



Plastics – the Facts 2015

An analysis of European plastics
production, demand and waste data

PlasticsEurope
Association of Plastics Manufacturers

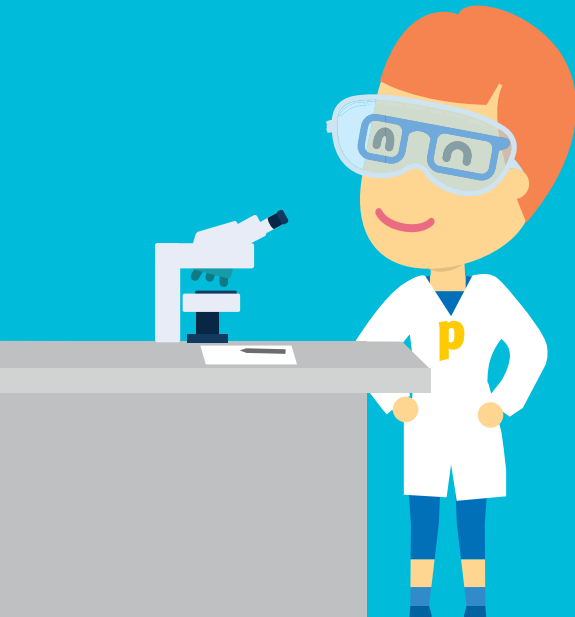
Plastics – the Facts is an analysis of the data related to the production, demand and waste management of plastics materials. It provides the latest business information on production and demand, trade, recovery as well as employment and turnover in the plastics industry. In short, this report gives 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 of and demand for plastics raw materials. Consultic Marketing & Industrieberatung GmbH helped assess waste generation 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.

Plastics: the material for the 21st century



Did you know?

For the past 150 years, plastics materials have been key enablers for innovation and have contributed to the development and progress of society.

Plastics have revolutionised society to meet the challenges the world faces in the 21st century

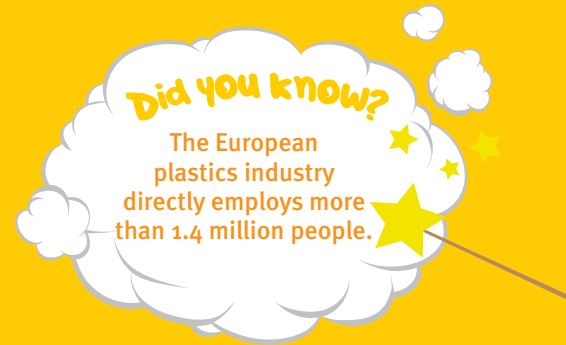


DISCOVER WHY THE MATERIAL OF
CHOICE FOR THE 21ST CENTURY IS
PLASTICS

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Plastics: contribution to European society and economy



2014 key figures of the European plastics industry

The European plastics industry includes plastics raw material producers, plastics converters and plastics machinery manufacturers in the EU-28 Member States.



Employees

1.45 million



Companies

62,000

Most of them SMEs



Turnover
Over

350 bn €



Multiplier effect**

2.4 in GDP

Almost 3 in jobs



EU Trade balance*

18 bn €

of positive trade balance



Contribution

~ 27 bn €

to public finances

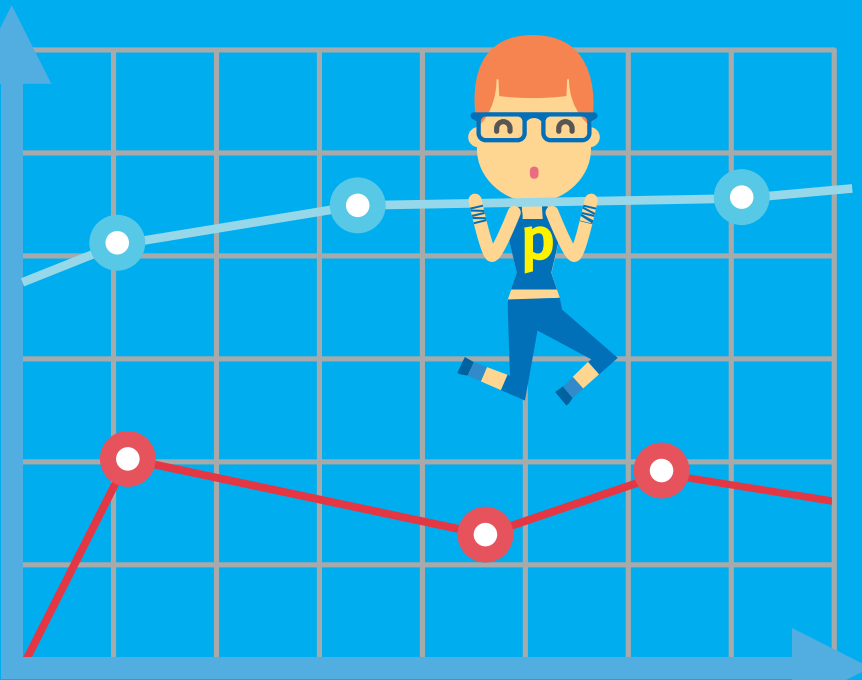


Recycling

7.7 m t

of plastic waste recycled

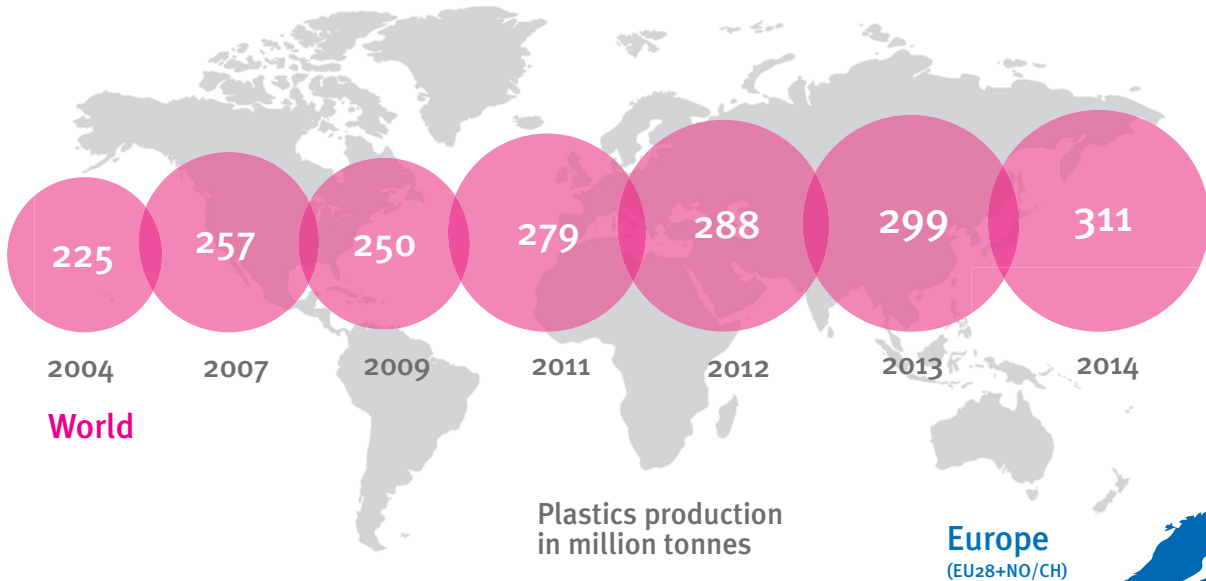
Plastics: market data



Did you know?

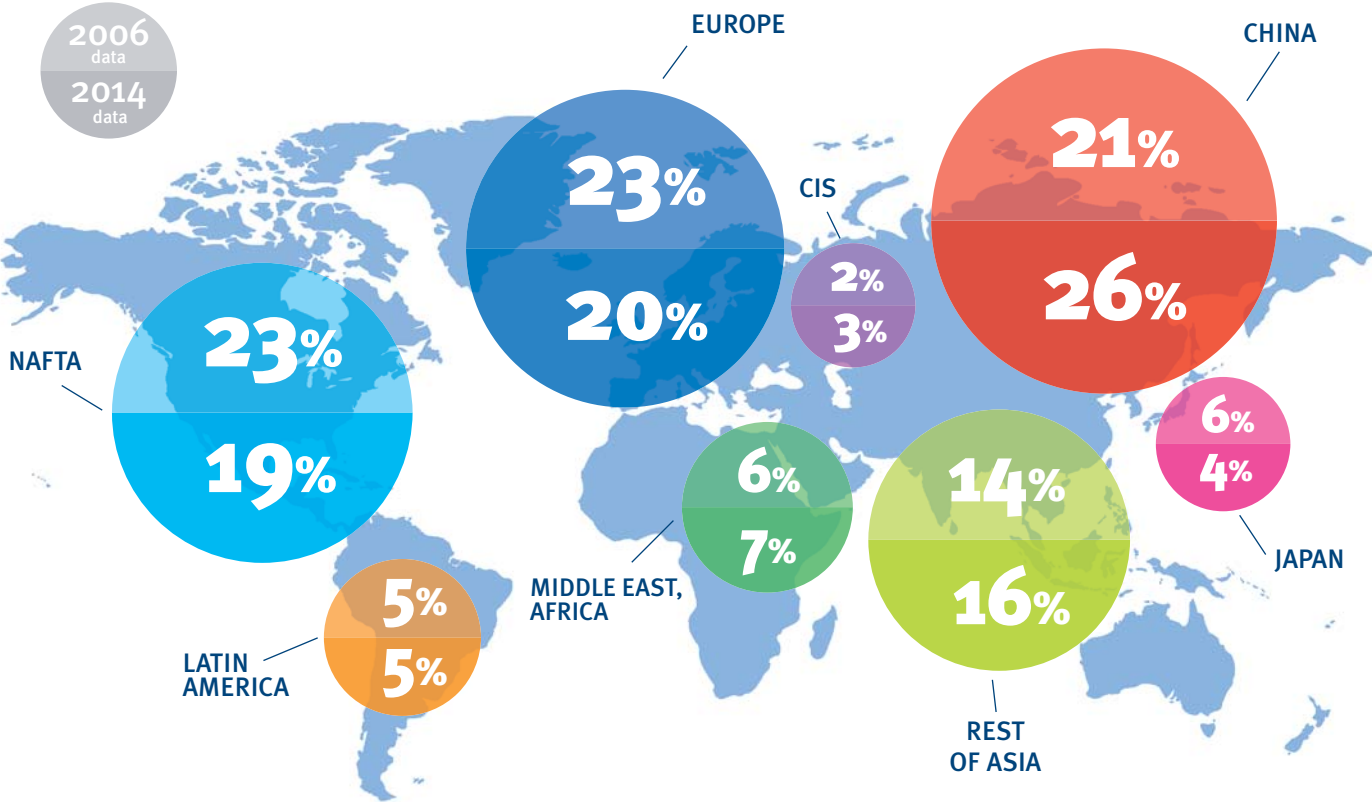
Only 4 to 6% of the world's
oil production is used
to produce plastics.

Plastics* production is stable in Europe and grows globally



*Includes plastics materials (thermoplastics and polyurethanes) and other plastics (thermosets, adhesives, coatings and sealants). Does not include the following fibers: PET-, PA-, PP- and polyacryl-fibers.

China is the largest producer of plastics materials*, followed by Europe



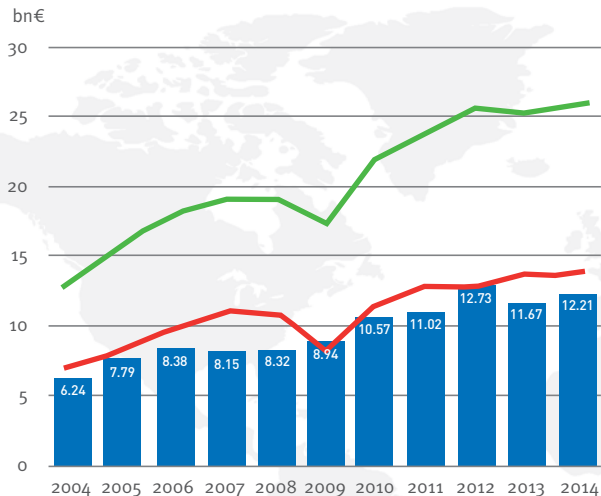
Source: PlasticsEurope (PEMRG) / Consultic

* Plastics materials: only thermoplastics and polyurethanes

2014 World production of plastics materials*: 260 m t

Positive trade balance of 18 billion euros

Plastics manufacturing extra EU-28

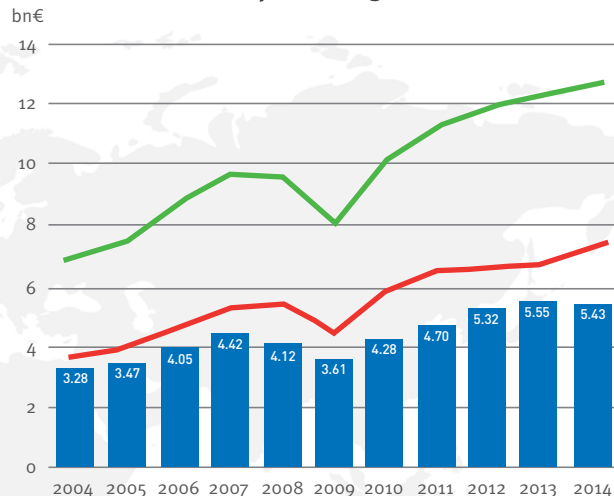


■ Trade balance
■ Exports
■ Imports

EU-28 plastics industry: trade balance with non-EU member countries (extra EU-28)

Source: Eurostat

Plastics processing extra EU-28



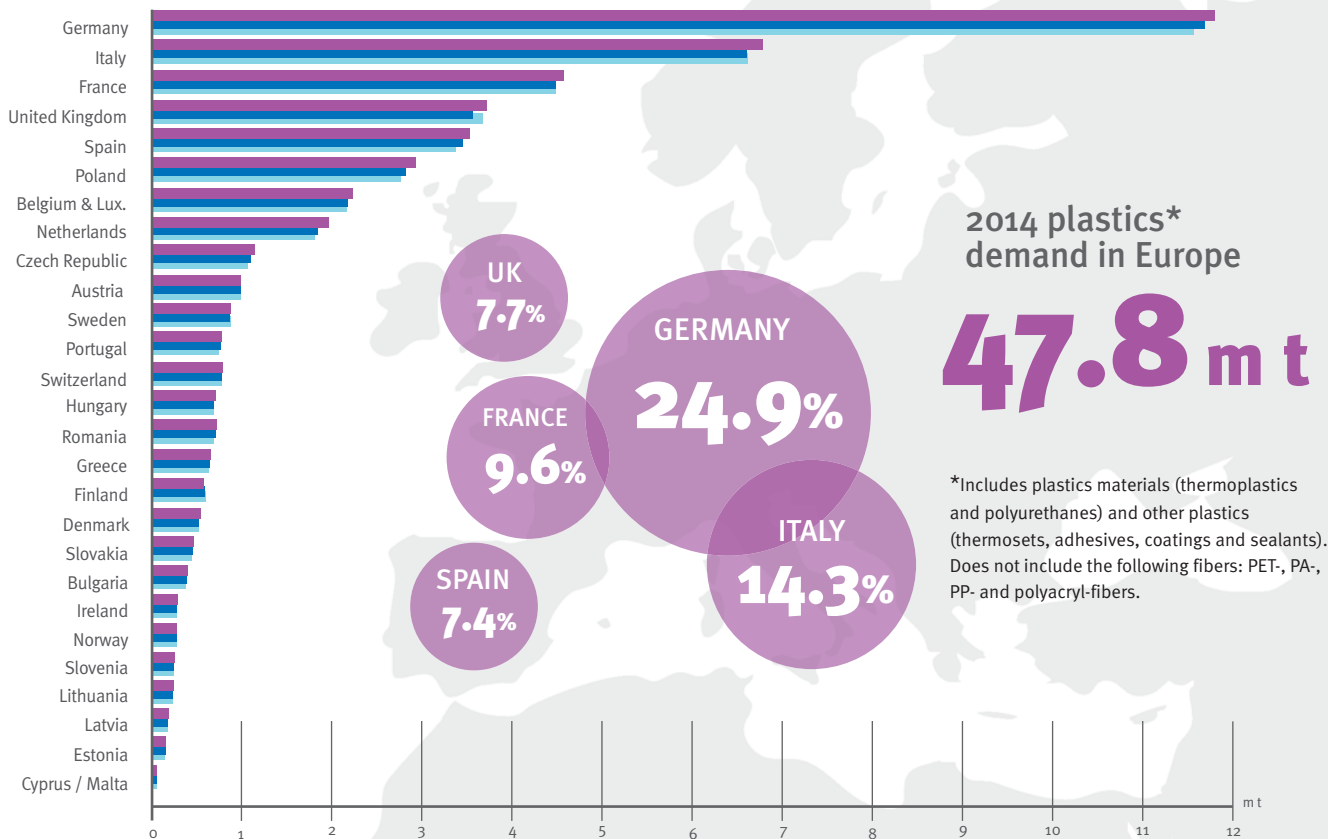
Plastics manufacturing

Plastics processing

Exports Extra EU-28	1. Turkey (13.7%)	1. USA (13.4%)
	2. China (12.4%)	4. Switzerland (11.2%)
	3. USA (11%)	3. Russia (10.7%)
	4. Russia (7.8%)	4. China (8.9%)
	5. Switzerland (6.2%)	5. Turkey (5.9%)
Imports Extra EU-28	1. USA (23.7%)	1. USA (22.1%)
	2. Saudi Arabia (13.7%)	2. Switzerland (15.1%)
	3. South Korea (12.2%)	3. China (13.8%)
	4. Switzerland (7.1%)	4. Turkey (11.4%)
	5. Japan (6.2%)	5. Japan (5.7%)

**2014 extra EU-28
top trade partners
in value**

Two thirds of plastics* demand in Europe is concentrated in five countries



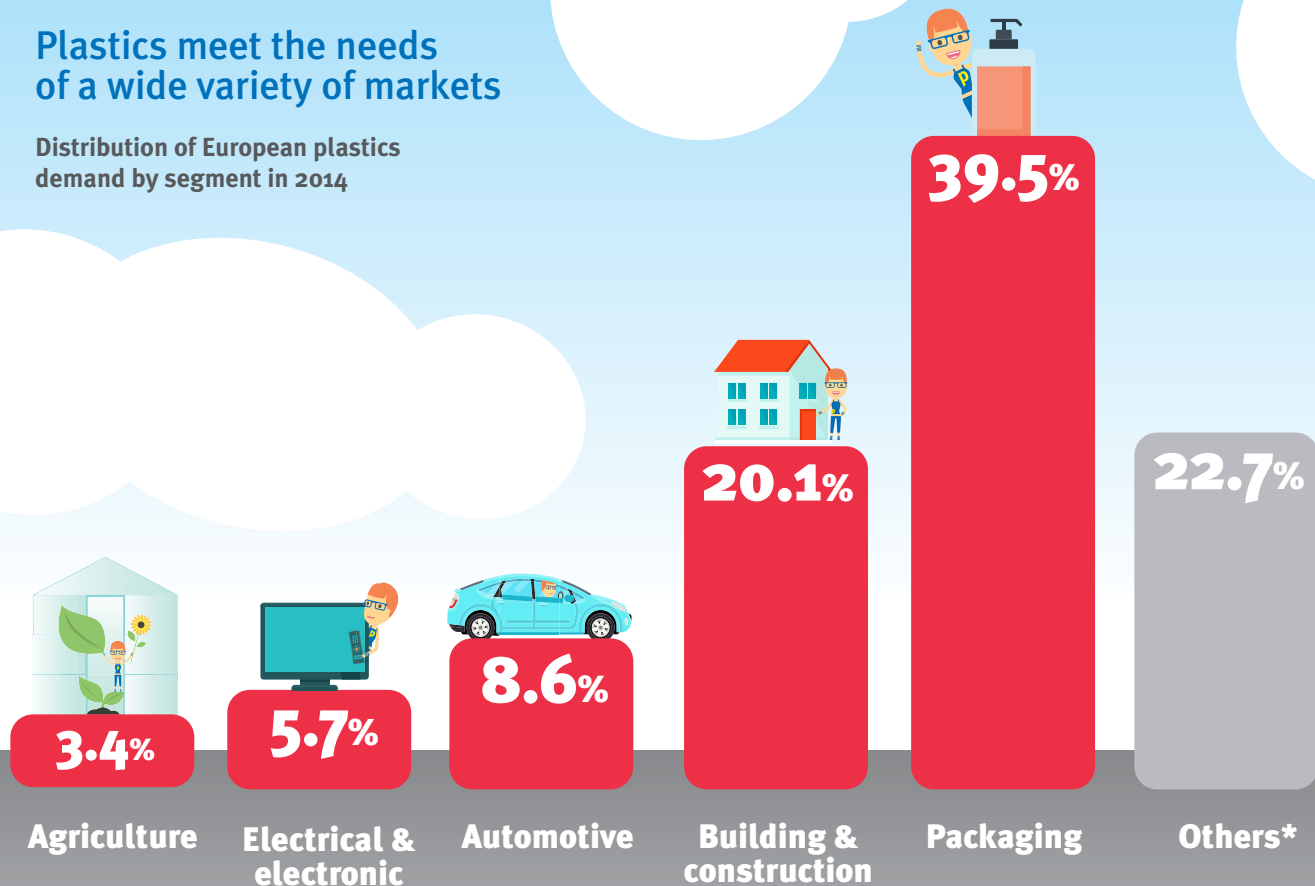
European plastics demand by country (m t/year)

Source: PlasticsEurope (PEMRG) / Consultic / myCeppi

● 2014 ● 2013 ● 2012

Plastics meet the needs of a wide variety of markets

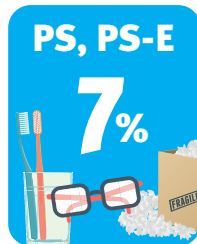
Distribution of European plastics demand by segment in 2014



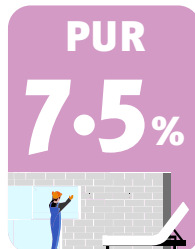
A variety of plastics for different needs



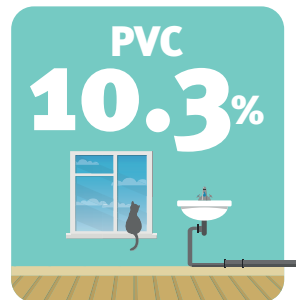
Bottles, etc.



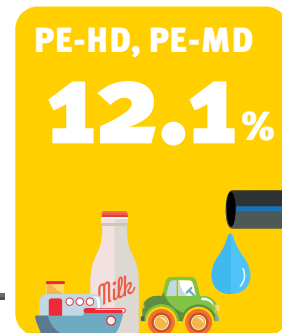
Spectacle frames and plastic cups (PS), packaging (PS-E), etc.



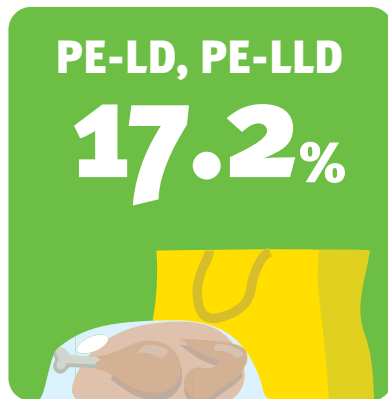
Mattresses and insulation panels, etc.



Window frames, flooring and pipes, etc.



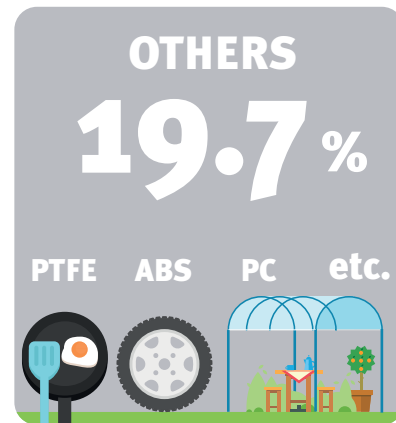
Toys (PE-HD, PE-MD), milk bottles and pipes (PE-HD), etc.



Films for food packaging (PE-LLD), reusable bags (PE-LD), etc.



Folders, food packaging hinged caps, car bumper, etc.



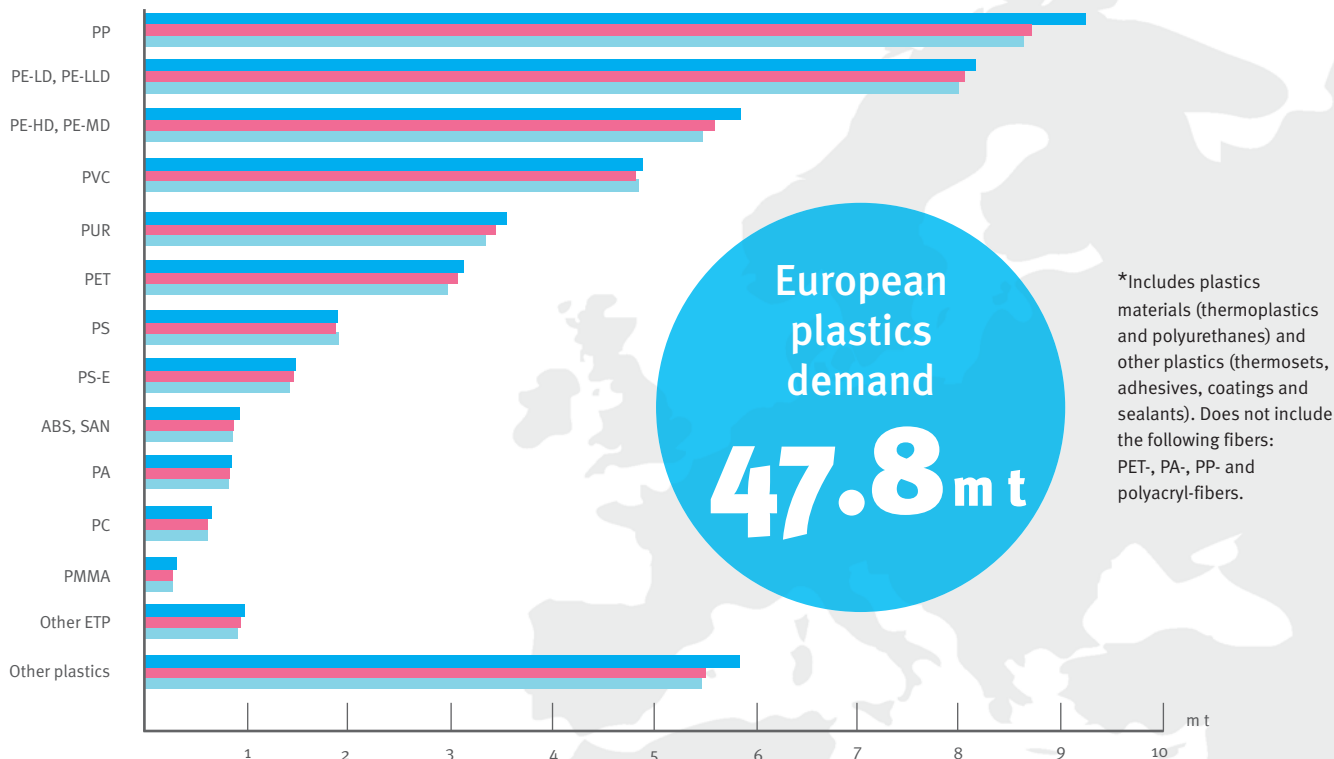
Teflon coated pans (PTFE), hub caps (ABS), roofing sheets (PC), etc.

European plastics demand* by polymer type 2014

Source: PlasticsEurope (PEMRG) / Consultic / myCeppi

* EU-28+NO/CH

European plastics* demand by polymer type 2014



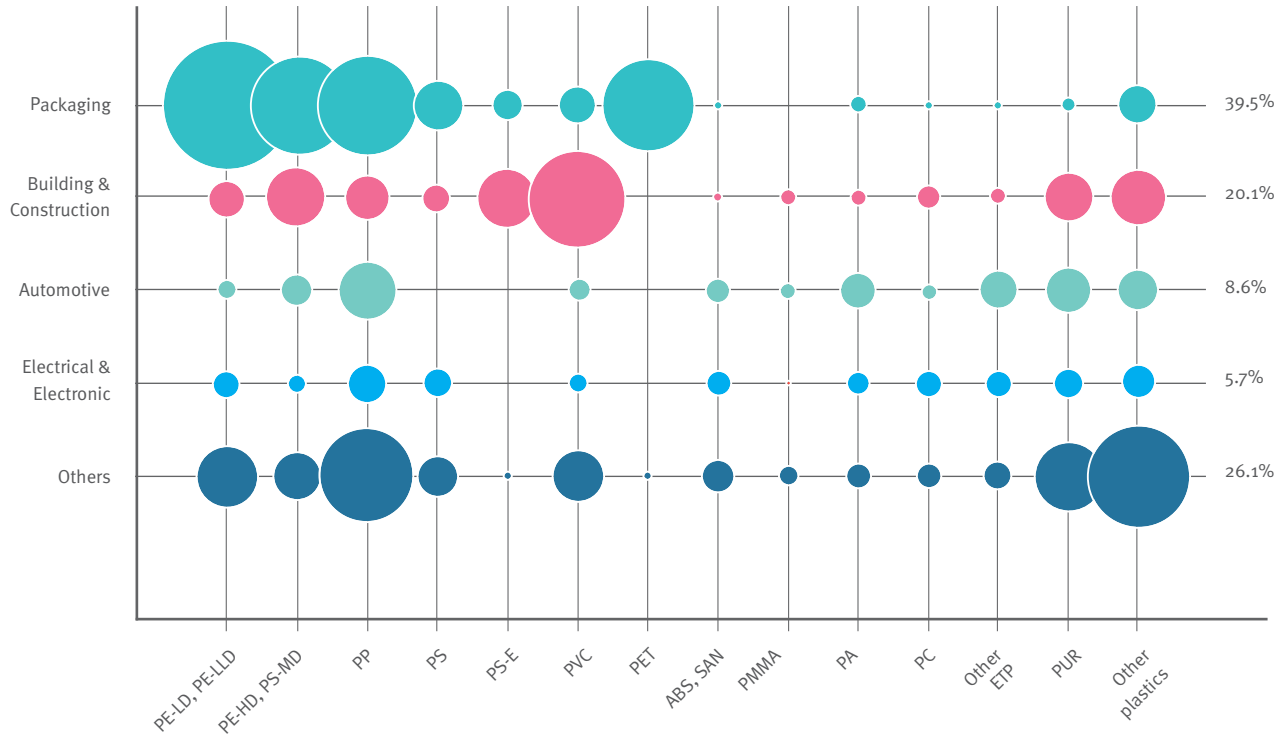
Evolution of European plastics demand* by polymer type

Source: PlasticsEurope (PEMRG) / Consultic / myCepi

* EU-28+NO/CH

● 2014 ● 2013 ● 2012

Packaging, building & construction and automotive are the top three markets for plastics



European plastics demand* by segment and polymer type 2014

Source: PlasticsEurope (PEMRG) / Consultic / myCeppi

* EU-28+NO/CH

Plastics: waste management data



Did you know?

Europe is losing economically valuable resources by landfilling almost 8 million tonnes of plastics waste per year.

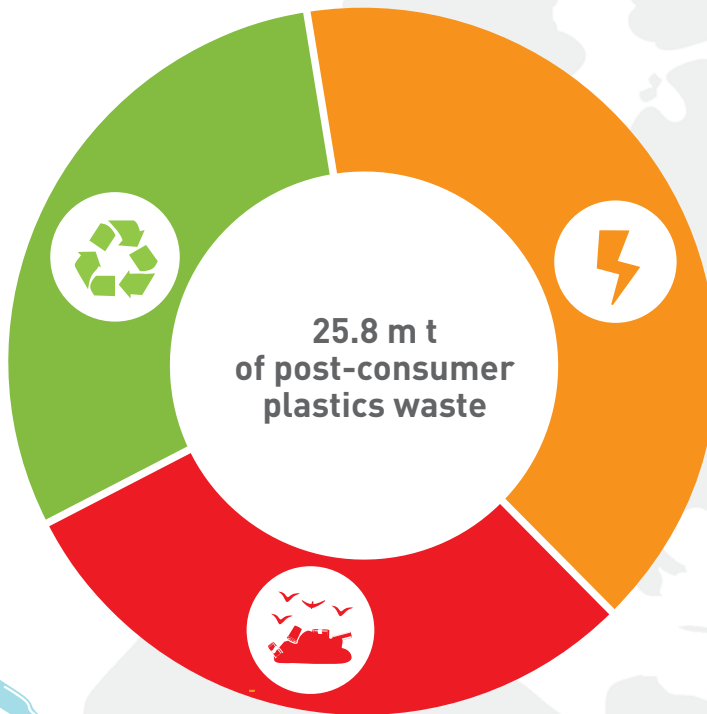
In 2014 plastics recycling and energy recovery reached 69.2%

In 2014, 25.8 million tonnes of post-consumer plastics waste ended up in the waste upstream. 69.2% was recovered through recycling and energy recovery processes while 30.8% still went to landfill.

Recycling
29.7%

Energy recovery
39.5%

Landfill
30.8%

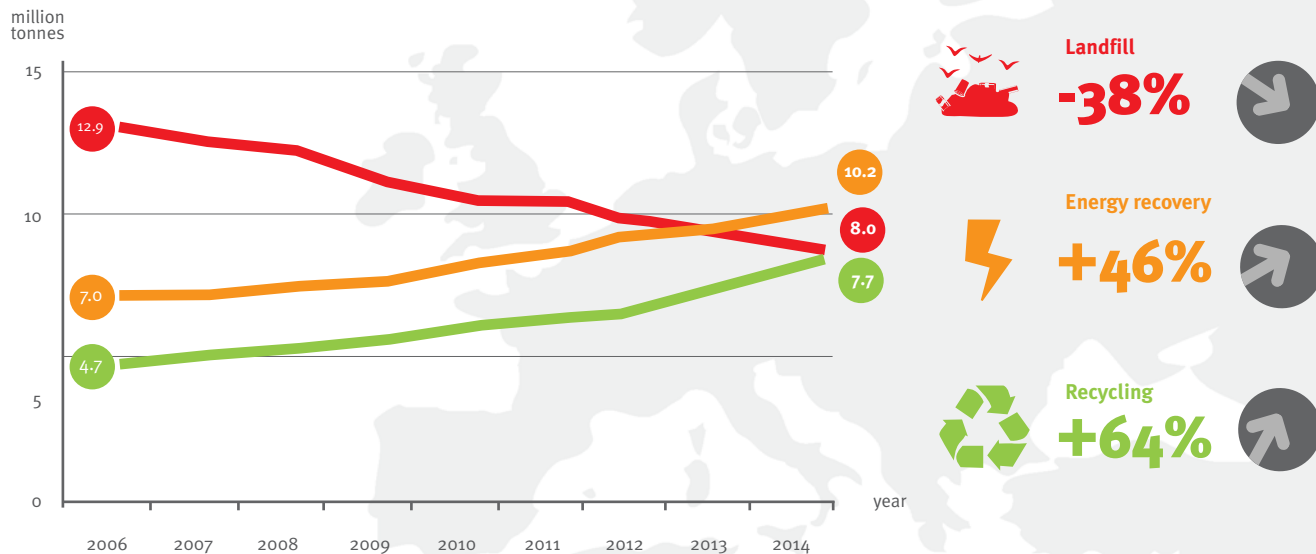


Treatment for post-consumer plastics waste in the EU28 + Norway and Switzerland

Source: Consultic

Since 2006 recycling and energy recovery have increased

The annual average of post-consumer plastics waste generation from 2006 to 2014 is 25 million tonnes

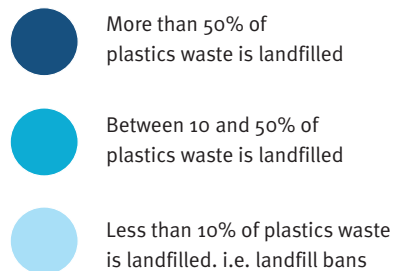


2006-2014 progress of recycling and energy recovery

Source: Consultic

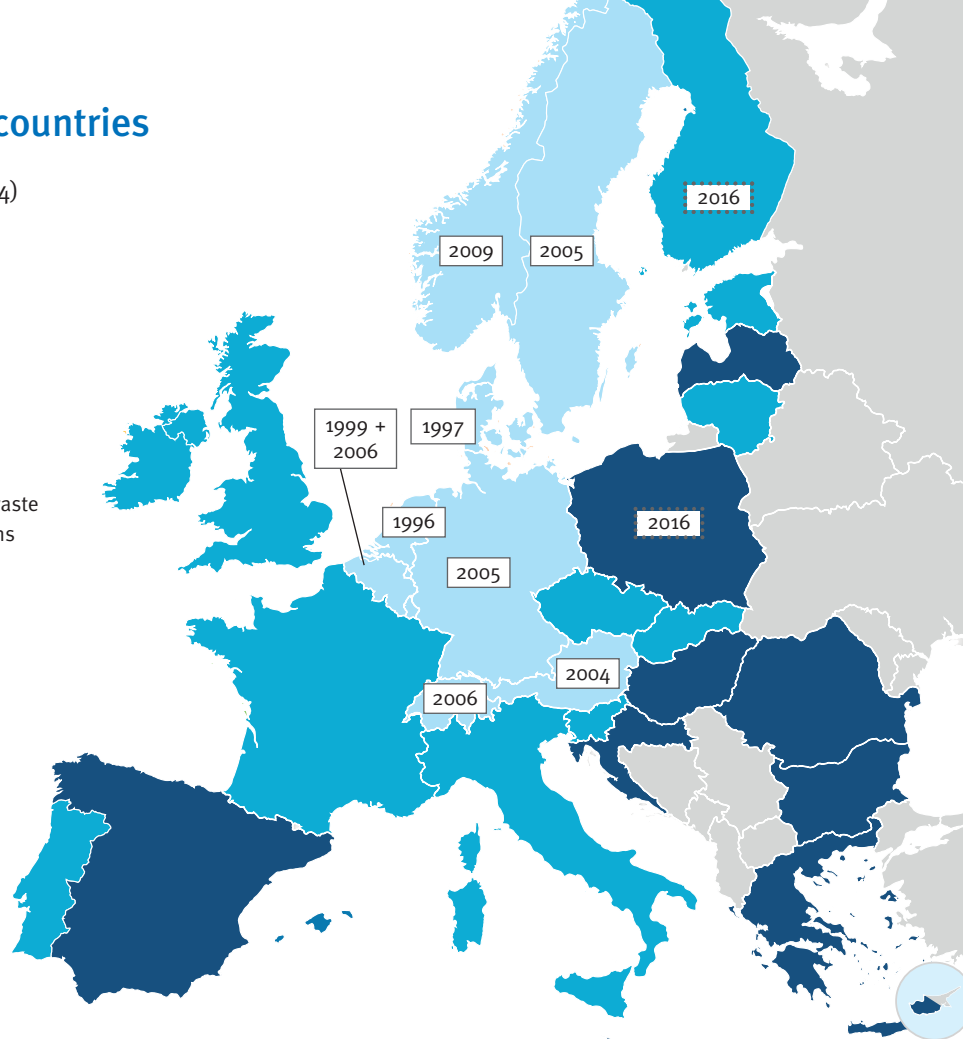
Landfilling is still the 1st option in many EU countries

Plastics waste going to landfill (2014)



2006 Date of landfill ban in force

2016 Date of future landfill ban



Zero plastics to landfill makes economic and environmental sense

Almost 8 m t of plastics waste were landfilled in Europe in 2014

8
million tonnes
of plastics waste



8 m t



of plastics prevented
from being landfilled



800

Eiffel towers



Making use
of the



100
million

barrels of oil
needed to produce
these plastics



50

large oil tankers



That way we
could save

€ 8
billion
euros



1.3 x



the EU budget
for tackling youth
employment

In general, countries with landfill ban achieve higher recycling rates

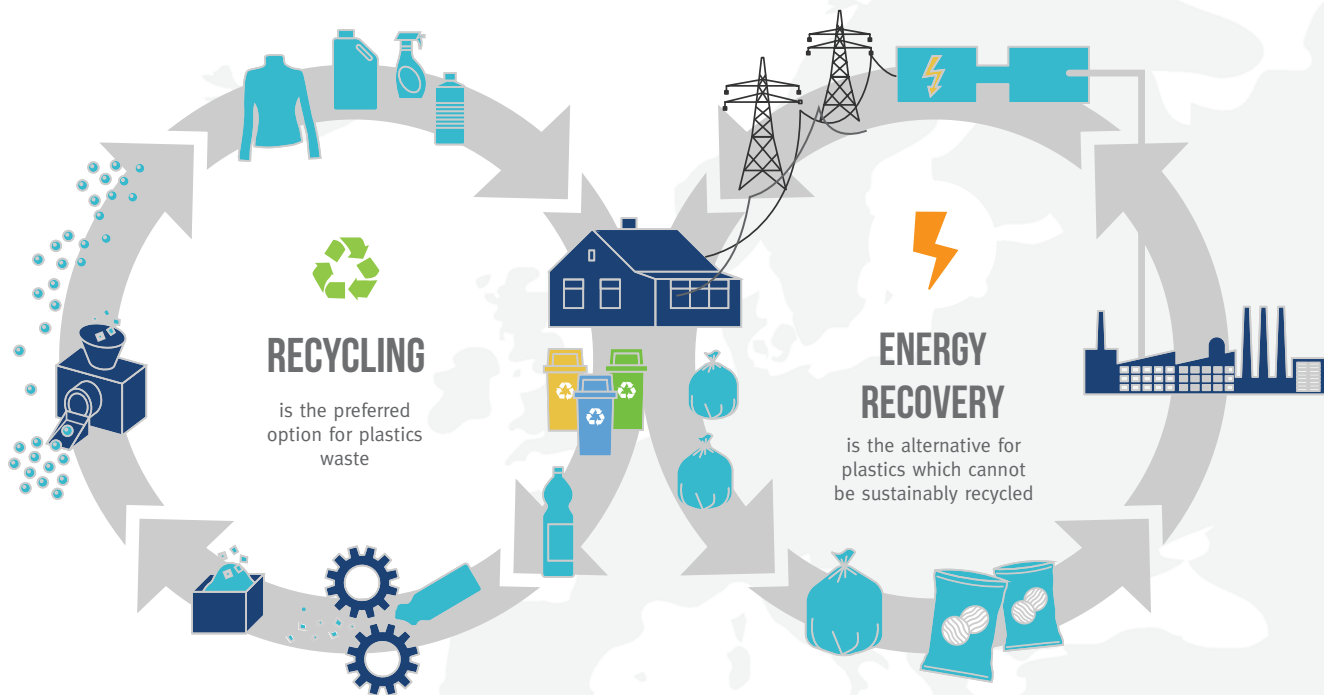


Treatment of post-consumer plastics waste 2014
(EU-28 + CH/NO)

Source: Consultic

- Recycling rate
- Energy recovery rate
- Landfill rate

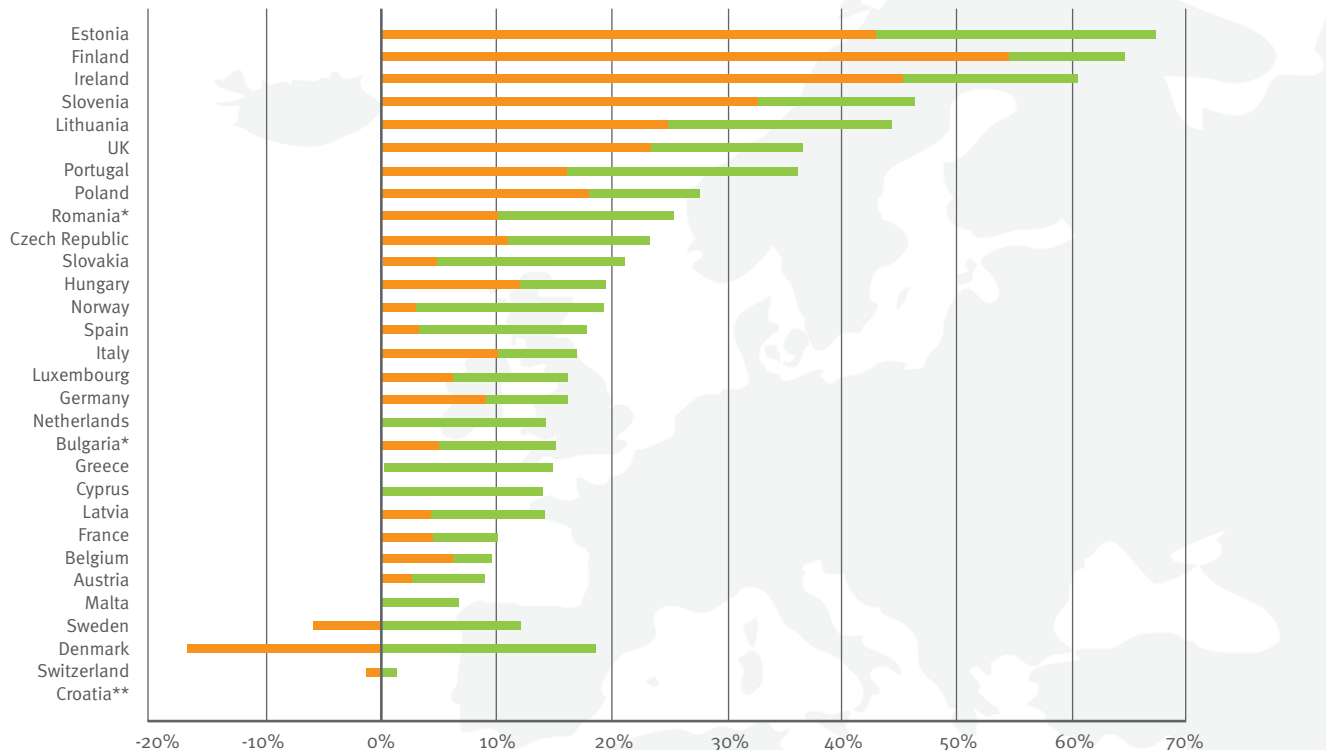
Plastics waste is a key resource in the move towards circular economy



Recycling is the preferred option for plastics waste. However, when recycling is no longer the most sustainable option, energy recovery is the alternative. Both options complement each other and help realise the full potential of plastics waste.

Recycling and energy recovery complement each other to increase resource efficiency

Changes in recycling and energy recovery rates by country



Source: Consultic

* For Bulgaria & Romania: comparison 2014 vs. 2007

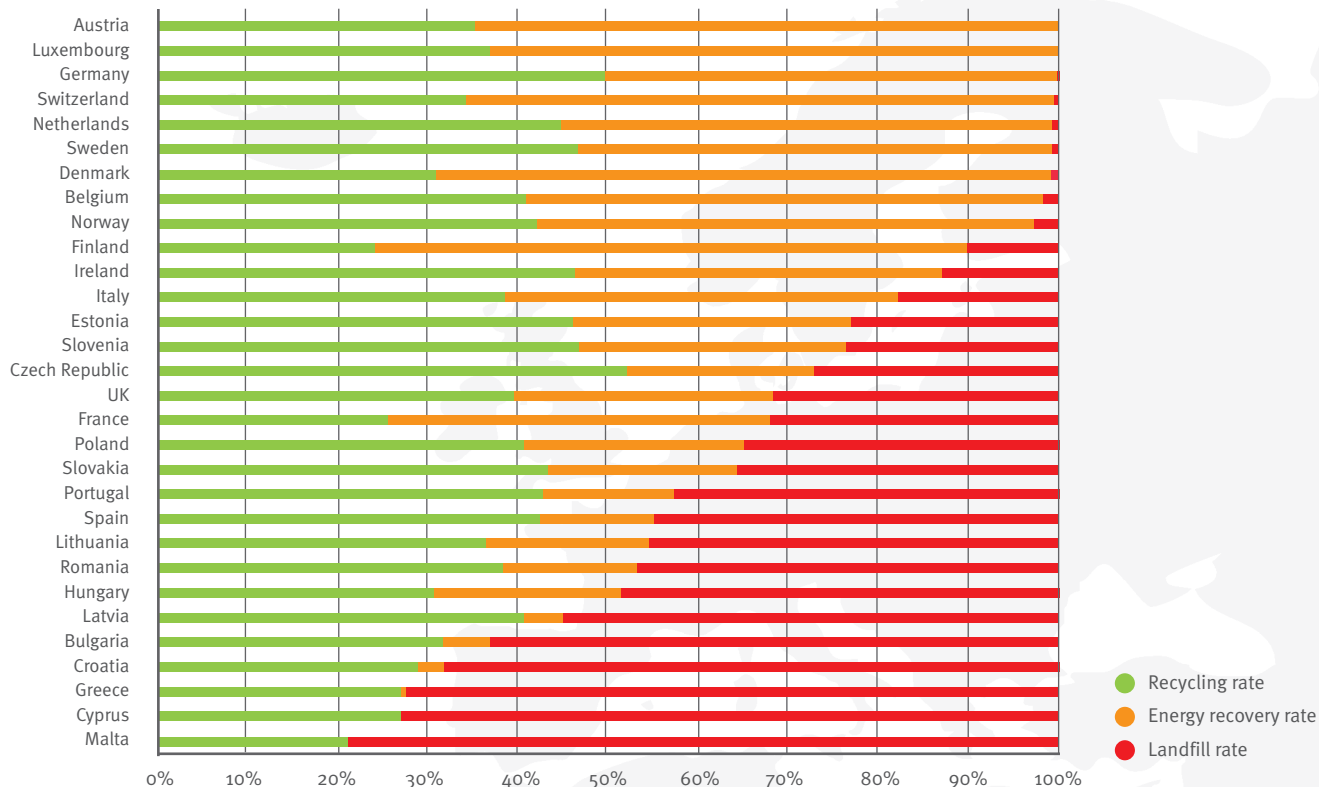
** No comparison available for Croatia

**Comparison of rates
2014 vs. 2006**

● Energy recovery rate ● Recycling rate

Referred to post-consumer plastics waste

Plastics PACKAGING has the highest recycling and energy recovery rates



Packaging recycling and energy recovery rate by country 2014

(Referred to post-consumer plastics waste)

Source: Consultic

Plastics have several lives



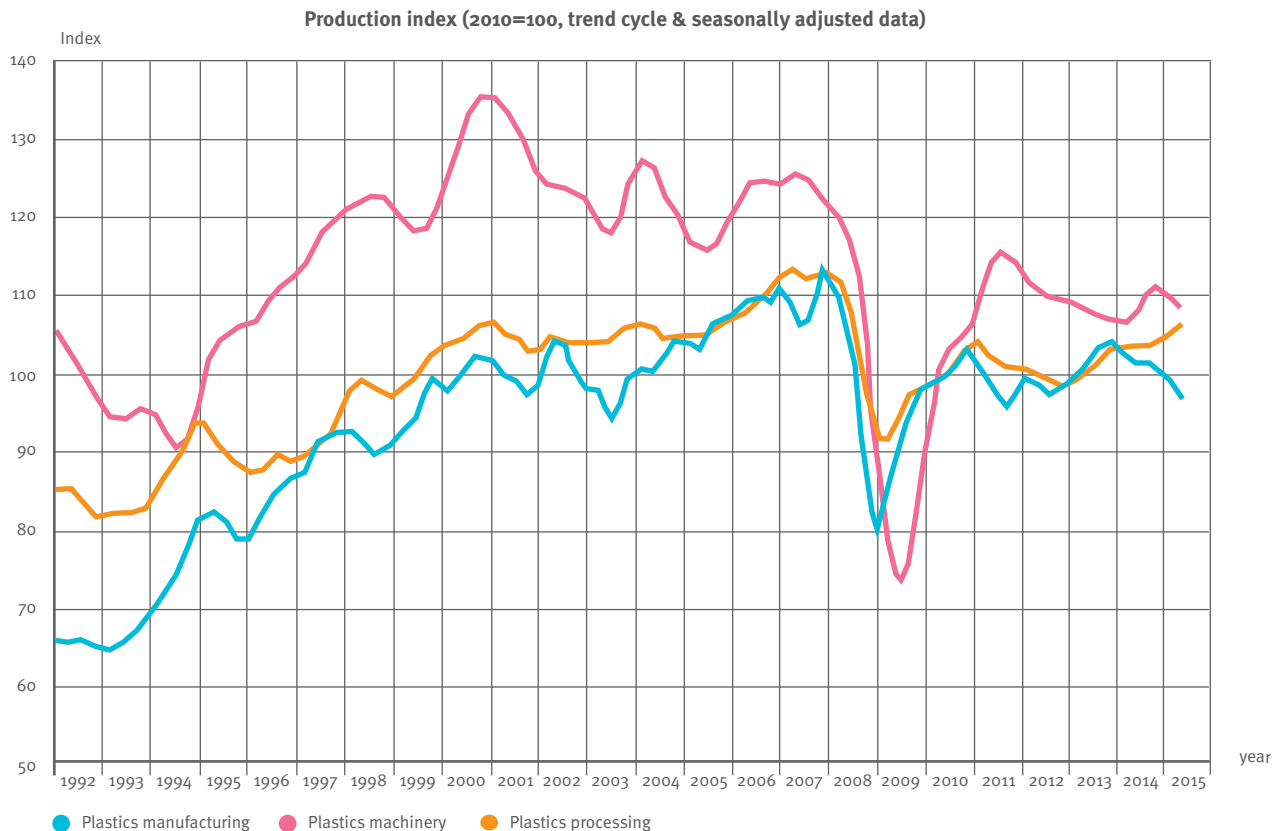
Snapshot



Did you know?

The European plastics industry can contribute to increase EU industry GDP from 15% to 20% by 2020.

In 2015 plastics production is still below pre-crisis level



Plastics industry production in EU-28

Source: Eurostat

Glossary of terms

ABS	Acrylonitrile Butadiene Styrene resin	PE-LD	Polyethylene, low density
ASA	Acrylonitrile Styrene Acrylate resin	PE-LLD	Polyethylene, linear low density
bn	billion	PE-MD	Polyethylene, medium density
bn€	billion euros	PEMRG	PlasticsEurope Market Research Group
CH	Switzerland	PET	Polyethylene Terephthalate
CIS	Commonwealth of Independent States	Plastics	Plastic materials + other plastics
Consultic	Consultic Marketing & Industrieberatung GmbH	Plastics Materials	Thermoplastics + Polyurethanes (PUR)
EU	European Union	PUR	Polyurethane
EPRO	European Association of Plastics Recycling and Recovery Organisations	PMMA	Polymethyl Methacrylate
ETP	Engineering Thermoplastics	PP	Polypropylene
GDP	Gross domestic product	PS	Polystyrene
myCeppi	Eastern and Central European Business Development	PS-E	Polystyrene, expandable
m t	Million tonnes	PTFE	Polytetrafluoroethylene
NAFTA	North American Free Trade Agreement (Canada, USA, Mexico)	PVC	Polyvinyl Chloride
NO	Norway	SAN	Styrene-acrylonitrile
Other plastics	Thermosets, adhesives, coatings and sealants	SMEs	Small and medium enterprises
Other ETP	Other engineering thermoplastics	Thermo-plastics	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)
PA	Polyamide	Thermosets	Urea-formaldehyde foam, melamine resins, polyester resins, epoxy resins, etc
PC	Polycarbonate	UK	United Kingdom
PE	Polyethylene		
PE-HD	Polyethylene, high density		

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 EU28 member states plus Norway, Switzerland and Turkey. 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 1.45 million people are working in more than 60,000 companies (mainly small and medium sized companies in the converting sector) to create a turnover around 350 bn EUR 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 plastics 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

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