



Plastics – the Facts 2020

An analysis of European plastics
production, demand and waste data

PlasticsEurope
Association of Plastics Manufacturers



Plastics—the Facts is an analysis of the data related to the production, demand and waste management of plastic materials. It provides the latest business information on production and demand, trade, recovery as well as employment and turnover in the plastics industry. In short, this report gives an insight into the industry's contribution to European economic growth and prosperity throughout the life cycle of the material.

The data presented in this report was collected by PlasticsEurope (the Association of Plastics Manufacturers in Europe) and EPRO (the European Association of Plastics Recycling and Recovery Organisations).

PlasticsEurope's Market Research and Statistics Group (PEMRG) provided input on the production and demand of plastic raw materials. Conversio Market & Strategy GmbH helped assess waste collection and recovery data. Official statistics from European or national authorities and waste management organisations have been used for recovery and trade data, where available. Research or expertise from consultants completed gaps. Figures cannot always be directly compared with those of previous years due to changes in estimates.

Some estimates from previous years have been revised in order to track progress, e.g. for use and recovery of plastics across Europe over the past decade. All figures and graphs in this report show data for EU-28 plus Norway and Switzerland, which is referred to as Europe for the purposes of abbreviation –other country groups are explicitly listed.

This current report mainly focuses on 2019 figures for the plastics industry. Only pages 60 and 61 take into consideration 2020 trends and therefore show estimation of the COVID-19 pandemic effect on the European plastics industry.

COMMITTED TO A MORE SUSTAINABLE FUTURE

The plastics industry is vital for Europe's economy and its recovery plan. Together, the plastic raw materials producers, plastics converters, plastics recyclers, and machinery manufacturers, represent a value-chain that employs over 1.5 million people in Europe, through more than 55,000 companies, most of them SMEs, operating in all European countries. In 2019, these companies created a turnover of over 350 billion euros and contributed to more than 30 billion euros to European public finances.

Over the last century, plastics have offered innovative solutions to society's permanent evolving needs and challenges. Versatile, durable, and incredibly adaptable, plastics are a family of remarkable materials with science and innovation in their DNA.

Nowadays, they allow us to meet a myriad of functional and aesthetic demands, from drinking clean water, playing sport, staying connected, enjoying the comfort of home and the efficiency of clean mobility, or helping us to live longer and healthier lives.

Plastics define the way we live today. They improve the quality of life for millions of people across the globe by making our lives easier, safer and more enjoyable, while they are key to accelerate the





European transition to a low-carbon circular economy where resources and energy are utilised in the most effective way.



Plastics will continue to shape our present and our future, however, we will not be able to achieve the full potential of these extraordinary materials if we do not address the global challenges linked to their negative impact when they end-up in the environment.



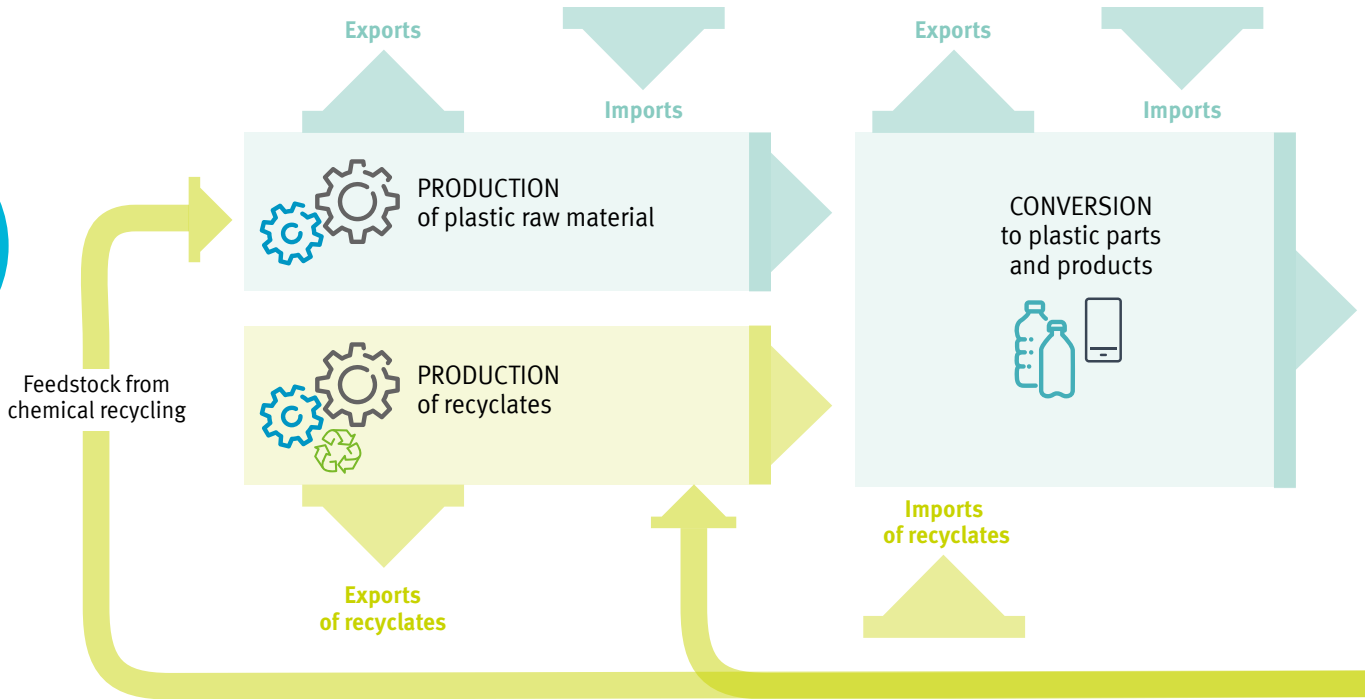
Plastic waste is unacceptable in any habitat and this is PlasticsEurope's and the plastics industry's top priority at all times. Global issues demand global approaches and global solutions. Strong partnerships between an interconnected plastics value chain and all stakeholders, be they local, national or global, are needed to solve this problem and to develop innovative, sustainable solutions. By working hand in hand with all relevant parties, we can create a framework to boost the circular economy for plastics and develop a collective blueprint to accelerate our transformation to a more sustainable future.



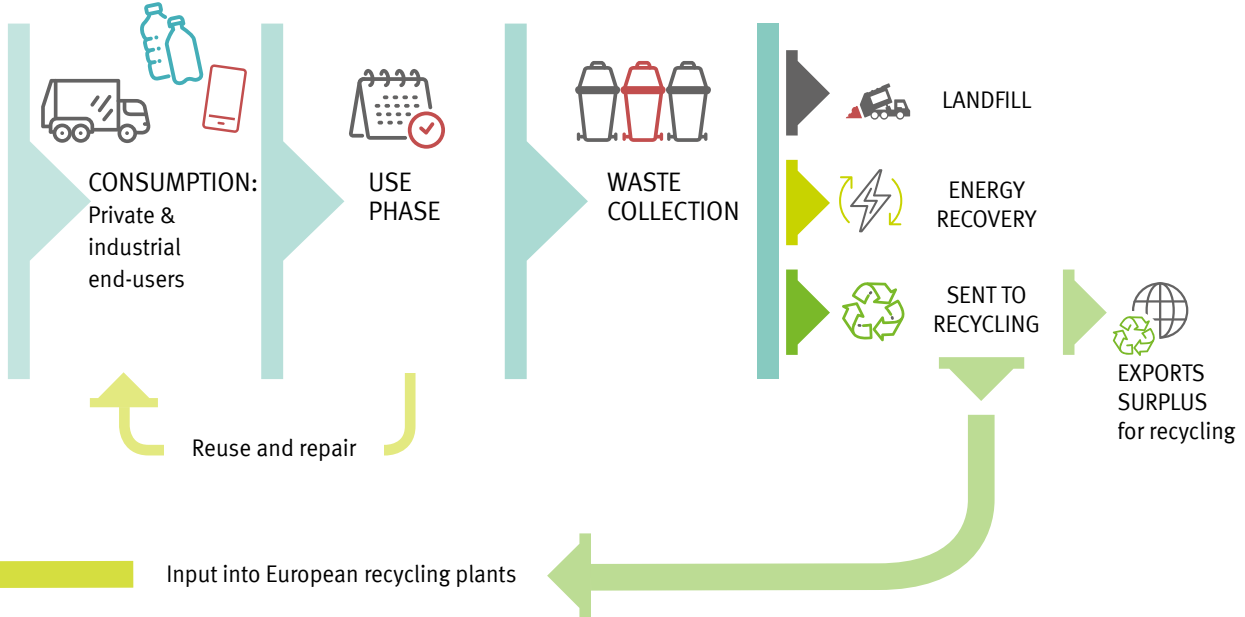
Our commitment as an industry is to relentlessly focus on ensuring that plastics continue to deliver societal benefits while having a positive impact on the environment.

THE CIRCULARITY OF PLASTICS

In order to increase circularity, it is important to analyse the life cycle of plastics, from production to recycling and closing the loop. The use-phase is critical to understand its life cycle.



Today, 60% of plastic products and parts have a use phase between 1 and 50 years, or even more. This lapse of time determines when they will potentially become waste. This is why, in a single year, the quantity of collected plastic waste does not match the quantity of production or consumption.



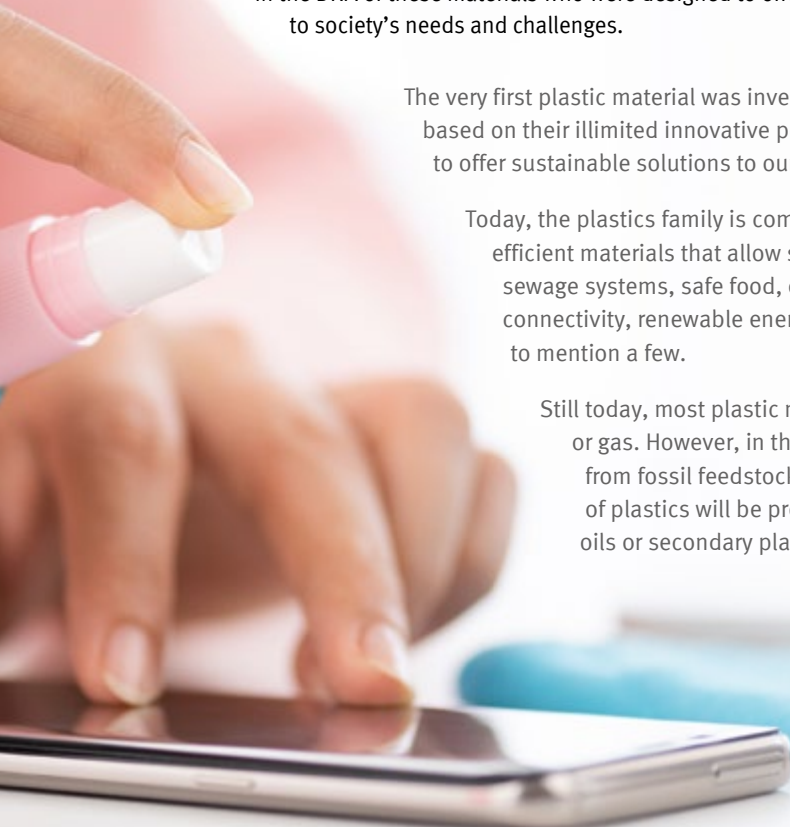
PLASTICS: INNOVATION DRIVEN MATERIALS

Plastics are an immense family of unique and versatile materials. Science and innovation are in the DNA of these materials who were designed to offer alternative and sustainable solutions to society's needs and challenges.

The very first plastic material was invented in the middle of the 19th century and since then, based on their illimited innovative potential, plastics have shaped the world and continue to offer sustainable solutions to our fast-changing needs.

Today, the plastics family is composed by a myriad of fit for purpose and resource efficient materials that allow society to have access to clean water and effective sewage systems, safe food, energy efficient homes, green transport, global connectivity, renewable energies or affordable and hygienic healthcare, just to mention a few.

Still today, most plastic materials are fossil based and are produced from oil or gas. However, in the long term, plastics production should decouple from fossil feedstock. Which means that, in the future, the vast majority of plastics will be produced from alternative feedstocks, such as recycled oils or secondary plastics, responsibly sourced biomass, or even CO₂.





Thermoplastics

Family of plastics that can be melted when heated and hardened when cooled. These characteristics, which lend the material its name, are reversible. That is, it can be reheated, reshaped and frozen repeatedly.

Polyethylene (PE)
Polypropylene (PP)
Polyvinyl-chloride (PVC)
Polyethylene Terephthalate (PET)
Polystyrene (PS)
Expanded polystyrene (EPS)
ABS
SAN
Polyamides (PA)
Polycarbonate (PC)
Poly methyl methacrylate (PMMA)
Thermoplastic elastomers (TPE)
Polyarylsulfone (PSU)
Fluoropolymers
PEEK
POM
PBT
EVOH
Etc.



Thermosets

Family of plastics that undergo a chemical change when heated, creating a three dimensional network. After they are heated and formed these plastics cannot be re-melted and reformed.

Polyurethane (PUR)
Unsaturated polyesters
Epoxy resins
Melamine resins
Vinyl esters
Silicone
Phenol - formaldehyde resins
Urea - formaldehyde resins
Phenolic resins
Acrylic resins
Etc.





#1

Contribution
to European
society

KEY FIGURES OF THE EUROPEAN PLASTICS INDUSTRY

The European plastics industry includes plastics raw materials producers, plastics converters, plastics recyclers and plastics machinery manufacturers in the EU28 Member States.



JOBS

Over 1.5 million people

The plastics industry gives direct employment to more than 1.56 million people in Europe



COMPANIES

55,000 companies

An industry with over 55,000 companies, most of them SME's



TURNOVER

More than 350 billion euros

The European plastics industry had a turnover of more than 350 billion euros in 2019



TRADE BALANCE

13 billion euros

The European plastics industry has a positive trade balance of 13.1 billion euros in 2019

* Data including only plastics raw materials producers and plastics converters



PUBLIC FINANCES

Close to 30 billion euros

The European plastics industry contributed to 28.5 billion euros to public finances and welfare in 2019



MULTIPLIER EFFECT

x2.4 in GDP and almost x3 in jobs

The European plastics industry has a multiplier effect of 2.4 in GDP and almost 3 in jobs*

* The European House Ambrosetti study, data for Italy, 2013



INDUSTRIAL VALUE ADDED

7th in Europe

The European plastics industry ranks 7th in Europe in industrial value added contribution. At the same level as the pharmaceutical industry* and very close to the chemical industry

* Measured by gross value added at factor prices, 2013



RECYCLING

9.4 million tonnes

In 2018, 9.4 million tonnes of plastic post-consumer waste were collected in Europe to be recycled (inside and outside the EU)





#2

Plastics:
production
and trade

WORLD AND EU PLASTICS PRODUCTION DATA

En 2019, global plastics production almost reached 370 million tonnes.
In Europe, plastics production almost reached 58 million tonnes.

SOURCE: PlasticsEurope Market Research Group (PEMRG) and Conversio Market & Strategy GmbH

Includes Thermoplastics, polyurethanes, thermosets, elastomers, adhesives, coatings and sealants and PP-fibers.
Not included: PET-fibers, PA-fibers and Polyacryl-fibers



World



Europe (EU28+NO/CH)

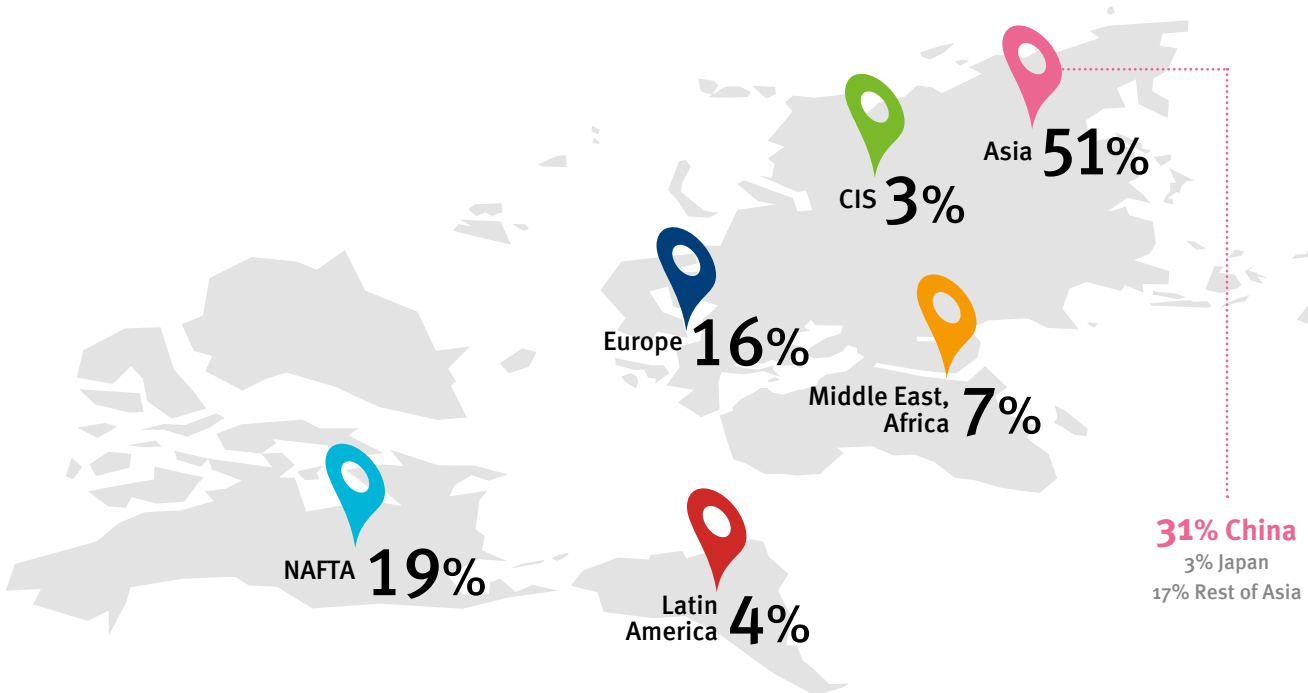


SOURCE: PlasticsEurope
Market Research Group
(PEMRG) and Conversio
Market & Strategy GmbH

* Includes Thermoplastics,
polyurethanes, thermosets,
elastomers, adhesives, coatings
and sealants and PP-fibers.
Not included: PET-fibers,
PA-fibers and Polyacryl-fibers

DISTRIBUTION OF GLOBAL PLASTICS PRODUCTION

In 2019 China reached 31% of world's plastics production.
World plastics* production: 368 million tonnes.

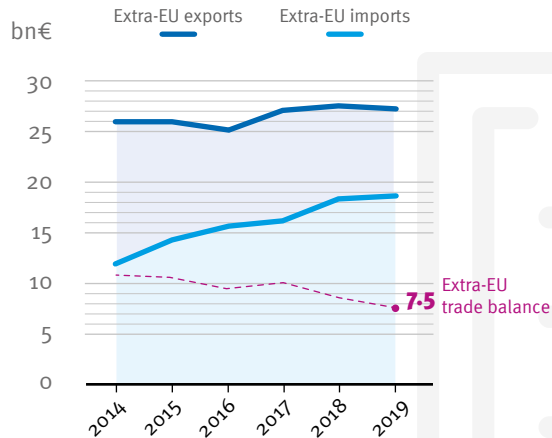


TOTAL TRADE BALANCE

SOURCE: Eurostat

In 2019, the industry reached a positive trade balance of more than 13 billion euros.

Plastics manufacturing extra EU28



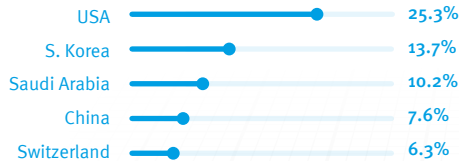
Plastics processing extra EU28



TOP EXTRA EU TRADE PARTNERS IN VALUE

In 2019, the USA was the most important trade partner of the European plastics industry.

Plastics manufacturing



Plastics manufacturing



2019 Extra EU IMPORTS

2019 Extra EU EXPORTS

Plastics processing



Plastics processing







#3

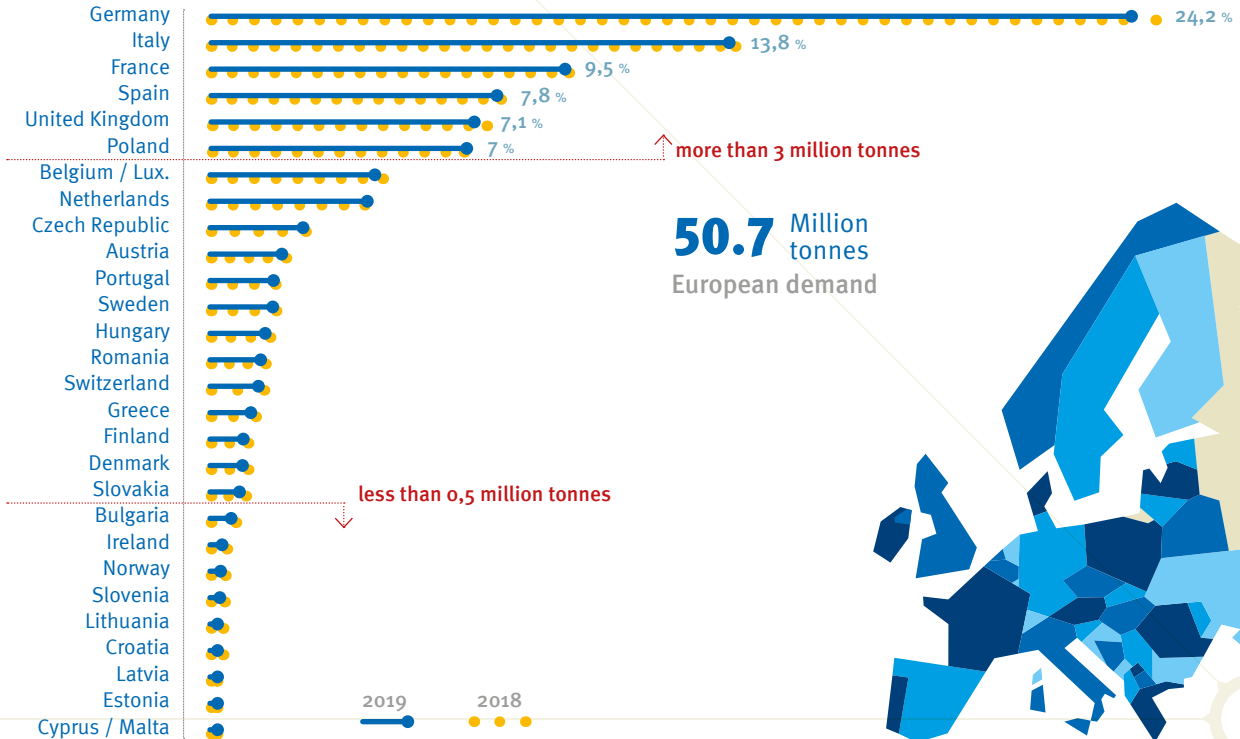
**Plastics:
market
demand**



SOURCE: PlasticsEurope
Market Research Group
(PEMRG) and Conversio Market
& Strategy GmbH

PLASTICS DEMAND BY COUNTRY (2018 AND 2019)

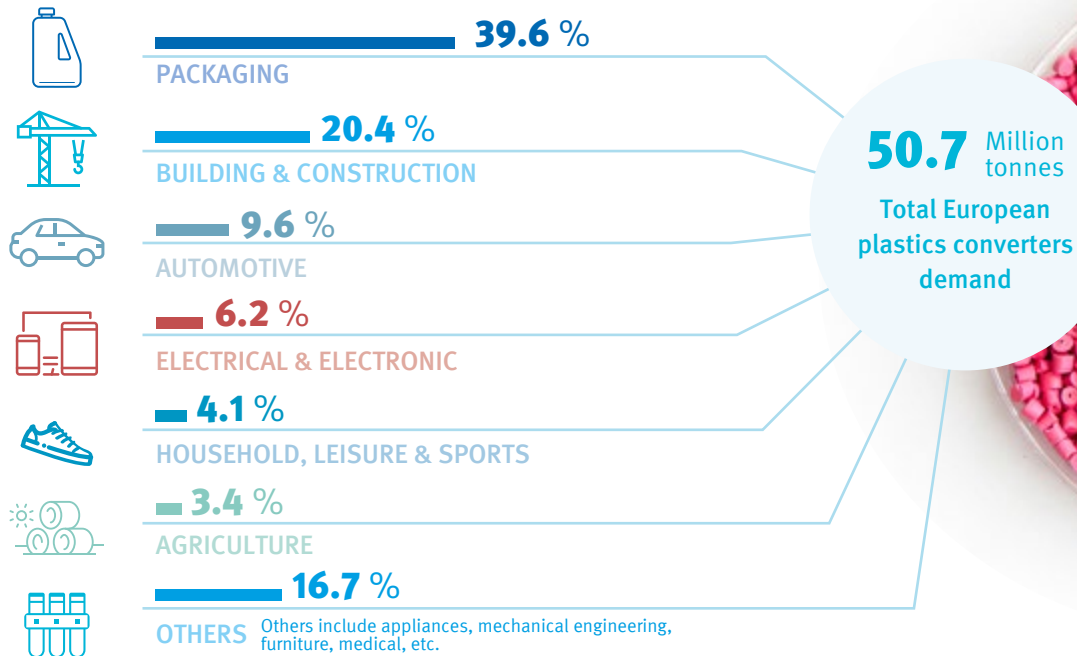
Distribution of European (EU28+NO/CH) plastics converters demand by segment in 2019.



PLASTICS DEMAND BY SEGMENT 2019

SOURCE: PlasticsEurope
Market Research Group
(PEMRG) and Conversio
Market & Strategy GmbH

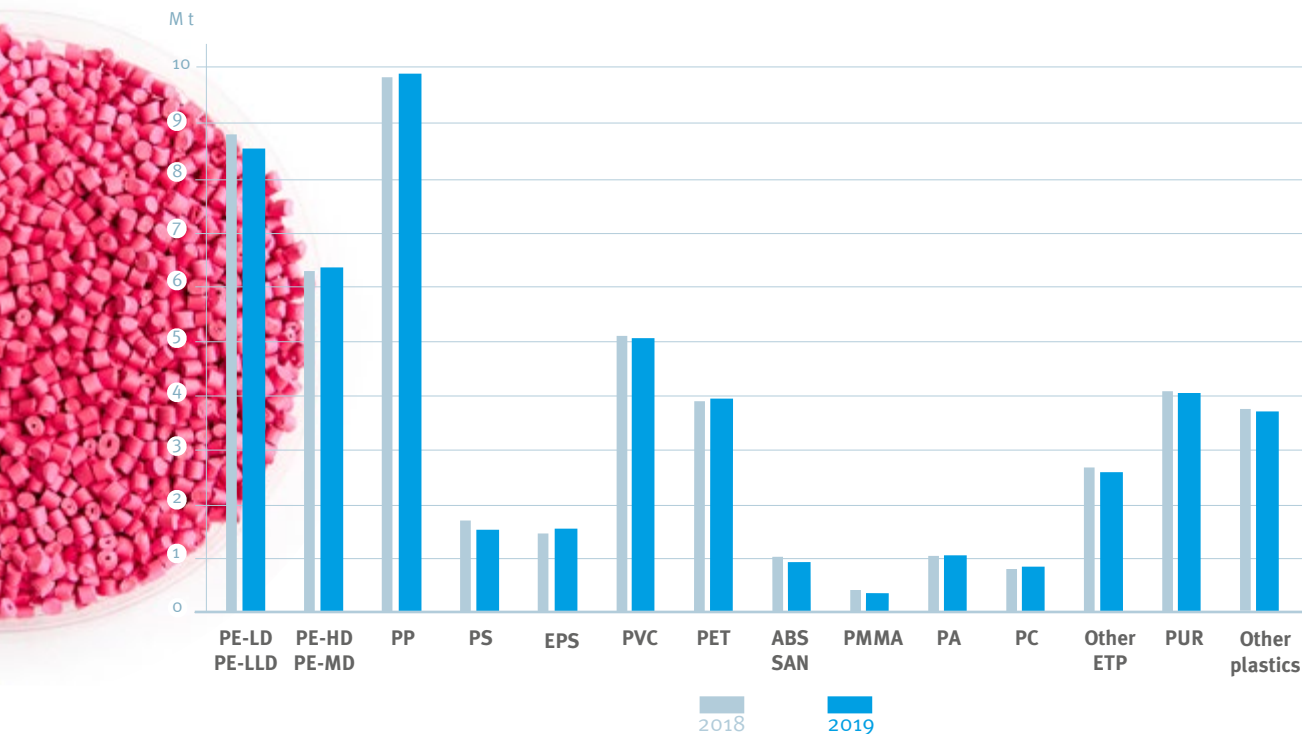
Distribution of European (EU28+NO/CH) plastics converters demand by segment in 2019. Packaging and building & construction by far represent the largest end-use markets. The third biggest end-use market is the automotive industry.



SOURCE: PlasticsEurope
Market Research Group
(PEMRG) and Conversio
Market & Strategy GmbH

PLASTICS DEMAND BY RESIN TYPE 2019

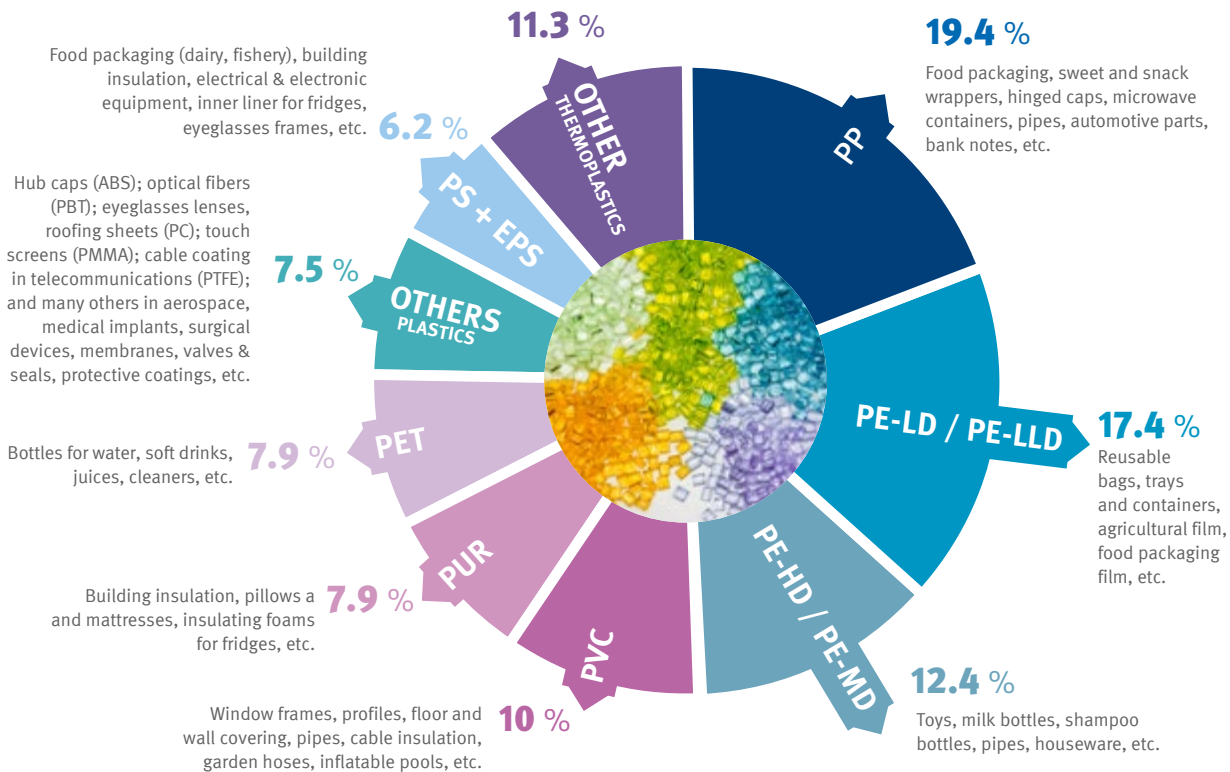
Distribution of European (EU28+NO/CH) plastics converters
demand by resin type in 2019.
Leading polymers are the polyolefins (PE & PP).



PLASTICS DEMAND DISTRIBUTION BY RESIN TYPE 2019

SOURCE: PlasticsEurope Market Research Group (PEMRG) and Conversio Market & Strategy GmbH

Data for EU28+NO/CH.

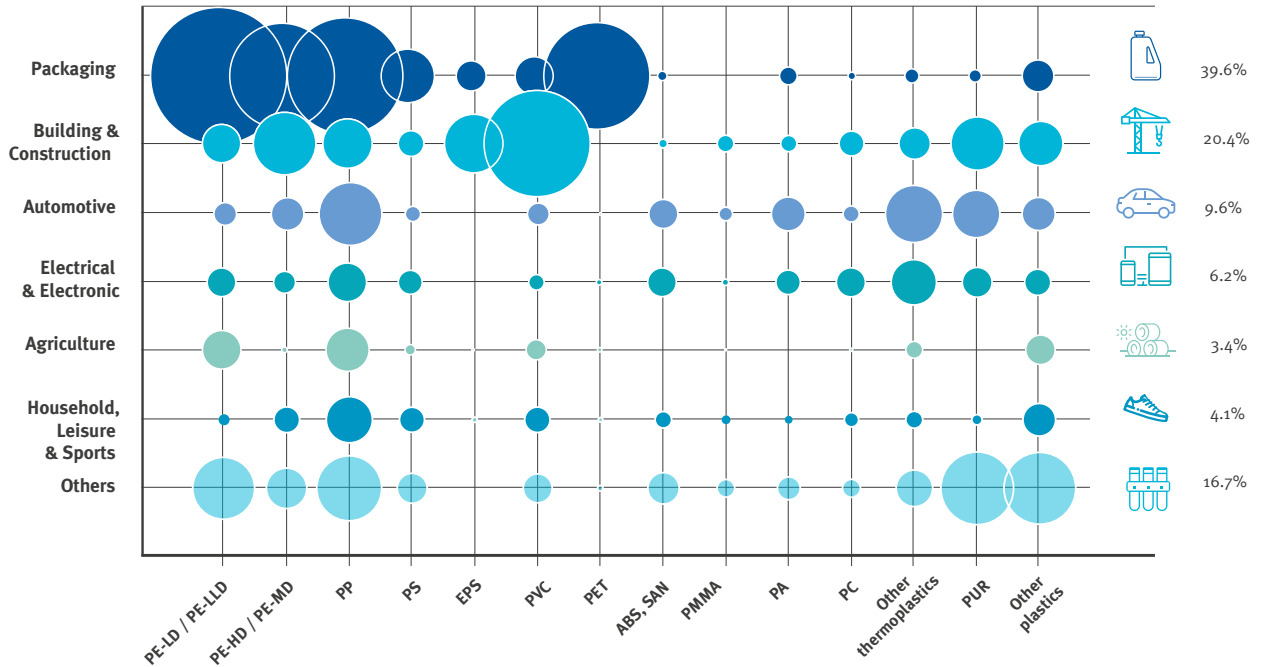


SOURCE: PlasticsEurope
Market Research Group
(PEMRG) and Conversio
Market & Strategy GmbH

PLASTICS DEMAND BY SEGMENT AND POLYMER TYPE IN 2019

Data for EU28+NO/CH.

Total 50.7 Million tonnes







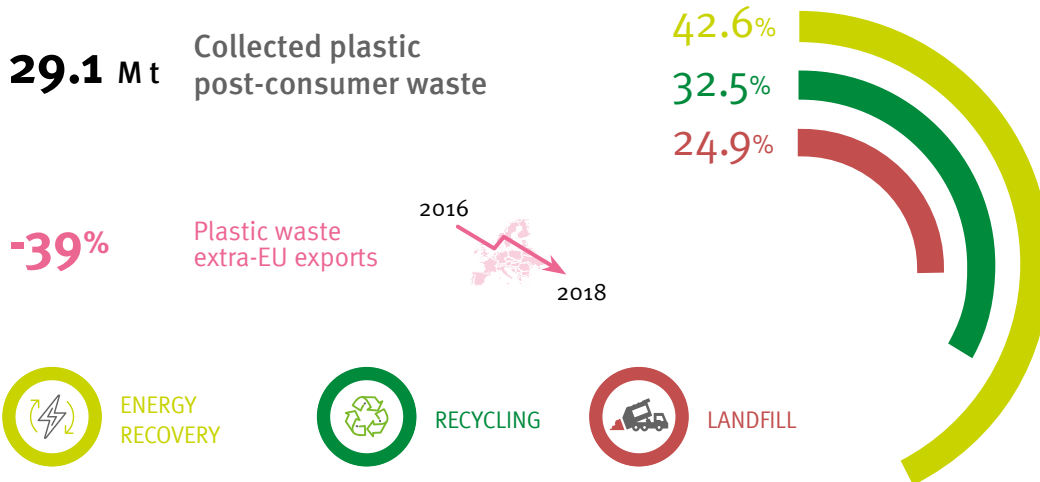
#4

Plastics:
end-of-life
management

PLASTIC POST-CONSUMER WASTE TREATMENT IN 2018

SOURCE: Conversio Market & Strategy GmbH

In 2018, 29.1 million tonnes of plastic waste were collected in the EU28+NO/CH in order to be treated. Plastic waste exports outside the EU have decreased by 39% from 2016 to 2018.



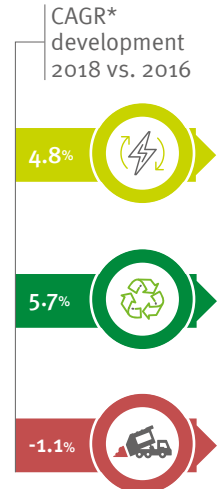
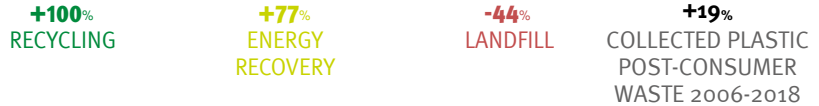
SOURCE: Conversio Market & Strategy GmbH
 *CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

SINCE 2006, THE AMOUNT OF PLASTIC WASTE SENT TO RECYCLING HAS DOUBLED

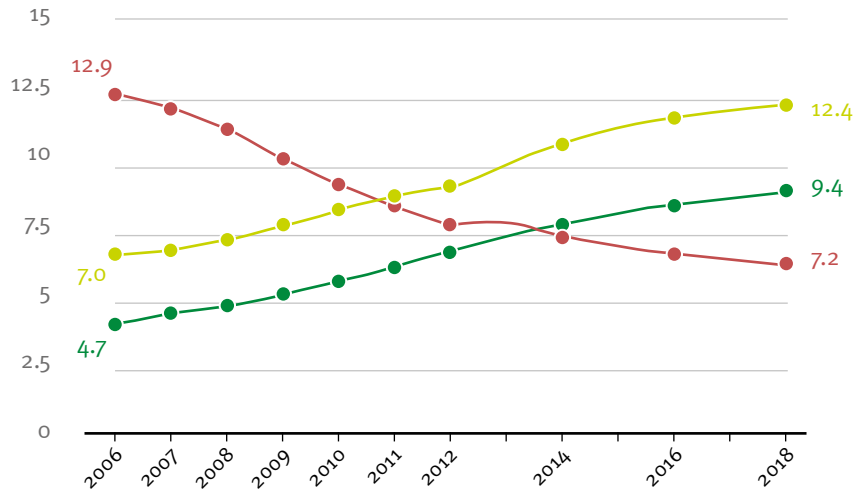
However, 25% of plastic post-consumer waste was still sent to landfill in 2018.

2006-2018 evolution of plastic post-consumer waste treatment

(EU28+NO/CH)



Million tonnes

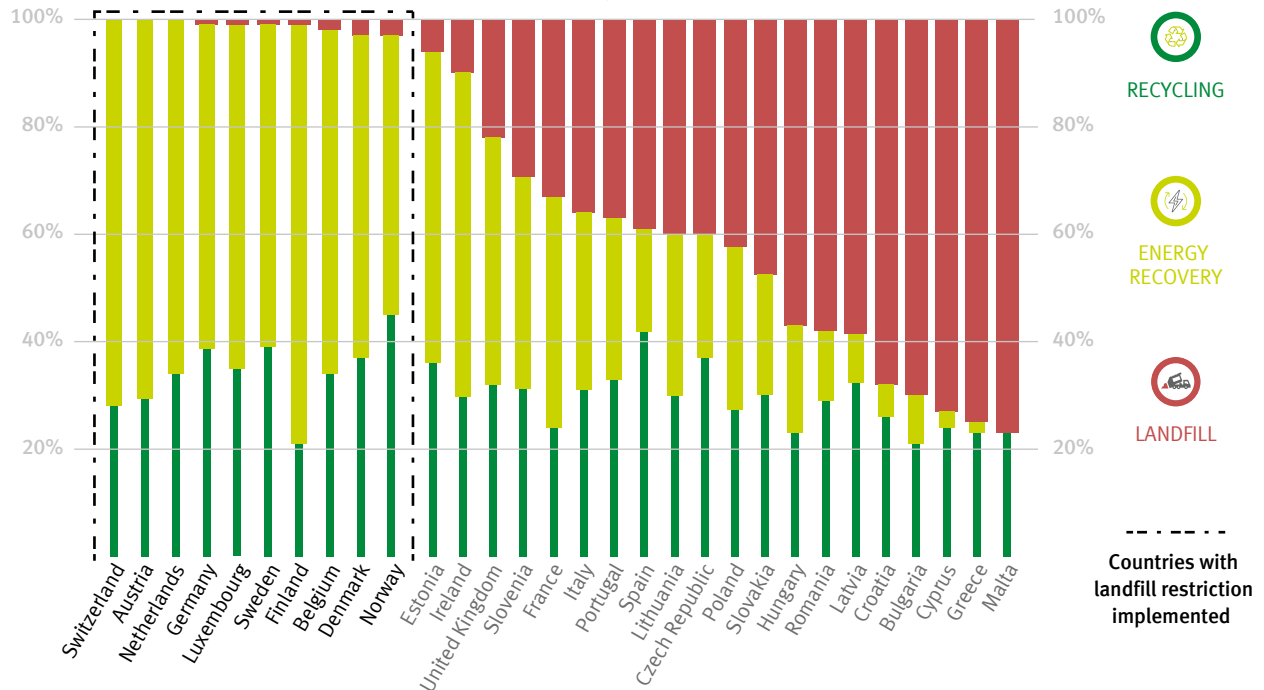


ZERO LANDFILLING IS NEEDED TO ACHIEVE THE CIRCULAR ECONOMY OF PLASTICS

SOURCE: Conversio Market & Strategy GmbH

Countries with landfill restrictions of recyclable and recoverable waste have, on average, higher recycling rates of plastic post-consumer waste.

Plastic post-consumer waste rates of recycling, energy recovery and landfill per country in 2018



SOURCE: Conversio Market & Strategy GmbH

*From household, industrial and commercial packaging

RECYCLING IS THE FIRST OPTION FOR PLASTIC PACKAGING WASTE

In 2018, 17.8 million tonnes of plastic post-consumer packaging waste were collected in order to be treated.

Plastic **PACKAGING*** waste treatment in 2018 (EU28+NO/CH)

17.8 M t Collected plastic post-consumer packaging waste

42%

39.5%

18.5%



RECYCLING



ENERGY RECOVERY



LANDFILL

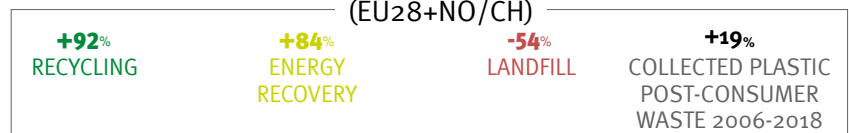
SINCE 2006, THE QUANTITY OF PLASTIC POST-CONSUMER PACKAGING WASTE SENT TO RECYCLING HAS INCREASED BY 92%

SOURCE: Conversio Market & Strategy GmbH

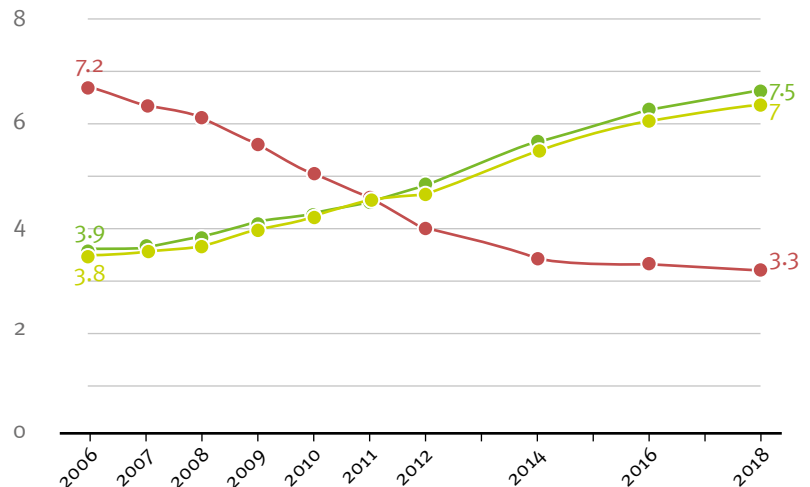
*From household, industrial and commercial packaging
 **CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

2018 data show a positive trend for recycling, however more than 18% of the waste is still sent to landfill.

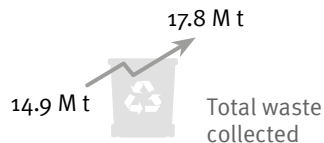
2006-2018 evolution of plastic PACKAGING* waste treatment (EU28+NO/CH)



Million tonnes

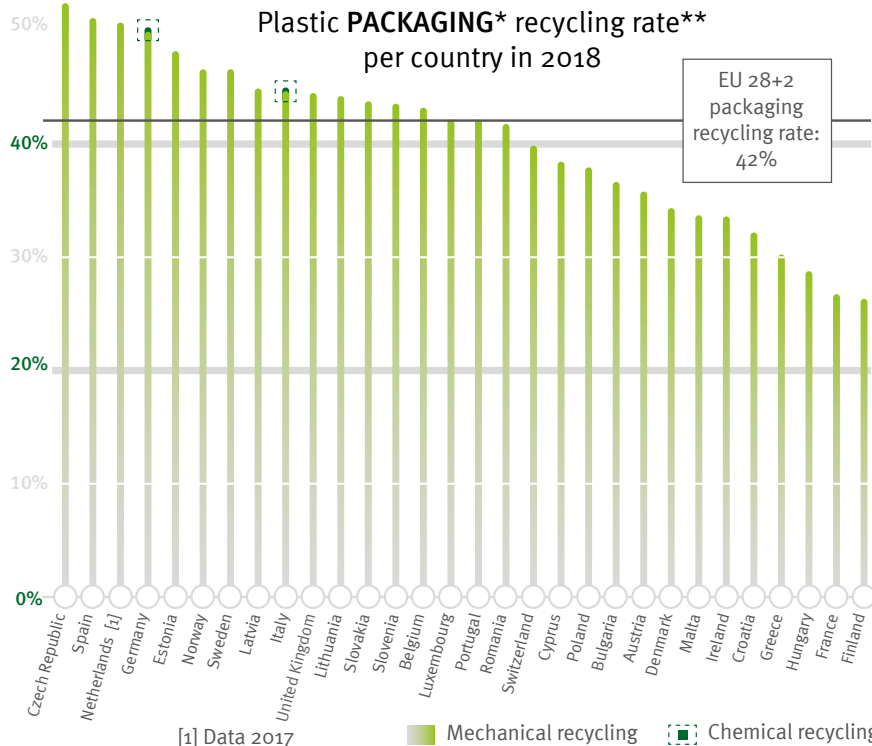


CAGR** development 2018 vs. 2006



PLASTIC PACKAGING RECYCLING

The new Directive (EU) 2019/852 on Packaging and Packaging Waste sets higher recycling targets per material (50% for plastic packaging by 2025 and 55% by 2030), together with a new calculation method of recycling performances. This new method will start to be applicable for data of the year 2020.



Recycling rates of plastic packaging waste in Europe range between 26% and 52%. This wide range can be explained by differences in collection schemes, available infrastructure and consumer behaviour. On average, the 42% recycling of plastic packaging represent an increase of 1.2 points versus 2016, in particular thanks to improved waste collection.

* From household, industrial and commercial packaging

** According to the current calculation methods established in Directive 94/62/EC





#5

Plastics:
end-of-life management
in selected countries

PLASTIC WASTE TREATMENT IN GERMANY

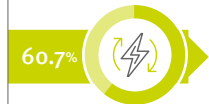
*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

In 2018, 5.3 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by 80%, energy recovery increased by 73% and landfill decreased by 80%.

Plastic post-consumer waste treatment in 2018



Incl. chemical recycling: 0.2%

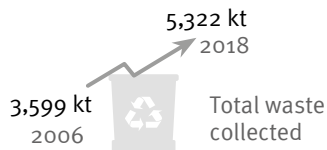


CAGR* development 2018 vs. 2016

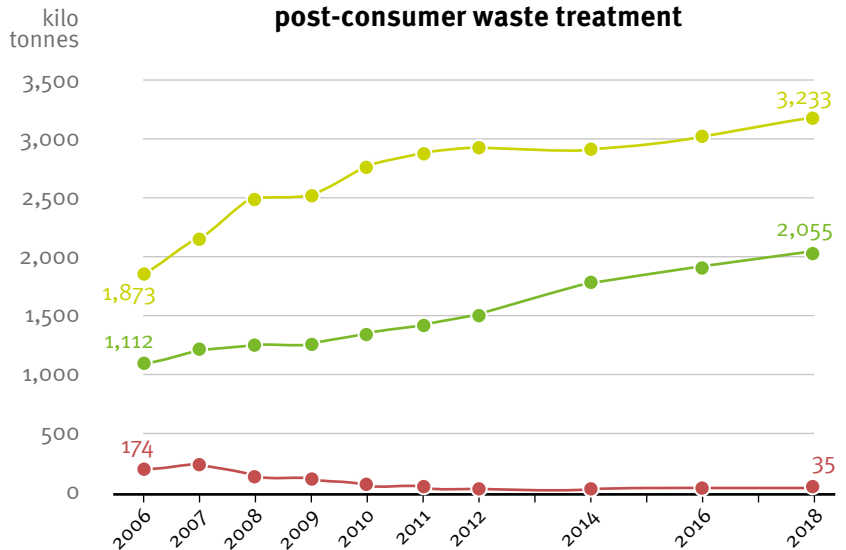
+2.4%
RECYCLING

+2.5%
ENERGY RECOVERY

-7.6%
LANDFILL



2006-2018 evolution of plastic post-consumer waste treatment

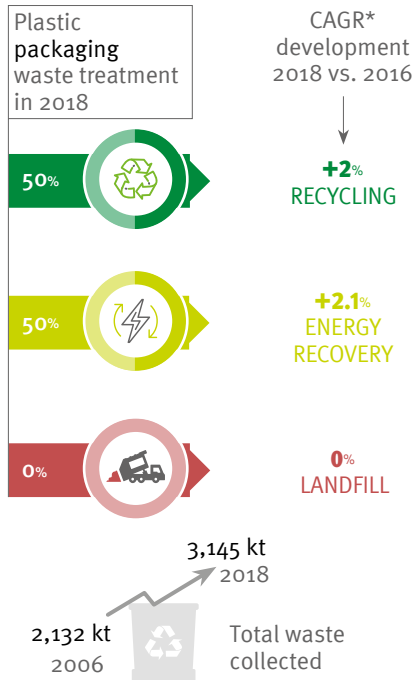


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

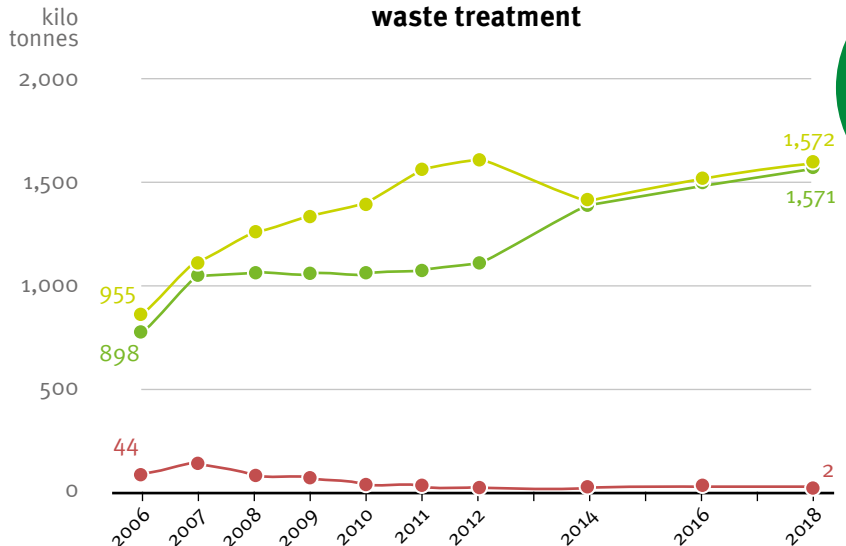
**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN GERMANY

In 2018, 3.1 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2018, the volume of plastic PACKAGING waste collected for recycling increased by 75%, energy recovery increased by 75% and landfill decreased by 95%.



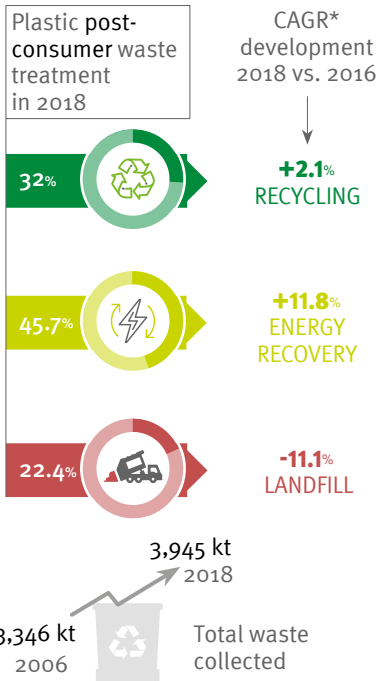
2006-2018 evolution of plastic PACKAGING** waste treatment



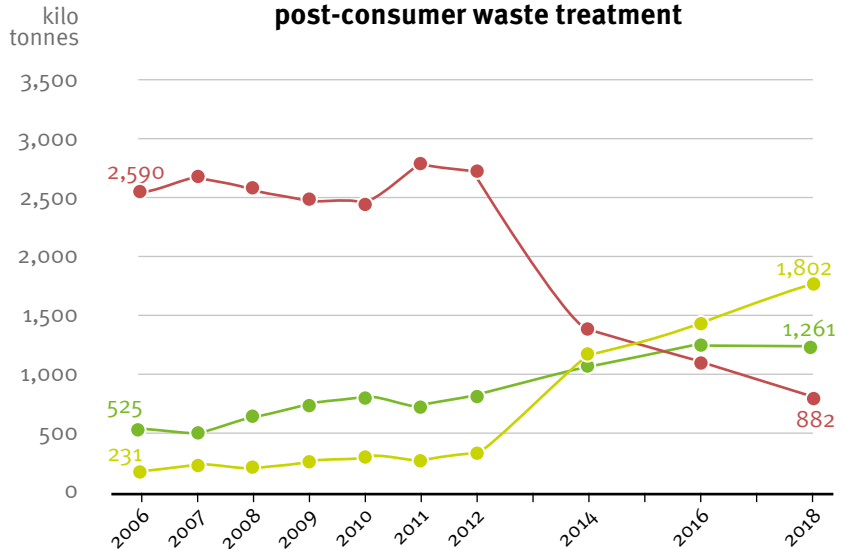
PLASTIC WASTE TREATMENT IN UK

*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

In 2018, close to 4 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by x2.4, energy recovery increased by x6.8 and landfill decreased by 66%.



2006-2018 evolution of plastic post-consumer waste treatment

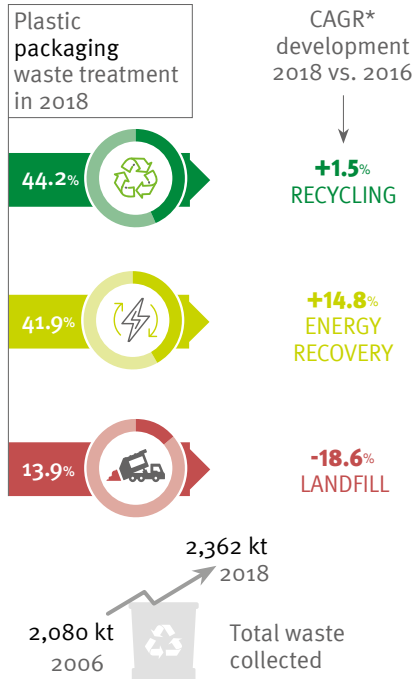


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

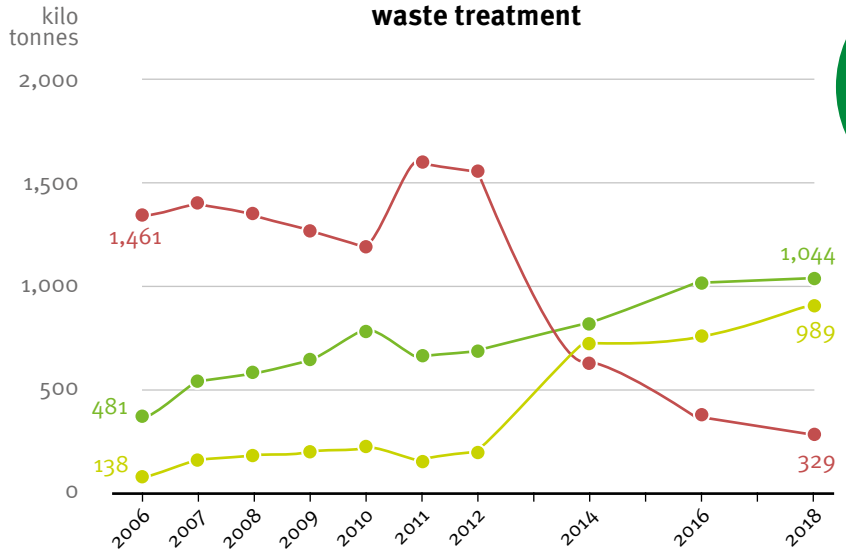
**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN UK

In 2018, 2.3 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2018, the volume of plastic PACKAGING waste collected for recycling increased by x2.2, energy recovery increased by x6.2 and landfill decreased by 77%.



2006-2018 evolution of plastic PACKAGING** waste treatment



PLASTIC WASTE TREATMENT IN ITALY

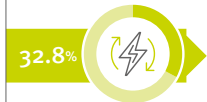
*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

In 2018, 3.6 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by 68%, energy recovery increased by 57% and landfill decreased by 48%.

Plastic post-consumer waste treatment in 2018



Incl. chemical recycling: 0.1%

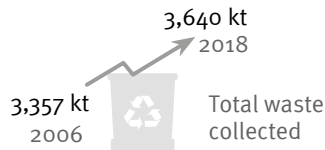


CAGR* development 2018 vs. 2016

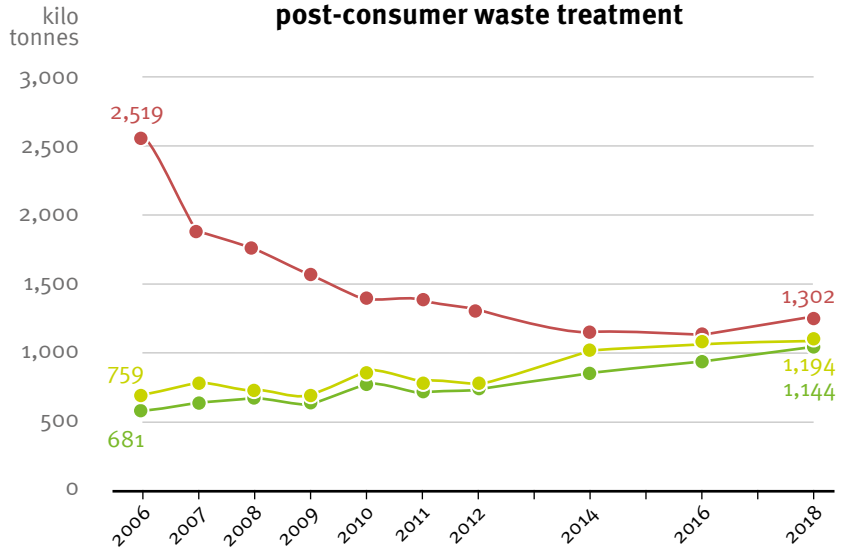
+7.4%
RECYCLING

+1.5%
ENERGY RECOVERY

+1.1%
LANDFILL



2006-2018 evolution of plastic post-consumer waste treatment

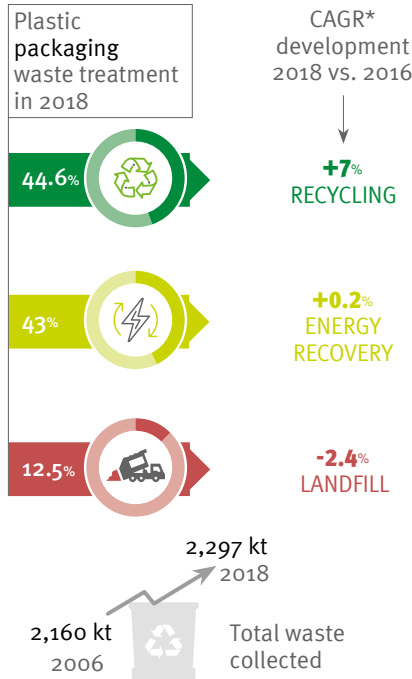


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

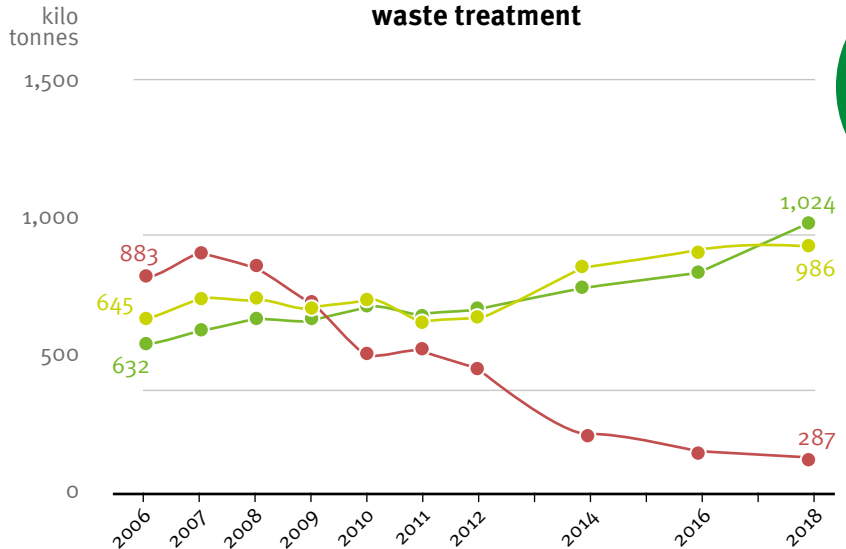
**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN ITALY

In 2018, 2.3 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2018, the volume of plastic PACKAGING waste collected for recycling increased by 62%, energy recovery increased by 53% and landfill decreased by 67%.



2006-2018 evolution of plastic PACKAGING** waste treatment



PLASTIC WASTE TREATMENT IN FRANCE

*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

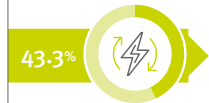
In 2018, 3.6 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by 79%, energy recovery increased by 35% and landfill decreased by 18%.

Plastic post-consumer waste treatment in 2018



CAGR* development 2018 vs. 2016

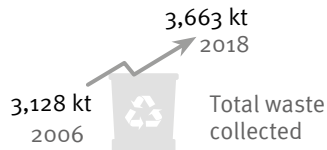
+6.8%
RECYCLING



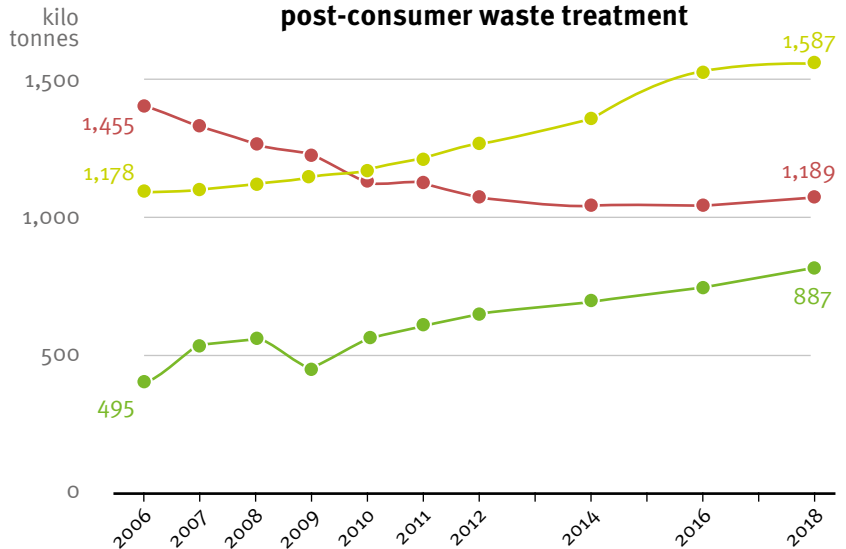
+2.5%
ENERGY RECOVERY



+3.4%
LANDFILL



2006-2018 evolution of plastic post-consumer waste treatment

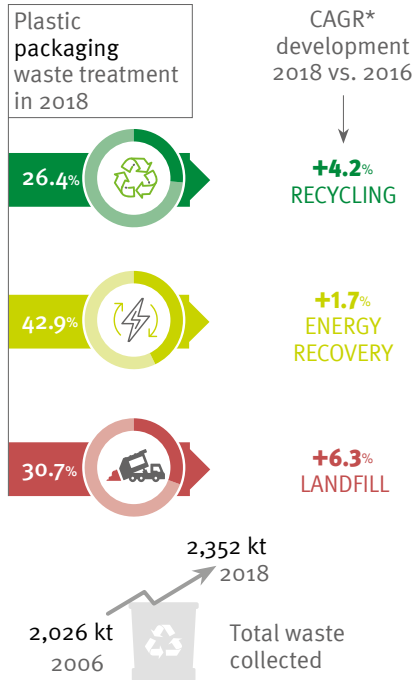


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

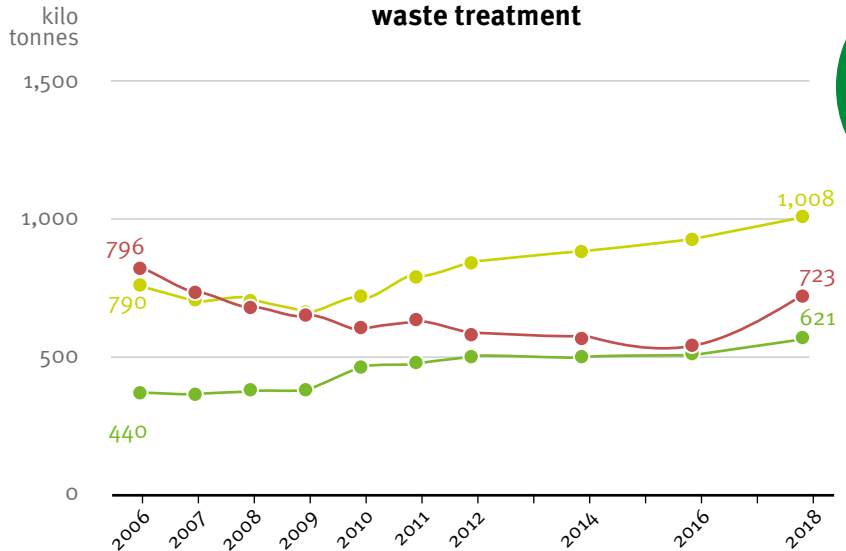
**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN FRANCE

In 2018, 2.3 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2018, the volume of plastic PACKAGING waste collected for recycling increased by 41%, energy recovery increased by 28% and landfill decreased by 9%.



2006-2018 evolution of plastic PACKAGING** waste treatment

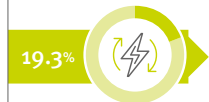


PLASTIC WASTE TREATMENT IN SPAIN

*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

In 2018, 2.5 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by x2.3, energy recovery increased by 59% and landfill decreased by 41%.

Plastic post-consumer waste treatment in 2018

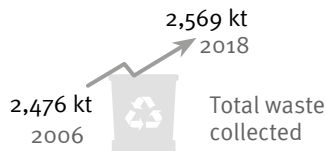


CAGR* development 2018 vs. 2016

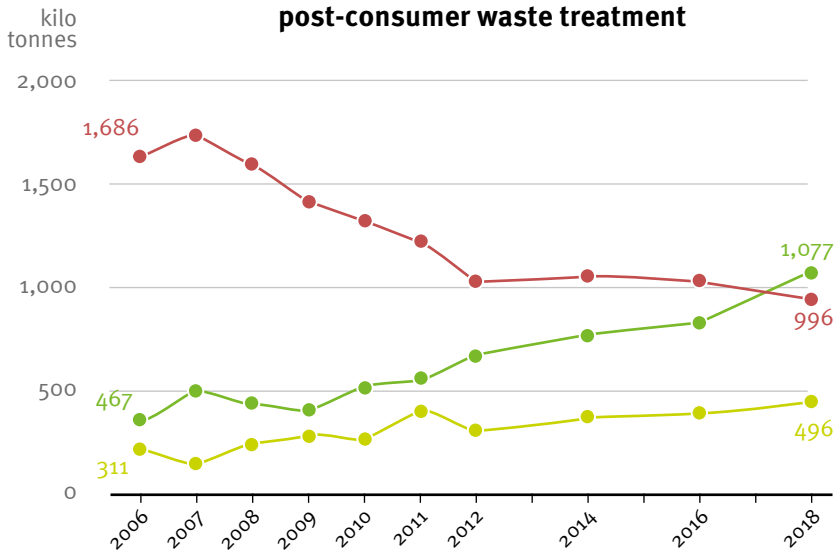
+13% RECYCLING

+12.2% ENERGY RECOVERY

-3.6% LANDFILL



2006-2018 evolution of plastic post-consumer waste treatment

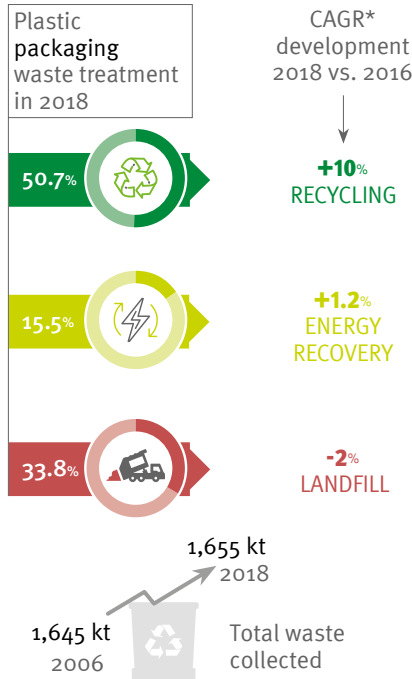


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

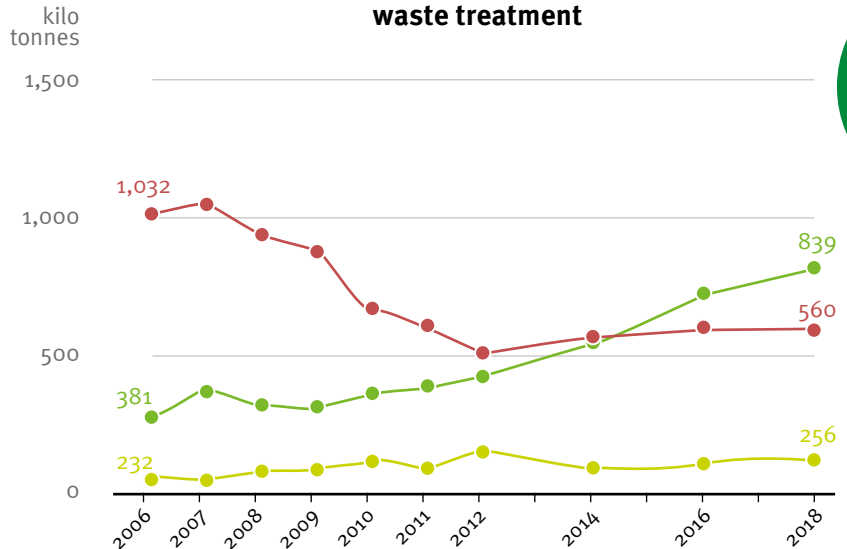
**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN SPAIN

In 2018, 1.6 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2018, the volume of plastic PACKAGING waste collected for recycling increased by 80%, energy recovery increased by 10% and landfill decreased by 46%.



2006-2018 evolution of plastic PACKAGING** waste treatment



PLASTIC WASTE TREATMENT IN POLAND

*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

In 2018, 1.9 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by x1.7, energy recovery increased by x1.15 and landfill decreased by 21%.

Plastic post-consumer waste treatment in 2018



CAGR* development 2018 vs. 2016

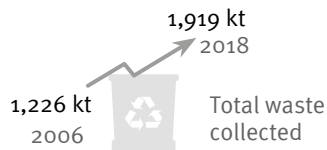
+6.7%
RECYCLING



+7.9%
ENERGY RECOVERY



+3.4%
LANDFILL



2006-2018 evolution of plastic post-consumer waste treatment

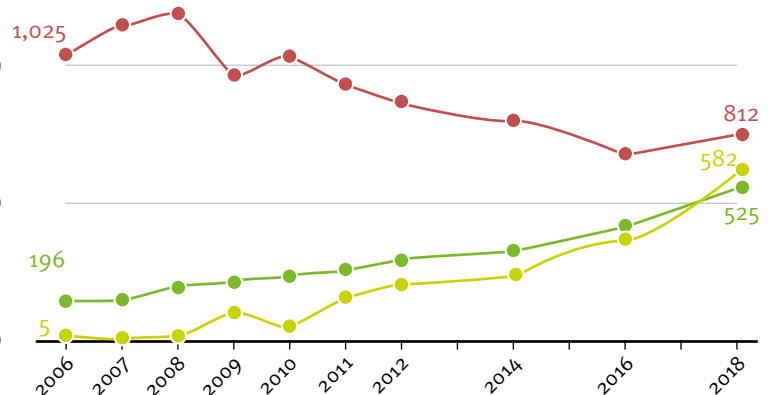
kilo tonnes

1,500

1,000

500

0

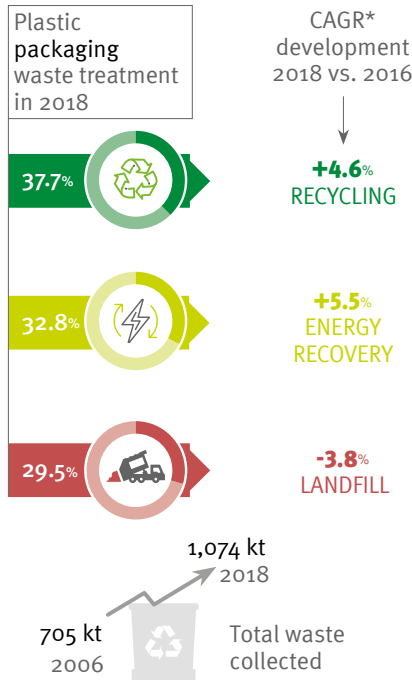


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

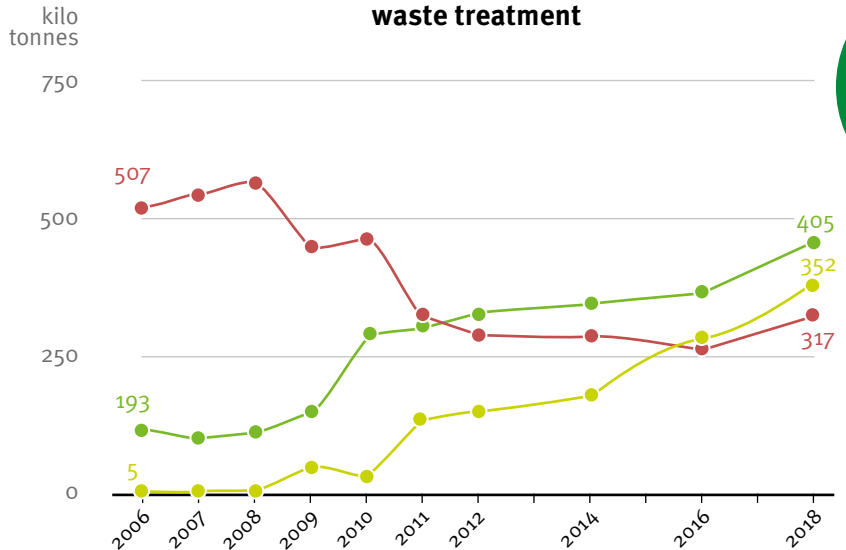
**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN POLAND

In 2018, 1 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2018, the volume of plastic PACKAGING waste collected for recycling increased by x2.1, energy recovery increased by x70 and landfill decreased by 37%.



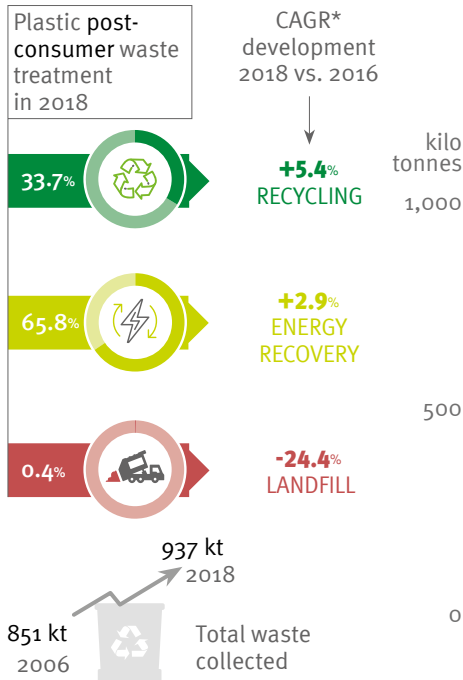
2006-2018 evolution of plastic PACKAGING** waste treatment



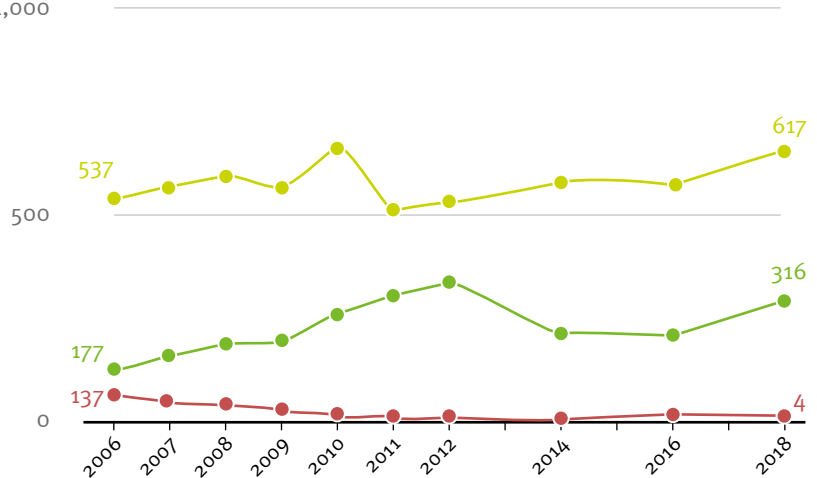
PLASTIC WASTE TREATMENT IN NETHERLANDS

*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

In 2017, 0.9 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by 79%, energy recovery increased by 15% and landfill decreased by 97%.



2006-2018 evolution of plastic post-consumer waste treatment

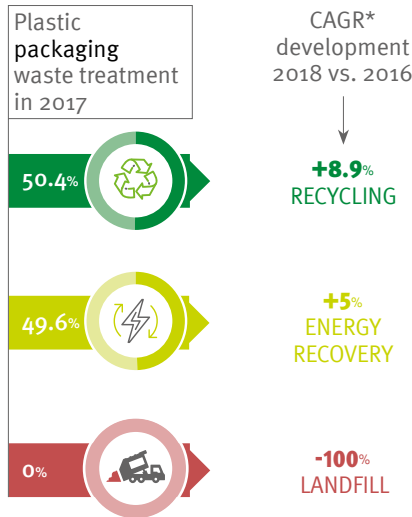


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

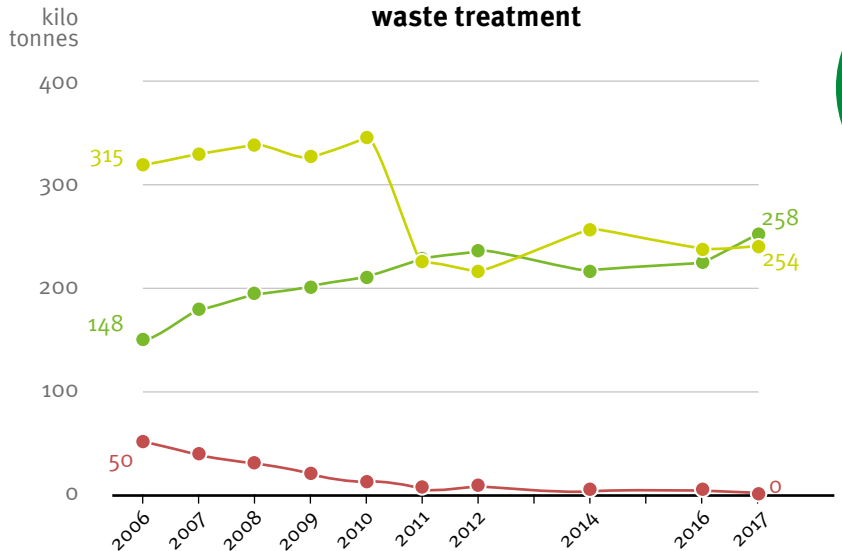
**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN NETHERLANDS

In 2017, 0.5 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2017, the volume of plastic PACKAGING waste collected for recycling increased by 74%, energy recovery decreased by 19% and landfill decreased by 100%.



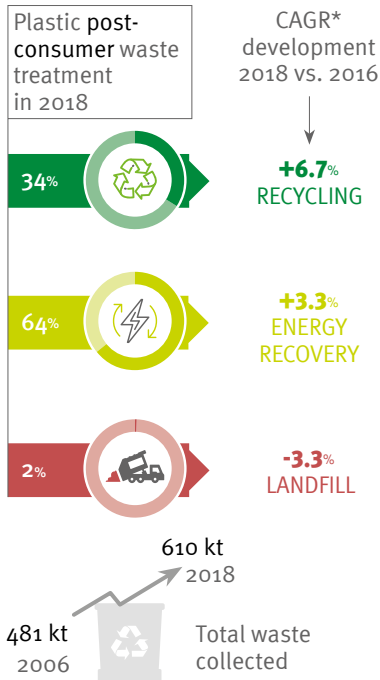
2006-2017 evolution of plastic PACKAGING** waste treatment



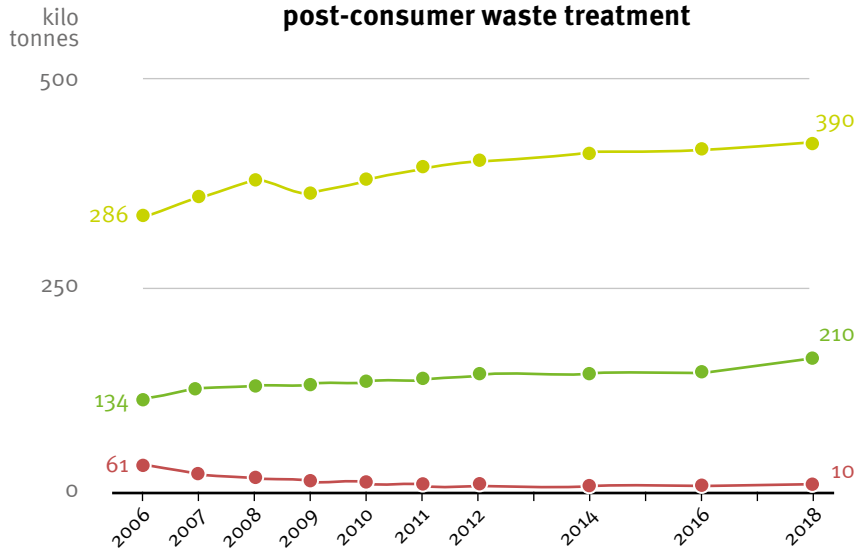
PLASTIC WASTE TREATMENT IN BELGIUM

*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

In 2018, 0.6 million tonnes of plastic post-consumer waste were collected through official schemes in order to be treated. From 2006 to 2018, the volumes for recycling increased by 56.7%, energy recovery increased by 36.7% and landfill decreased by 83.6%.



2006-2018 evolution of plastic post-consumer waste treatment

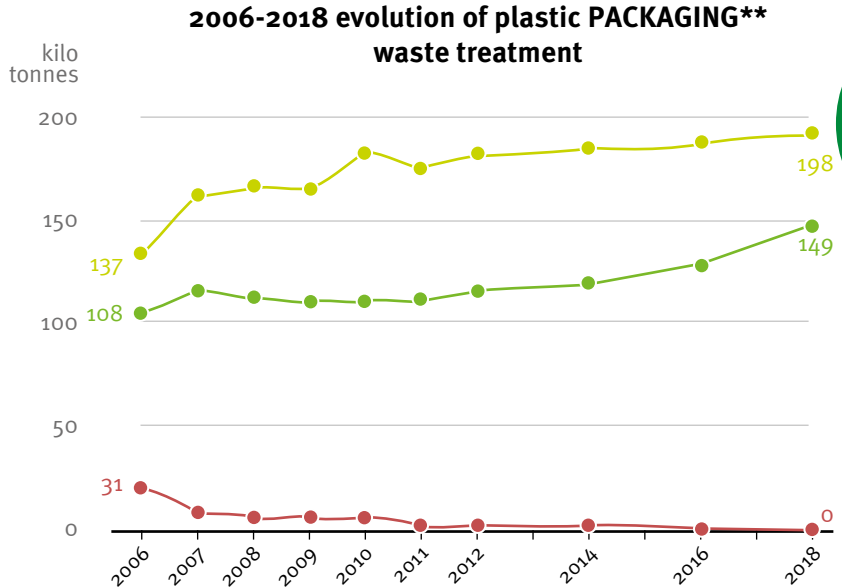
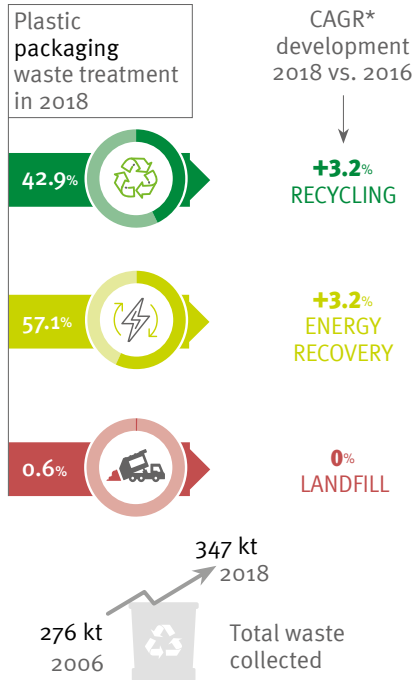


*CAGR: Compound Annual Growth Rate is the mean annual growth rate over a specific period of time

**From household, industrial and commercial packaging

PLASTIC PACKAGING WASTE TREATMENT IN BELGIUM

In 2018, 0.3 million tonnes of plastic post-consumer packaging** waste were collected through official schemes in order to be treated. From 2006 to 2018, the volume of plastic PACKAGING waste collected for recycling increased by 38%, energy recovery increased by 45% and landfill decreased by 100%.







#6

Plastics:
turning waste into
new resources

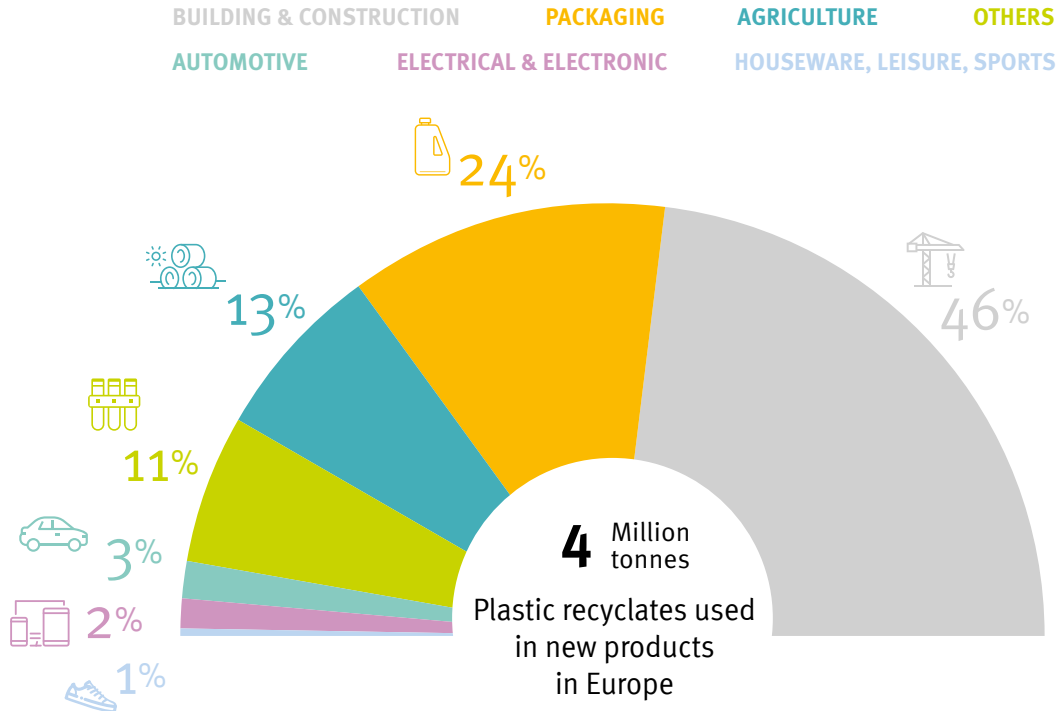
PLASTICS: MECHANICAL RECYCLING PROCESS

In 2019, close to 5 million tonnes of plastic recyclates were produced in European recycling facilities.



PLASTIC RECYCLATES: WHERE ARE THEY USED

In 2018, from the 5 million tonnes of plastic recyclates produced in Europe, 80% re-entered the European economy in order to manufacture new products. The rest was exported outside Europe to re-enter other regions of the world's economies.







#7

**Plastics:
outlooks**

SINCE 2018, WE CAN OBSERVE A DECLINE OF THE EUROPEAN PLASTICS INDUSTRY PRODUCTION

SOURCE: Eurostat

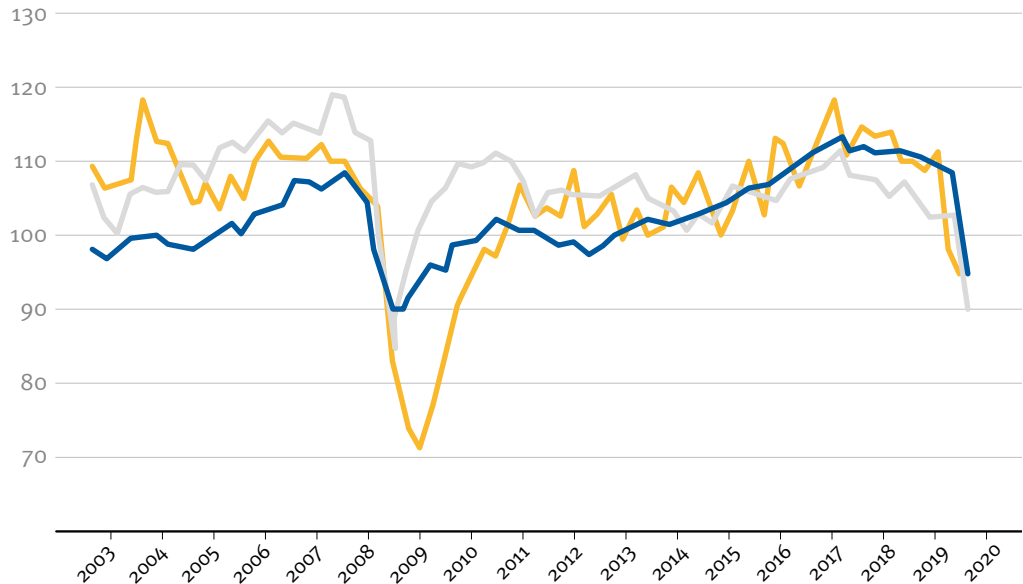
The COVID-19 pandemic has clearly intensified this decline.

Plastics industry production in EU27

(index 2015=100,
seasonally
adjusted data)

60

- Plastics and rubber machinery
- Plastics in primary forms
- Plastic products



PRODUCTION OF PLASTICS IN PRIMARY FORMS, EU27

After a sharp drop in production due to COVID-19 in the first half of the year 2020, production has started to recover again in the second half of the year.

Production of plastics in primary forms in the EU27 started to recover in June 2020. The recovery will continue in the last quarter of 2020 and in 2021. However the speed of recovery depends on the impact of the COVID-19 and on the demand for plastics from important customer industries like automotive or building and construction sectors.

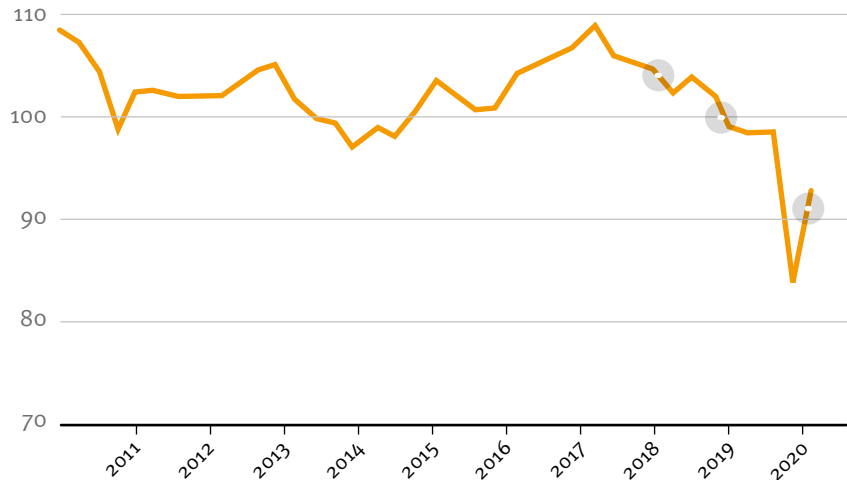
The production level before the COVID-19 pandemic will not be reached before 2022.

Estimated growth rate

2020: **- 8.5%**

Index 2015=100, on a quarterly basis; seasonally and working day adjusted.

- Production primary plastics
- Average annual index; estimate for 2020



Glossary of terms

ABS	Acrylonitrile butadiene styrene resin
ASA	Acrylonitrile styrene acrylate resin
bn	Billion
CH	Switzerland
CIS	Commonwealth of Independent States
Conversio	Conversio Market & Strategy GmbH
EU	European Union
EPRO	European Association of Plastics Recycling and Recovery Organisations
EPS	Expandable polystyrene
ETP	Engineering Thermoplastics
GDP	Gross domestic product
kt	Kilo tonnes
M t	Million tonnes
NAFTA	North American Free Trade Agreement
NO	Norway
Other plastics	Thermosets, adhesives, coatings and sealants
PA	Polyamides
PBT	Polybutylene terephthalate
PC	Polycarbonate
PE	Polyethylene

PEEK	Polyetheretherketone
PE-HD	Polyethylene, high density
PE-LD	Polyethylene, low density
PE-LLD	Polyethylene, linear low density
PE-MD	Polyethylene, medium density
PEMRG	PlasticsEurope Market Research Group
PET	Polyethylene terephthalate
Plastic materials	Thermoplastics + Polyurethanes
PMMA	Polymethyl methacrylate
POM	Polyoxymethylene
PP	Polypropylene
PS	Polystyrene
PTFE	Polytetrafluoroethylene
PUR	Polyurethane
PVC	Polyvinyl chloride
SAN	Styrene-acrylonitrile copolymer
Thermoplastics	Standard plastics (PE, PP, PVC, PS, EPS, PET [bottle grade]) + Engineering plastics (ABS, SAN, PA, PC, PBT, POM, PMMA, Blends, and others including High Performance Polymers)
Thermosets	Urea-formaldehyde foam, melamine resin, polyester resins, epoxy resins, etc.

PlasticsEurope

PlasticsEurope is one of the leading European trade associations with centres in Brussels, Frankfurt, London, Madrid, Milan and Paris. We are networking with European and national plastics associations and have more than 100 member companies, producing over 90% of all polymers across the EU27 Member States plus Norway, Switzerland, Turkey and UK. The European plastics industry makes a significant contribution to the welfare in Europe by enabling innovation, creating quality of life to citizens and facilitating resource efficiency and climate protection. More than 1.5 million people are working in more than 55,000 companies (mainly small and medium sized companies in the converting sector) to create a turnover around 350 bn euros per year.

www.plasticseurope.org

EPRO (European Association of Plastics Recycling and Recovery Organisations)

EPRO is a pan-European partnership of specialist organisations that are able to develop and deliver efficient solutions for the sustainable management of plastic waste, now and for the future. EPRO members are working to optimise national effectiveness through international co-operation: by studying successful approaches, evaluating different solutions and examining obstacles to progress. By working together EPRO members can achieve synergies that will increase efficient plastics recycling and recovery. Currently 19 organisations in 14 European countries, South Africa and Canada are represented in EPRO.

www.epro-plasticsrecycling.org

PlasticsEurope

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