monitoring of substances is key in establishing trust in the safety and quality of recycled technical plastics.
- Innovation in recycling technology is set to drive the increasing treatment of polymers such as PC and PC-ABS within the next decade.

LEGISLATION

- Legislative certainty is much needed, as investments are particularly required to further define the technical plastic streams
- The Ecodesign Directive and Ecolabel Regulation play an essential role when it comes to electrical & electronic appliances, as they provide concrete guidelines on how to improve the recyclability and reusability of the most present items in our everyday lives.

SUCCESS STORIES & BEST PRACTICES

- Companies and brands are increasingly opting for recycled plastics, as part of their sustainability strategies. This is also the case for technical plastics.
- Testament to the quality of recycled technical plastics are the high-end products which are manufactured with them – such as the SENSEO® Eco Coffee Maker by Philips or Volvo's Recycled plastics demo car, both of which were recognised as winners of the Plastics Recycling Awards Europe[4].

3. https://743c8380-22c6-4457-9895-11872f2a708a.filesusr.com/ugd/dda42a_6644d71e69704a33afe012418e159094.pdf

4. Plastics Recycling Awards Europe are annual awards, recognizing the achievements and developments of the European plastics recycling industry. The Awards were launched in 2017 by Plastics Recyclers Europe and Crain Communications.

> *"Versatility of technical plastics is what makes them so attractive. We as recyclers have proven that this is also true for recycled plastics, and now we must ensure the continued growth and stability of this market.*
>
> *Tom Caris, Manager Business Development, Coolrec*

RECYCLERS' VISION

- Development of processes to enable the treatment of material streams containing legacy additives of concern (e.g.: solvent-based purification) to achieve higher recycling rates.

EU ENVIRONMENTAL ACQUIS

EU is a trend setter and a strong advocate for environmental protection worldwide. It has one of the most ambitious waste legislations in the world. Its Environmental Law dates to 1973 when the first Environmental Action Programme was adopted. It sets the environmental objectives of the Member States.

Today, there are over 300 acts covering: regulations, directives, decisions, and recommendations that make up the EU environmental legislation.

Environment was built-in in the EU Treaties in 1987, with the introduction of the Single European Act, extending the powers of the community to that area. From that point on, the main developments of the environmental legislation started with a number of legally binding targets introduced in the 1990s.

WASTE ACQUIS

Throughout the past decades, EU policy-makers have been working towards advancing plastic waste management practices in Europe. This was made possible by recognizing plastic waste as a valuable resource. As such, plastics recycling emerged as an important element of the EU's circular economy and a crucial step in helping to solve the plastic waste crisis.

The turning point for the industry was the Green Paper on Plastic Waste published by the Barroso's Commission back in 2013. It marked the first step on the way towards improving plastic waste management in Europe. It set the basis and goals for the review of the Waste Framework Directive (WFD), known as the Circular Economy Package, the guiding document for waste policies in the EU. The revision of WFD and its introduction of the 55% plastics recycling rate target by 2025 was an important legislative change that gave confidence for further investments in the sector.

"Member States shall take measures to promote high-quality recycling..."

Waste Framework Directive, Article 11

PIONEERS OF THE LEGISLATION ON PLASTICS RECYCLING

BARROSSO'S COMMISSION

JANEZ POTOČNIK

European Commissioner for Environment from 2009 until 2014

Advocate of resource efficiency & circular economy

Mainstreamed environmental awareness in EU policy

MAIN ACHIEVEMENTS

Visibility & importance of resource efficiency, plastics recycling in the focus; start debate on improving plastics waste management

"Europeans want to waste less, and they are making efforts to practice what they preach. This makes moving to a more circular economy a logical step forward. The appetite for more recycling is there: now we need to deliver the mechanisms to help it happen."

European commission 2014

JUNCKER'S COMMISSION

FRANS TIMMERMANS

First Vice-President of the European Commission 2014 - 2019

Vice-President of the European Commission 2019 - 2024 (Van der Leyen Commission)

Fervent advocate of solving the plastic waste crisis

Spearheaded the Plastic Strategy & supervised launch of the Circular Plastic Alliance, author of the 'all plastic packaging should be recyclable' phrase; leading EU Green Deal

MAIN ACHIEVEMENTS

Single Use Plastics Directive adopted – one of the fastest legislated files in the EU's history

"Close cooperation within and between all the links in the plastics value chain is essential if we are to achieve a true circular plastics economy and ensure that recycled plastics find their way to new products, instead of into landfills or the incinerators."

Circular Plastics Alliance launch 2018

JYRKI KATAINEN

Vice-President of the European Commission 2014 - 2019

Advocate of improving the economics of plastics recycling

Coordinated the Plastic Strategy & supervised launch of the Circular Plastic Alliance

"We need to change the fundamentals of the plastics market. We need to make sure that the circular economy is as profitable as the current linear economy."

EURACTIV.com 2018

EU DEVELOPMENTS TIMELINE

1975

WASTE FRAMEWORK DIRECTIVE

1994

PACKAGING AND PACKAGING WASTE DIRECTIVE

1995

DIRECTORATE 3 OF EUROPEAN COMMISSION CREATED
stemming from the European Recycling Forum initative

2011

ROADMAP TO A RESOURCE EFFICIENT EUROPE
Direction for the creation of a recycling economy

2013

GREEN PAPER ON A EUROPEAN STRATEGY ON PLASTIC WASTE IN THE ENVIRONMENT
Consultation on how to improve plastic waste management

2014

7TH ENVIRONMENT ACTION PROGRAMME
Vision for transforming EU's economy into a sustainable one by 2050; designed to guide European environmental policy until 2020

JUNCKER'S COMMISSION

KARMENU VELLA

European Commissioner of Maritime Affairs and Fisheries from 2014 and 2019

Put Circular economy in focus

Circular economy goes to the top of the agenda of the European Commission; focus on reducing marine litter; legacy of Potocnik continued.

MAIN ACHIEVEMENTS

New, ambitious plastics recycling targets set

"The Commission has understood that plastics recycling needs to be supported and that this can be attained through appropriate legislation, such as higher recycling targets for plastic packaging and municipal waste in general, phasing out plastic to landfill and perhaps End of Waste criteria for plastic waste."

Plastics Recyclers Europe Annual Meeting 2015

VAN DER LEYEN'S COMMISSION

VIRGINIJUS SINKEVIČIUS

European Commissioner of Maritime Affairs and Fisheries from 2019 and 2024

Making the circular economy work

Towards zero-pollution ambition and a climate-neutral economy by 2050; New Circular Economy Package and implementation of the Single Use Plastics Directive

MAIN ACHIEVEMENTS

Green Recovery & plastics recycling

"The best currently accessible way of dealing with plastics is recycling. It has a lot of assets, for example, it makes us less dependent on imported natural resources, which in turn increases our resilience for crises. The pandemic has reminded us how important it is."

2021,Euractive.pl

KĘSTUTIS SADAUSKAS

Director For Circular Economy and Green Growth, European Commission Since 2014

Advocate of increased quality recycling & uptake of recycled plastics

"We can only achieve the Plastic Strategy's vision if we all work together across the value chain to make plastics fit for the circular economy and really worth the separate collection. as we go circular globally, plastic has to become a symbol of that circularity"

Plastics Recycling Show Europe 2019

EU DEVELOPMENTS TIMELINE

2018

CIRCULAR ECONOMY PACKAGE Waste Package revision; fixes a new target of 55% recycling of plastic packaging waste by 2030

A EUROPEAN STRATEGY FOR PLASTICS IN A CIRCULAR ECONOMY Holistic approach to improve economics and quality of plastics recycling & curbing marine litter

CIRCULAR PLASTICS ALLIANCE Launched to aid industry in accelerating the creation of EU market for recycled plastics to 10 Mt by 2025

2019

SINGLE USE PLASTICS DIRECTIVE Comprehensive strategy on plastics; sets target for plastic beverage bottles: 90% collection by 2029 and 30% mandatory recycled content by 2030

EU GREEN DEAL sets an objective to make Europe's economy greener

2020

NEW CIRCULAR ECONOMY PACKAGE Revision of the Waste Package; sets goal for all packaging to be reusable or recyclable by 2030

2021

SINGLE USE PLASTICS DIRECTIVE is in force (& its implementation begins)

CIRCULAR PLASTICS ALLIANCE First report published on placing 10Mt of recycled plastic by 2025

GREEN TAXONOMY Rules on supporting sustainable & green financing

LATEST LEGISLATIVE DEVELOPMENTS TACKLING PLASTIC WASTE

Legislation plays a vital role in advancing high quality plastics recycling and promoting the use of recyclates in products, increasing trust among users and consumers. It brings clarity and certainty, which are primordial for further investments as well as indispensable to reach the EU recycling targets.

Recently implemented EU measures that are covered by the Single Use Plastics Directive, for instance, have demonstrated how legislative developments can stimulate the market. Recycled content targets for PET bottles have increasingly driven demand for such recyclates, thus boosting the EU market for recycled plastics. The current revision of the Packaging and Packaging Waste Directive and potential inclusion of recycled content targets for format-specific packaging would further increase this demand for plastics recyclates.

EU'S OBJECTIVE

The EU is pursuing its objective of transforming the EU economy from a linear to a circular model. Specifically, in the last years the Commission laid down the ground for laws which regulate the production of plastics and the management of their end-of-life.

With the European Strategy for Plastics published in early 2018, the EU took a firm step to address this issue. The Strategy has set direction for tackling plastic waste mismanagement and improving economics of plastics recycling, while boosting the uptake of recyclates. More importantly, it has introduced for the first time the target of making all plastic packaging put on the EU market reusable or recyclable by 2030. Moreover, the 2018 Plastics Strategy has led to the creation of the Circular Plastics Alliance and its pledge to boost the EU market for recycled plastics to 10 million tonnes by 2025. This announcement resulted in an influx of voluntary commitments by industry players, brand owners, retailers, and other value chain players, geared at improving recyclability of plastic products and promoting the use of recyclates.

Stemming from the Plastics Strategy and with the objective of introducing legally binding measures and targets, the Commission put forward the proposal for a series of directives. One of these, known as the Single Use Plastics Directive, targets the 10 single-use plastics most frequently found on Europe's beaches, and sets collection and recycled content targets for PET beverage bottles. This Directive constitutes an important step in fostering high quality plastics recycling in Europe.

In line with its objective of protecting the environment and fighting pollution, in 2019 the European Commission published the EU Green Deal – a roadmap for making Europe carbon neutral by 2050. Stemming from this roadmap, the New Circular Economy Action Plan was published in 2020 outlining the actions to improve the manufacture of products and their end-of-life management. It particularly focuses on enhancing separate collection, waste shipments, waste reduction measures and recycled content targets for packaging products as well as construction and vehicles.

More recently and following the COVID pandemic, the European Commission has reaffirmed its commitment to the circular economy with its green recovery (Next Generation EU) – aiming to accelerate the twin green and digital transitions, while building a fairer and more resilient society.

The EU Green Deal sets a goal to fight pollution and restore biodiversity in Europe. It is an action plan guiding the EU towards a clean, circular economy where economic growth is decoupled from resources use. With reducing energy consumption and carbon emissions, the aim is to achieve carbon neutrality in Europe by 2050.

It enlists several ambitious measures, tackling key policies, to enable a transformation of EU's economy for a sustainable future.

SINGLE USE PLASTICS DIRECTIVE

One of the fastest proceeded files in the history of the EU legislative process.

Its goal is to prevent and reduce the impact of the defined plastic items on the environment, and especially the marine ecosystem.

The SUPD is in line with the New Circular Economy Action Plan and complements the EU Plastics Strategy. In the global landscape, the legislation will contribute to attaining the Sustainable Development Goals 12 and 14 of the United Nations, and the Communication on International Ocean Governance.

It introduces common definitions, sets clear targets for separate collection, and aims at ensuring a level playing field between EU Member States.

3.

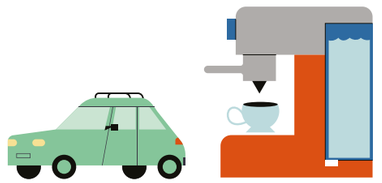
PLASTIC RECYCLING A LOOK BACK

Plastics recycling sector has grown alongside the plastic industry. It started in the late 80s as inhouse, post-industrial (or pre-consumer) waste recycling.

Shortly after, the first recycling plants emerged to reprocess post-consumer waste, and specifically PET bottles.

The technology that was used at that time did not allow for the use of recyclates in the same applications. However, within two decades of research and innovation, technological upgrades allowed for high quality closed loop recycling, enabling the use of recycled plastics even in food grade applications.

Since then, continuous innovation and improvements have led to its increasing growth. Recycling technologies have enabled an effective substitution of virgin plastics in a vast array of products. Today, the sector that once was heavily labour intensive and limited to manual sorting is fully automatized.

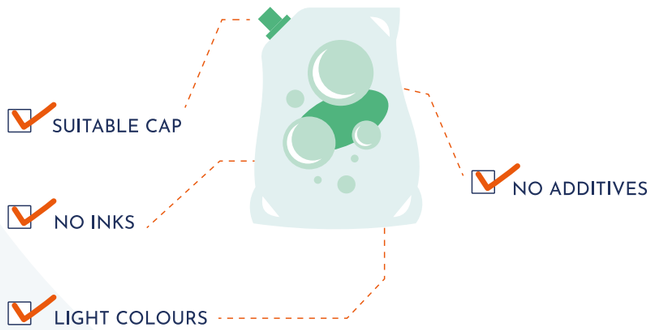


SINCE THE 90s,
the number of waste streams suitable for recycling and the end-markets have been growing to include the automotive and electrical and electronic sectors.

DESIGN FOR RECYCLING

Importance of design has had an ever-growing role in the circular journey of plastics. Recyclability, a principle seldom used in the past, has come to shape the sustainability decisions and strategies of virtually all the players in the plastic value chain. Industry's commitments are at the forefront of securing the transition towards recyclable plastic products.

The expertise of recyclers has moulded the creation of various design for recycling guidelines and scientifically based testing protocols, such as the ones offered by RecyClass, providing other players with the necessary knowledge for improvements. The next step is the harmonization of these guidelines and the uniform uptake by all actors to create a level playing field.



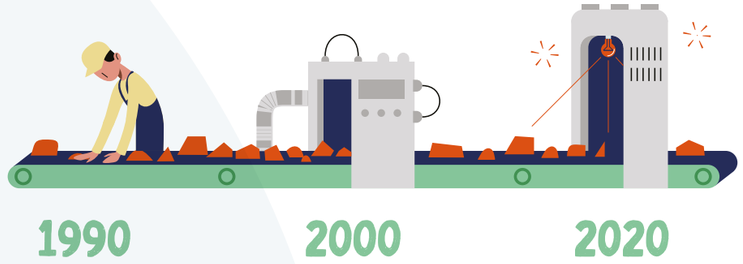
COLLECTION

The Chinese import ban on waste, effective from January 2018, uncovered the scale of European and global waste exports, as well as the health and environmental hazards associated with them. It exposed the weak points of the global waste management including in the EU, and areas that must be urgently addressed. For recyclers, the ban came as an opportunity to focus on the remaining challenges that the industry is facing.

For plastics recycling to be effective, collection of waste is essential. Over the past years on the European market, collection schemes have been adapting and broadening to include more plastic types. With separate collection, we can ensure that the materials reach the destined facilities and therefore secure the chance to use them as raw materials for new products.

Separate collection does not only ensure a stable supply of recycled materials, but also its quality.

Deposit return schemes (DRS) have proven themselves as a viable, efficient, and effective way of increasing the collection rates and therefore enabling increased recycling as well. If we look to the cases of Germany, Finland, or Lithuania – countries that have established DRS – we can observe a rate higher than 90% of PET bottles sorted for recycling. Best practices developed in these countries can be applied to a broader European scope, and therefore promote harmonization of collection.



Near Infra-Red (NIR) technology is used to separate plastics

SORTING

The industry has come a long way from manual sorting to fully automated systems, readily available in majority of European recycling infrastructures.

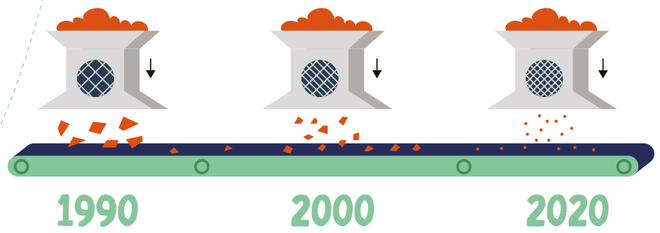
Notable improvements in the quality of sorted waste can be observed with the introduction of optical/sensor-based technologies (like Near-Infrared (NIR), Mid-Infrared (MIR) or hyperspectral imaging). With NIR, for example, plastics can be sorted in more refined streams. This in turn decreases the number of unwanted materials and contaminants, allowing for a higher quality of recycling input.

To further bring transparency to the quality of sorting and reliability of supplied recycling input, PRE, with the expertise of its members, has developed dedicated Recycling Input Characterisation Guiding Requirements. These documents aim to set industry-wide standards for the benchmarking of high-quality recycling practices.

RECYCLING PROCESSES

Increased collection and more efficient sorting have led to improvements in the quality of recycling processes. Notable technological advancements in this segment also include hot-wash practices, finer filtration, more efficient extrusion machinery and other developments like odour elimination.

The different innovation worked hand in hand to allow for an improvement in the purity of recycled materials. Decades' worth of research has enabled the industry to close the loop – using recyclates for the production of original product applications. With that, the recyclers have enabled the true essence of circular economy – keeping the resources in the loop and promoting carbon neutrality.



Plastic material is melted & filtered to remove contaminants

RECYCLING PROCESSES CAN BE CLASSIFIED UNDER TWO MAIN CATEGORIES

PHYSICAL RECYCLING

where the material is processes without alterations to its chemical structure

CHEMICAL TREATMENT

where polymers undergo a chemical process and are reduced to monomers, to then obtain virgin-like polymers to be used in new plastic articles.

The most common and widely established is mechanical recycling, which falls under physical recycling. Via a mechanical operation, plastic waste is most often grinded, washed, dried, extruded, re-granulated and then converted. Physical recycling also includes solvent-based purification, such as dissolution processes. Today, physical recycling technologies contribute the most towards the EU recycling rates.

Chemical treatment technologies are not new but are increasingly in the spotlight. By definition, only the processes of which the output is used to produce new chemicals including polymeric materials are considered as chemical recycling. While their share still represents only a small percentage of the overall installed capacity for the recycling of plastic waste in Europe, promising developments are on the rise for chemical treatment.

What do physical and chemical processes have in common? The feedstock of chemical treatment operations does not differ much from physical recycling. Pre-treatment steps like sorting, washing, and grinding are equally necessary to enable an efficient chemical recycling process, as in the case of physical recycling.

The two types of processes remain complementary. Where mechanical (or physical) recycling proves less efficient, as in the case of difficult to recycle or non-recyclable plastics such as multi-layers, multi-material, heavily contaminated waste, or residues of the recycling process, chemical processes may be used in a way that does not compete with the feedstock of mechanical recycling.

Following the completion of pilot plant phases, several companies are planning to invest in commercial chemical treatment plants. The combination of innovative developments for physical and chemical processes must go hand in hand to boost the circularity of plastics, as well as the achievement of the EU recycling targets.

HOW DOES PLASTIC RECYLING WORK

UPTAKE OF RECYCLATES

When recycling first started, recyclates were used in what is commonly called down-cycling processes. Poor collection, ineffective sorting and unoptimized processing did not allow for production of high-quality materials, which limited the number of viable end-markets.

Today, however, anything is possible with recycling!

Testament to this is the increasing uptake of recycled plastics globally, production of 100% recycled products and numerous commitments of industries to increase the recycled content in their portfolios.

To promote increased trust in recyclates and their quality, there is a need for standardised characterisation practices and a reliable system of material traceability verification. With that, PRE developed the Recyclates Characterisation Guiding Requirements, to set a benchmark on the market. When it comes to material traceability, RecyClass offers the Recycled Plastic Certification based on a chain-of-custody approach.

Decoupling of recycled plastic prices from those of virgin ones and strong legislative support are necessary for the establishment of a stable recyclates market.

ACTIVITIES OF THE PLASTIC RECYCLING INDUSTRY

RecyClass

PLASTIC FUTURE IS CIRCULAR

RecyClass was launched by PRE back in the early 2010's. With this initiative recyclers took the challenge of raising awareness among the plastic value chain on the importance of design for recycling. Initially, the goal of RecyClass was to solely evaluate, rank and provide advice on the recyclability of plastic packaging that was placed on the EU market.

Today, RecyClass is a comprehensive cross-industry initiative working on advancing plastic packaging recyclability and driving the establishment of a harmonized approach towards recycled content calculation in Europe.

By representing the actors of the whole value chain, RecyClass provides tools that are scientifically verified, approved, and promptly delivered to the industry and the market, while creating a positive environment for innovation. Via its methodologies and guidelines, it assesses and evaluates the impact of existing plastic packaging solutions, as well as innovations on the recycling streams.

Its vision is to make packaging and, eventually, all plastics circular by making them recyclable and by boosting transparent uptake of recycled material in new products in line with the circular economy.

In 2020, RecyClass extended the scope to also include the assessment of the use of recycled plastics via a third-party certification based on traceability principles and chain of custody.

By advising and supporting brands and the industry on their journey towards sustainability, RecyClass brings them a step closer to full plastics circularity. This is possible thanks to a credible, fact-based certification & labelling that RecyClass developed. It includes solutions for verification of recyclability, based on design for recycling guidelines, and recycled content claims thanks to its unique approach grounded on scientific findings.

+ 60 MEMBERS

5 TECHNICAL COMMITEES

FACT-BASED APPROACH, TRANSPARENT METHODOLOGY, RECYCLABILITY & RECYCLED CONTENT CERTIFICATIONS

BASED ON CHAIN OF CUSTODY MODEL ISO 22095, EN 15343:2007

RECYCLER'S CERTIFICATION

EuCertPlast is an EU-wide certification for quality recycling processes. The aim of the certification is to recognise plastics recyclers operating according to high standards, best practices and in an environmentally friendly manner.

The scheme focuses particularly on the traceability of the waste material during the recycling process, assessment of conformity and calculation of final recycled content as well as management systems, environmental and administrative operating standards and associated legal compliance.

EuCertPlast promotes and encourages the harmonization of plastics recycling processes which would ultimately strengthen the market for recycled plastics. By promoting transparency and highest standards, the EuCertPlast certification contributes, as well, to the Circular Plastics Alliance's objective to increase the uptake of recycled materials to 10 million tonnes by 2025.

In 2020 EuCertPlast certification was granted to more than half of the total EU recycling capacity covering both pre- and post-consumer streams.

The positive trend of a steady increase of certifications shows the increasing demand for third-party verification of the origin of waste and recycled content calculation, and consequently the growth and the maturing of the plastic recycling market in Europe.

+ 4.6MT OF INSTALLED CAPACITY CERTIFIED

+ 214 RECYCLING FACILITIES

33 COUNTRIES

EN 15343:2007 BASED

COVERING + 50% OF TOTAL EU RECYCLING CAPACITY

PLASTICS RECYCLING SHOW EUROPE & PLASTICS RECYCLING AWARDS EUROPE

Fair dedicated to plastics recycling in mainland Europe. The free-to-attend conference and exhibition has firmly established itself as the focal point of plastics recycling in Europe. Plastics Recycling Awards Europe celebrates and recognizes the innovation and development of the industry. PRAE is the platform that puts in focus the innovation, technological developments and number of possibilities lying in the sector.

PRSE
+ 120 EXHIBITORS
+ 3000 VISITORS

PRAE
+ 100 FINALISTS
7 AWARDS CATEGORIES

PLASTICS RECYCLERS ANNUAL MEETING

+ 300 VISITORS
+ 35 SPEAKERS
+ 10 SPONSORS

... ACROSS THE WHOLE VALUE CHAIN

WASTE & RECYCLATES CHARACTERISATION

Guidelines developed to assess quality of waste and recyclates are not made to replace the existing specifications which have been contractually agreed. They are made to provide an information benchmark to suppliers of any collected waste. The conformity of this specification will be checked according to agreed quality check procedure.

FOOD CONTACT

PRE is actively engaged in the establishment of an appropriate European legislative framework on the use of recycled plastics in food contact applications. The aim is to facilitate closed-loop plastics packaging and to secure the health of EU citizens by setting up reliable testing and control systems.

PRE 1000 METHOD

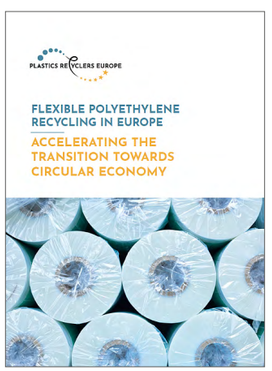
Monitoring tool developed by PRE to aid recyclers in being compliant with the existing legislation like REACH or POP.

PLASTICS RECYCLING STATISTICS

A yearly overview of the recycling capacities in Europe to track the developments within the industry.

PUBLICATIONS

PRE produces market studies on a regular basis. The latest series of reports provides an overview of production, trade, collection, reprocessing and recycling of the main plastic waste streams in Europe.



VALUE-CHAIN COLLABORATION

PRE partners up with actors whose objective is to improve circularity of plastics with the long-term objective. This includes business, policymakers, academia, and different institutions in Europe and beyond. Together with Petcore Europe, and the European PET Bottle Platform (EPBP), PRE has worked on advancing circularity of PET starting with their manufacture and ending with collection and recycling at the end-of-life. With a goal of harmonising design guidelines and testing protocols to create Global Plastics Protocols, PRE collaborated with the Association of Plastics Recyclers from the United States.

In October 2018, New Plastics Economy's Global Commitment was launched, aiming to create a "new normal" for plastic packaging. More than 350 signatories and 200 endorsers, including PRE, are part of this initiative.

PRE has joined the Circular Plastics Alliance and European Plastic Pact initiatives. Our association has been additionally granted the NGO Observer status at the Basel and Stockholm Conventions, as well as a status of an Observer to the European Commission's Waste Correspondents Meeting. PRE is also an official Accredited ECHA Stakeholder Observer.

The goal of making plastic circular can be achieved only if we put all hands on board. That is why we work with all actors including associations, companies, academics, and across different platforms to make that happen

Casper van den Dungen, Vice President PRE

4.

PLASTICS RECYCLING IS PART OF A BETTER FUTURE

KEY MARKET TRENDS

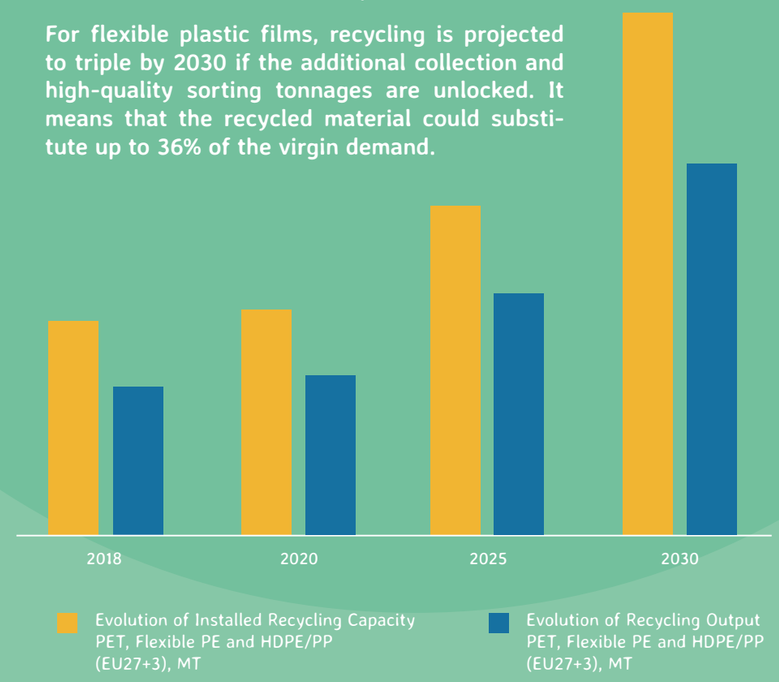
New recycling capacities must continue growing to accommodate the new tonnages and to achieve the new EU recycling targets.

While the future growth of the installed capacities will vary depending on the type of waste stream, given the EU recycling targets, the upward trend will be visible across all sectors.

In the case of PET, the projected growth is linked to the provisions of the recently released Single Use Plastics Directive, as well as the voluntary pledges of the producers, brand owners and retailers – which gave an extra push towards the already significant improvements in recycling processes for PET.

It is projected that with the increasing quality of waste from this stream, partly due to increased separate collection with deposit return schemes, rPET could reach as much as 55% of total PET demand by 2030 – in particular, for food-grade rPET used in bottle-to-bottle processes.

For flexible plastic films, recycling is projected to triple by 2030 if the additional collection and high-quality sorting tonnages are unlocked. It means that the recycled material could substitute up to 36% of the virgin demand.



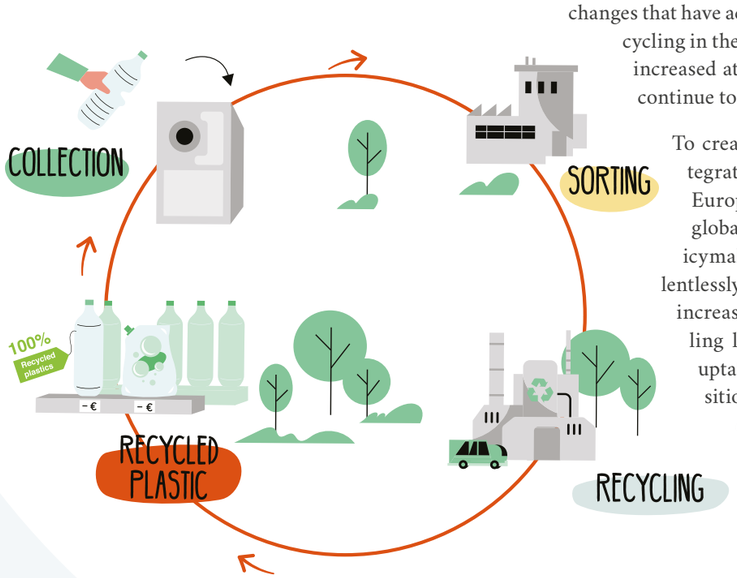
Source: PRE estimate

WHAT IS NEXT: BUILDING A CIRCULAR ECONOMY FOR PLASTICS WITH RECYCLING

To effectively address the issue of plastic waste, we must look at systemic solutions – and plastics recycling is just one piece in this puzzle, and a key element in reducing plastic waste. To be effective, it must be successfully implemented along with other solutions.

In addition to helping solve the mismanagement of plastic waste, the recycling industry has an important role to play in achieving a climate-neutral Europe. The positive changes that have accelerated the growth of plastic recycling in the recent years, largely thanks to the increased attention from the legislators, must continue to achieve that objective.

To create a fully successful and fully integrated plastic recycling market in Europe, that can be set as an example globally, the whole value chain and policymakers must collaborate. Only by relentlessly addressing product design issues, increasing collection and sorting, tackling low recycling rates, and boosting uptake of recycled materials, the transition towards truly circular plastics can be implemented.



WHAT WILL SHAPE THE EUROPEAN PLASTICS RECYCLING MARKET IN THE NEXT DECADE?

It is expected that by 2030, half of the overall plastic demand in Europe is to be covered by proliferation of reuse models and the increased uptake of recyclates. While the technological advancements, various commitments and targets have set the right course for this to be achieved, the industry and policymakers must work together to optimise each step on the journey towards a circular plastics economy and climate neutral Europe.

DESIGN FOR RECYCLING – COLLECTION – SORTING

Design is the first step – bringing back value to materials and ensuring their sustainability from the first phase. Without recyclable materials circularity of plastic cannot be guaranteed as recyclability ensures high-quality material and the multiple recycling loops.

While each component plays an important role in the recyclable design of a packaging, the influence of additives, substances of concern and certain polymers have gained the most attention. Simpler products lead to cleaner streams, which in turn enable recyclers to recycle the materials multiple times.

In parallel, collection, sorting and recycling capacities must be maximised, supported by the upscaling of new technologies to increase quality and efficiency, as well as EU-wide standards. This will include sorting plastic waste per polymer and colour type.

With the new obligations stemming from the Basel Convention, more plastic waste will remain within EU and therefore the waste management infrastructures must adapt to absorb the increased flows to be treated domestically.

CIRCULAR PRODUCTS FOR NEW MARKETS

Better design, increased collection, sorting, and high-quality recycling paired with proliferation of closed loop and cascaded recycling will positively impact availability and quality of recyclates on the European market. This would enable an exponential increase of the use of recycled plastics in new, high-end products.

TRANSPARENCY, STANDARDS & HARMONIZATION

Moving towards circular plastic products requires transparency and trust, principles which can be guided by a reliable set of harmonised European standards and certification schemes. Clear, transparent messaging is key in signalling the sustainability of products and safeguarding the end-consumer's trust. These must include guidelines and benchmarks on recyclers' input as well as the output. Ensuring the quality of the recyclers' output is a must to increase the confidence of the converters and end-users, to eventually drive the market transformation towards circularity. This also includes the end-of-waste criteria for better regulation of waste shipments across and outside of the EU.

BEST PRACTICES AND NEW TECHNOLOGIES

Upscaling on highly efficient and automized processes is yet another element of the way forward for the industry. While new technologies bear significant importance, Europe must not overlook its existing technologies which allow recycled materials to be used instead of virgin plastics, by adopting and continuing to advance best practices in sorting, washing, extrusion and decontamination of plastics waste.

WELL-ESTABLISHED RECYCLED PLASTIC MARKET

Decoupling virgin plastics price from recycled material remains a priority to ensure the demand for recycled materials.

SUSTAINABLE USE OF RESOURCES AND GREEN ENERGY

In addition to optimising the recycling processes, the plastics recycling facilities are increasingly becoming more sustainable with the use of closed-loop water management systems and the use of renewable energy – and this trend is set to continue.

VALUE CHAIN COLLABORATION

Increasing value chain collaboration and sharing of knowledge guarantee the success in achieving the EU recycling targets. For instance, the Circular Plastics Alliance brings together key industry actors in efforts to boost the uptake of recyclates in the EU.

The commitment of both the industry and the policymakers to support the transformation of the plastic waste management and its production is therefore key to advance plastics recycling rates in Europe.

LEGISLATION

Europe sets itself apart as the leader in sustainable legislative action and with the right incentives, it will continue to help stimulating the growth of the recycling industry.

Consistent, reliable legislative support is key here. Measures that support the use of recyclates and more sustainable products will ensure the establishment of a strong secondary raw materials market and thus a truly circular plastics economy.

Legislation is an important facilitator of market changes as it creates a pull mechanism for investments and provides legal certainty to the industry players. Further targets and measures to boost plastic recycling will result in accelerating the transition towards enhancing waste management system and towards true circularity for plastics.

FUTURE OF PLASTIC RECYCLING

PRODUCTION
- Design for recycling
  Safe use of additives & substances
- Mandatory recycled content
  - Recyclable products for multiple recycling loops
  - High end applications
  - Transparent products claim

USE PHASE
- Prevention & reuse

COLLECTION
- Increased collection

SORTING
- Enhanced & optimised sorting technilogy
- Sorting capacity

RECYCLING
- Automatisation & industrialisation of the sector
- Improved recycling technologies to increase quality
- Recycling capacity

LEGISLATION
- EU wide harmonisation & standardisation
  For collection, sorting, EU waste criteria, recycled plastic

VALUE CHAIN COLLABORATION & KNOWLEDGE SHARING
- From manufacture collection, sorting, recycling to use phase

INVESTMENTS
- In new capacities research & development

PLASTICS RECYCLING FOR A BETTER FUTURE: LEGISLATIVE TIMELINE

2025

10 MLN TONNES OF RECYCLATES TO BE USED IN NEW PRODUCTS
Circular Plastic Alliance

50% RECYCLING TARGET FOR PLASTIC PACKAGING
Packaging and Packaging Waste Directive, Circular Economy Package

25% RECYCLED CONTENT IN PET BEVERAGE BOTTLES

2029

90% COLLECTION TARGET FOR BEVERAGE BOTTLES
Single Use Plastics Directive

2030

30% RECYCLED CONTENT IN ALL BEVERAGE BOTTLES
Single Use Plastics Directive

55% RECYCLING TARGET FOR PLASTIC PACKAGING
Packaging and Packaging Waste Directive, Circular Economy Package

100% PLASTIC PACKAGING TO BE RECYCLABLE BY 2030
European Plastic Strategy

2050

CARBON NEUTRAL EUROPE
European Green Deal

FUTURE OF PLASTIC RECYCLING IN EUROPE

Combining its environmental and economic aspects, it is clear why plastic recycling is one of the most important pillars of the circular economy. Without it, we cannot hope for a better future where waste is managed properly, emissions are lowered, and a carbon-neutral Europe is achieved. However, recycling must work together with other solutions, while the involvement of all stakeholders, such as legislators, value chain actors and consumers, is imperative for its success.

Growing population, changing consumption patterns, and increasing pressure on natural resources all highlight the urgency to move towards sustainable practices and to reduce our dependency on fossil fuels. Therefore, it is imperative to look beyond the quick-fix measures. Increasing collection and stopping the leakage of plastic waste to the environment are among the first steps in this transition.

The industry must act now, with durable solutions, ambitious legislative support, and the long-term objective of making all plastics fully circular in mind. Keeping resources of highest quality in the loop is a priority.

Recycling has proven itself a sustainable, valid business model with means of effectively addressing the plastic waste issue and aiding the decarbonisation of Europe, through technological developments, resiliency during the COVID-19 pandemic, fast-paced growth and continuous innovation.

The groundwork has been laid out through different initiatives and legislative requirements, setting course for the systemic change towards a sustainable use of resources and opening doors to invaluable business opportunities. The commitment of recyclers is clear – while much work remains ahead, the past successes are the foundation upon which the circular plastics future can be built.

PLASTICS RECYCLERS EUROPE

Avenue de Broqueville 12,
1150 Brussels - Belgium
+32 2 786 39 08
info@plasticsrecyclers.eu
www.plasticsrecyclers.eu

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Co-authors : Emilia Tarlowska - Nina Knezic