



# Plastics – the Facts 2015

An analysis of European plastics  
production, demand and waste data

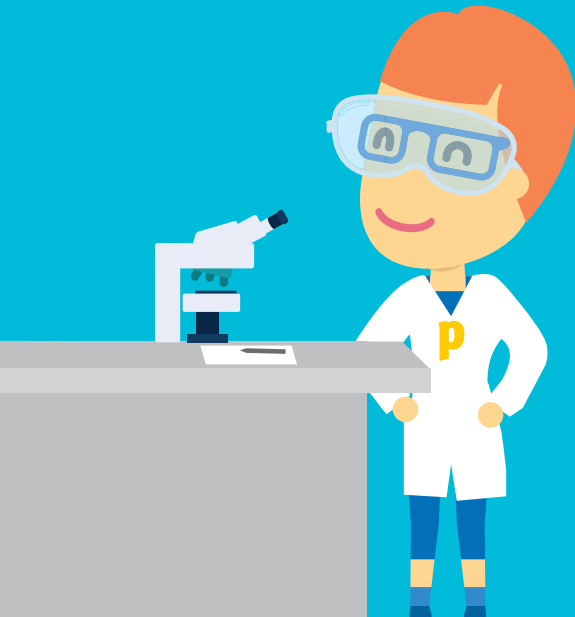
Plastics – the Facts is an analysis of the data related to the production, demand and waste management of plastics materials. It provides the latest business information on production and demand, trade, recovery as well as employment and turnover in the plastics industry. In short, this report gives 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 21<sup>st</sup> 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 21<sup>st</sup> century

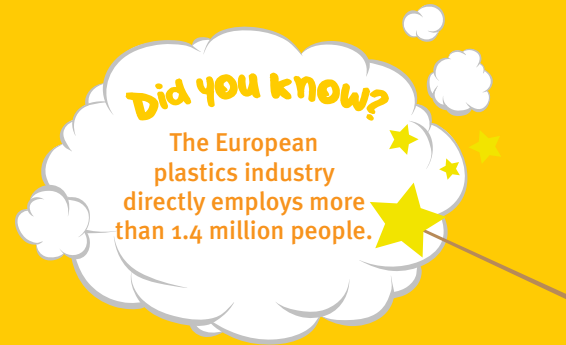


DISCOVER WHY THE MATERIAL OF  
CHOICE FOR THE 21<sup>ST</sup> CENTURY IS  
**PLASTICS**

CLICK HERE  
TO PLAY



# 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

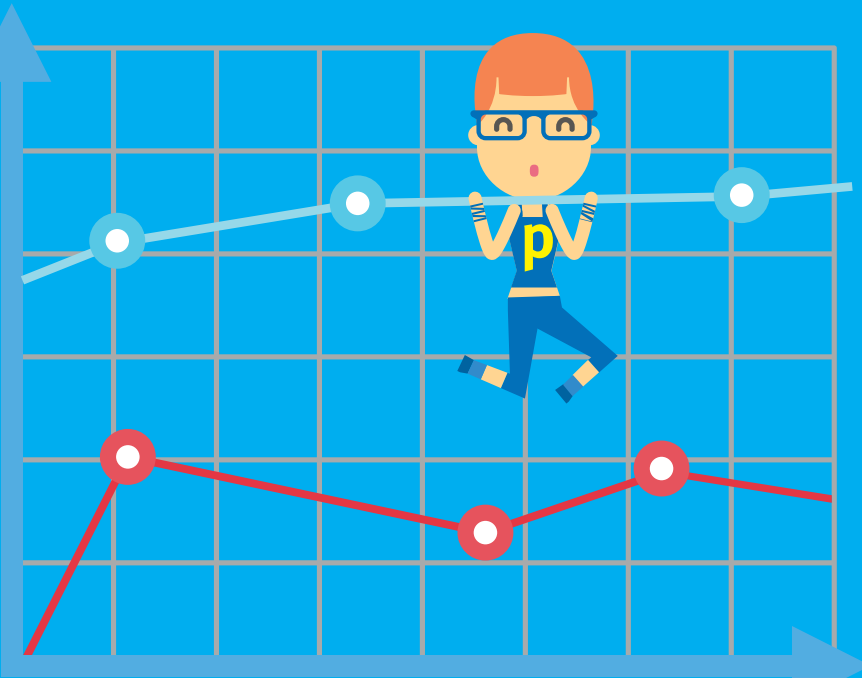


**Recycling**

**7.7 m t**

of plastic waste recycled

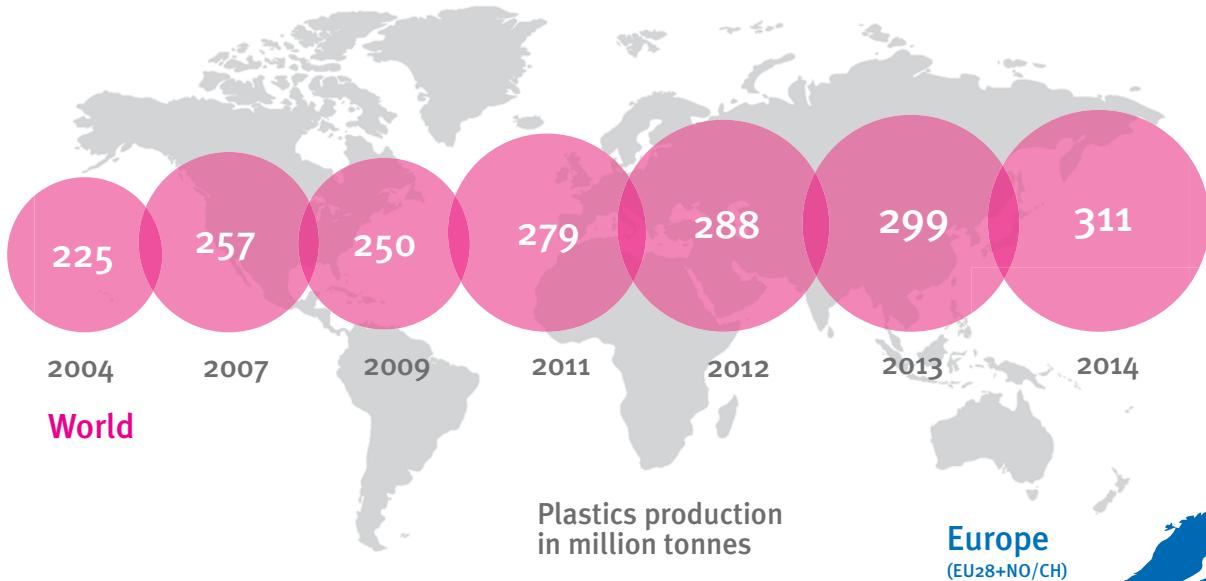
# Plastics: market data



**Did you know?**

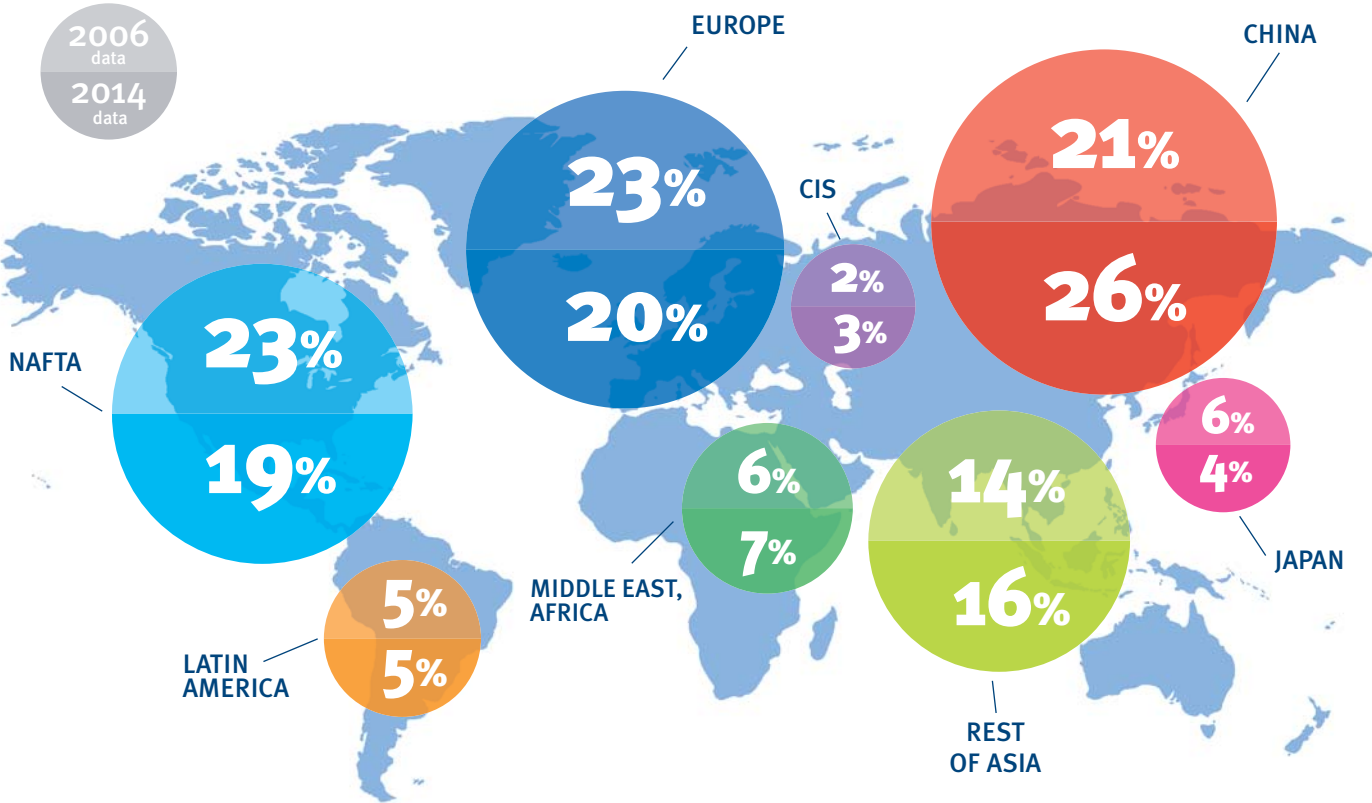
Only 4 to 6% of the world's  
oil production is used  
to produce plastics.

# 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



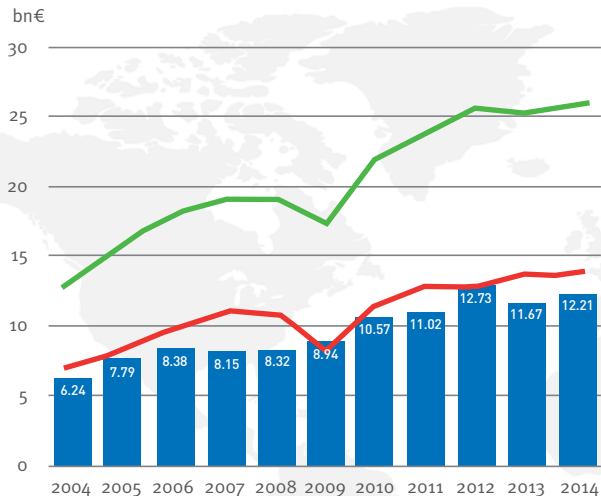
Source: PlasticsEurope (PEMRG) / Consultic

\* Plastics materials: only thermoplastics and polyurethanes

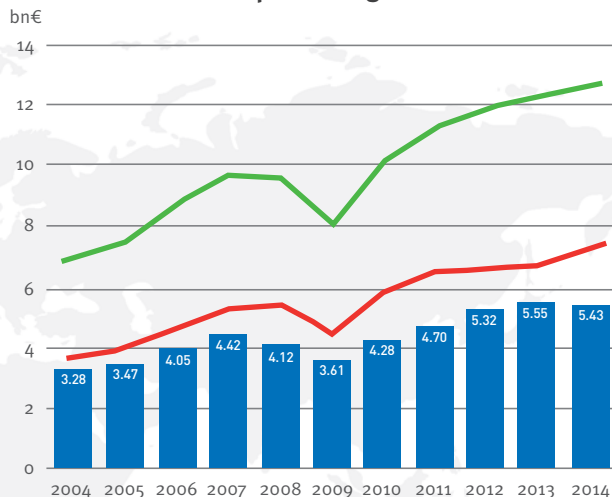
2014 World production of plastics materials\*: 260 m t

# Positive trade balance of 18 billion euros

## Plastics manufacturing extra EU-28



## Plastics processing extra EU-28



■ Trade balance  
■ Exports  
■ Imports

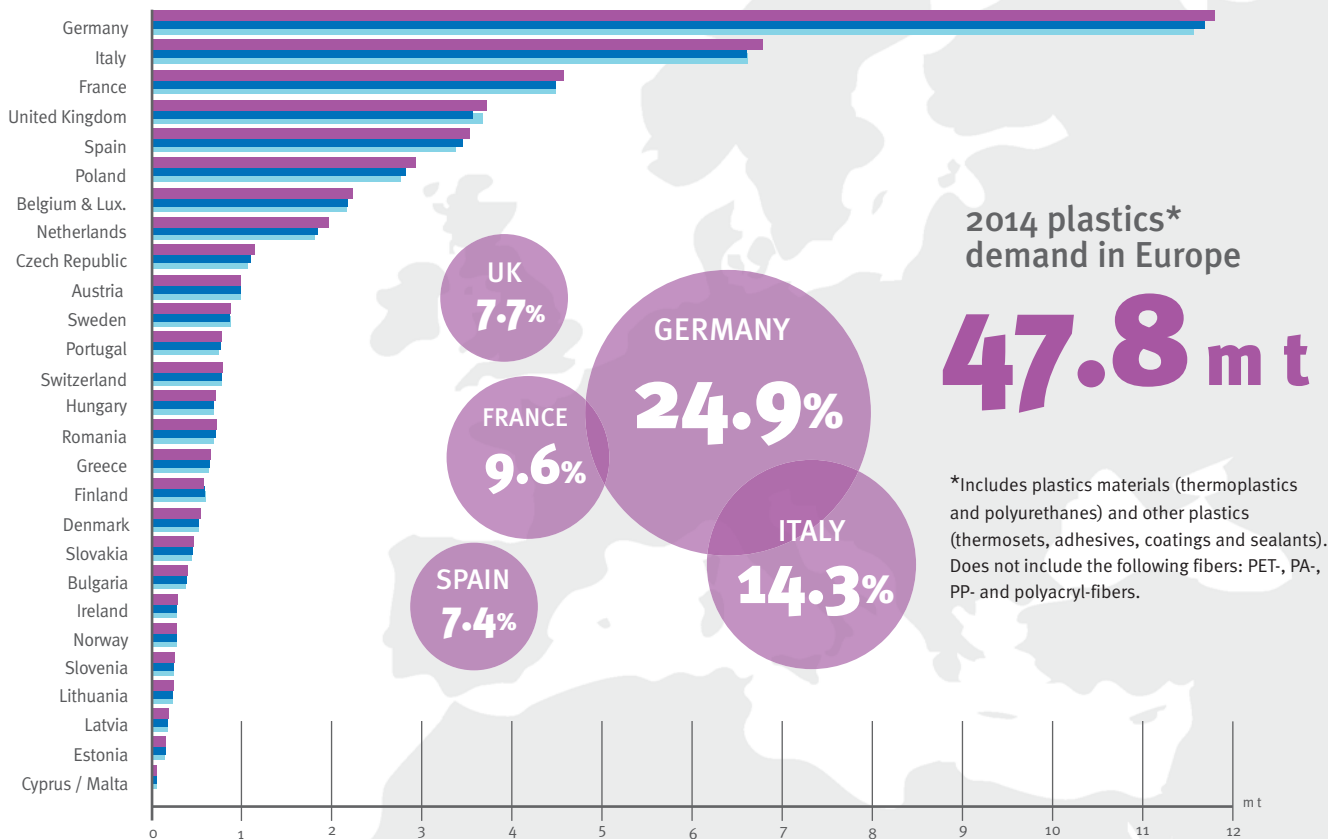
EU-28 plastics industry: trade balance with non-EU member countries (extra EU-28)

Source: Eurostat

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

|                     | 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%)        |

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



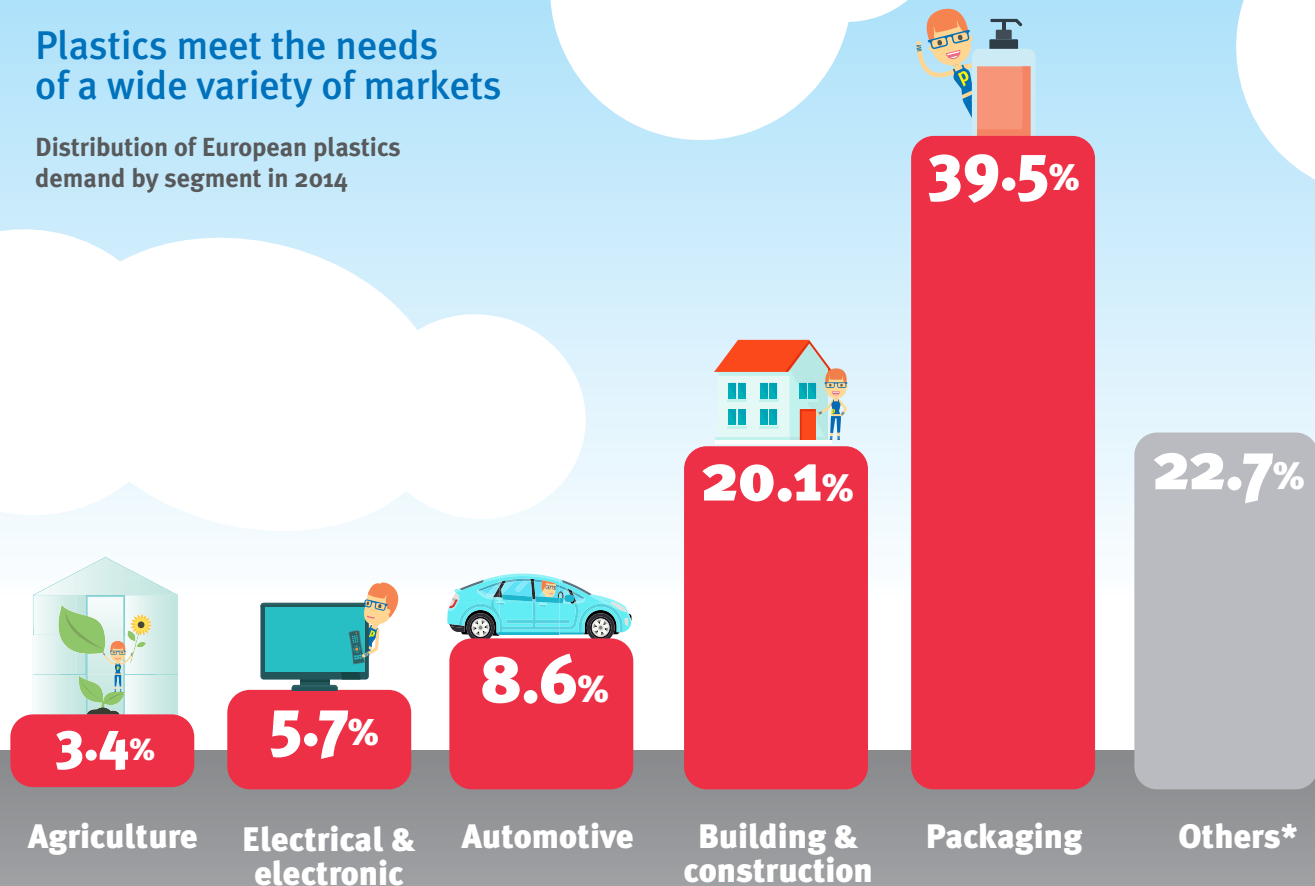
European plastics demand by country (m t/year)

Source: PlasticsEurope (PEMKG) / Consultic / myCeppi

● 2014 ● 2013 ● 2012

# Plastics meet the needs of a wide variety of markets

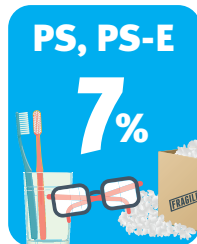
Distribution of European plastics demand by segment in 2014



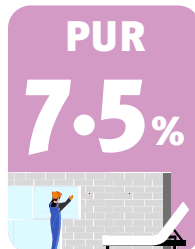
# A variety of plastics for different needs



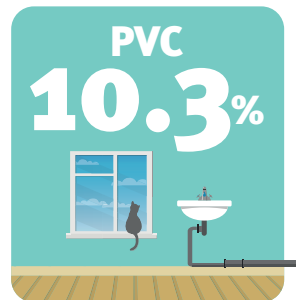
Bottles, etc.



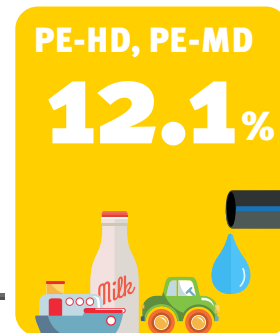
Spectacle frames and plastic cups (PS), packaging (PS-E), etc.



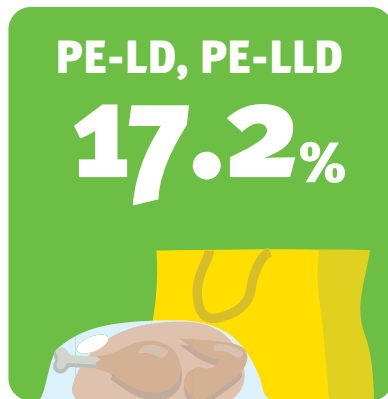
Mattresses and insulation panels, etc.



Window frames, flooring and pipes, etc.



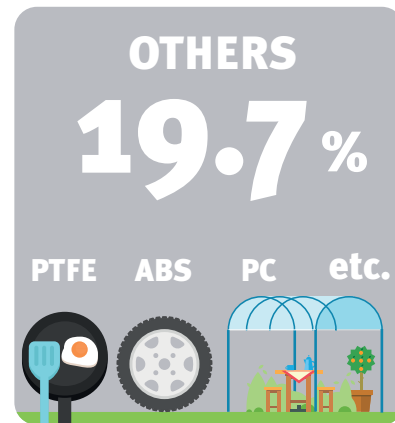
Toys (PE-HD, PE-MD), milk bottles and pipes (PE-HD), etc.



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



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



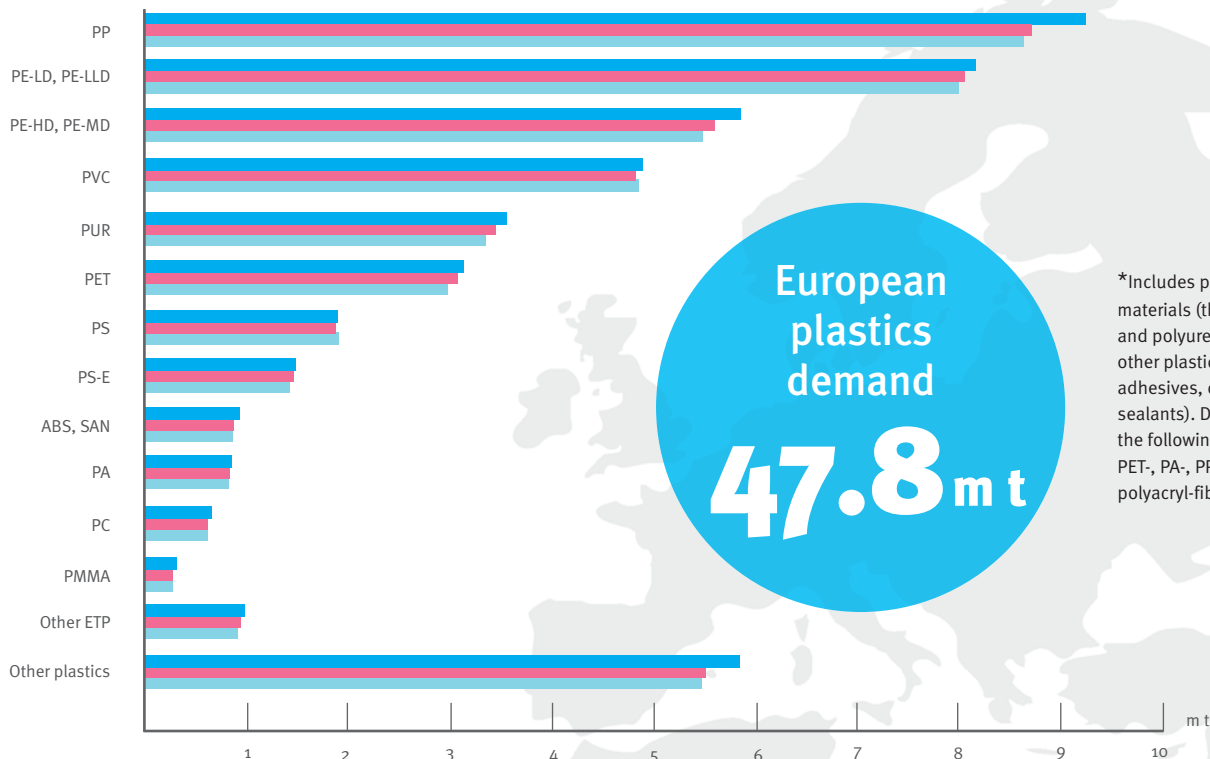
Teflon coated pans (PTFE), hub caps (ABS), roofing sheets (PC), etc.

## European plastics demand\* by polymer type 2014

Source: PlasticsEurope (PEMRG) / Consultic / myCeppi

\* EU-28+NO/CH

# European plastics\* demand by polymer type 2014



\*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.

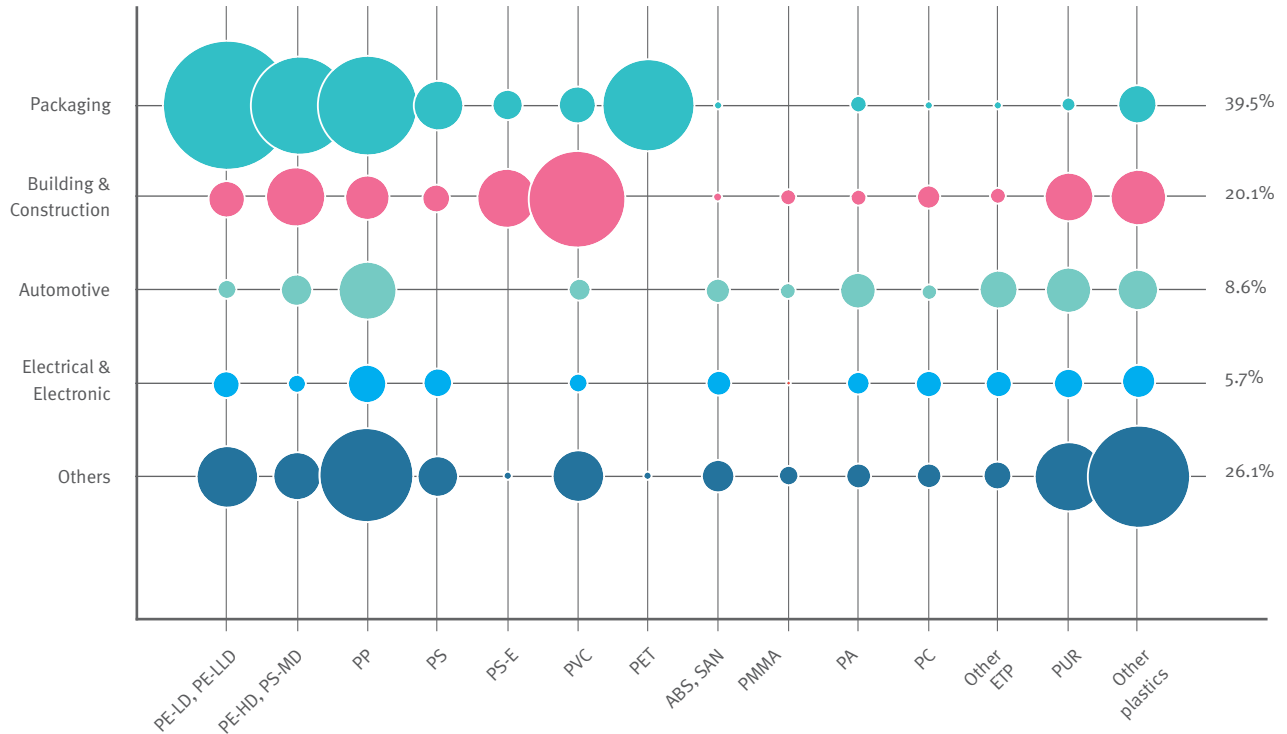
## Evolution of European plastics demand\* by polymer type

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.

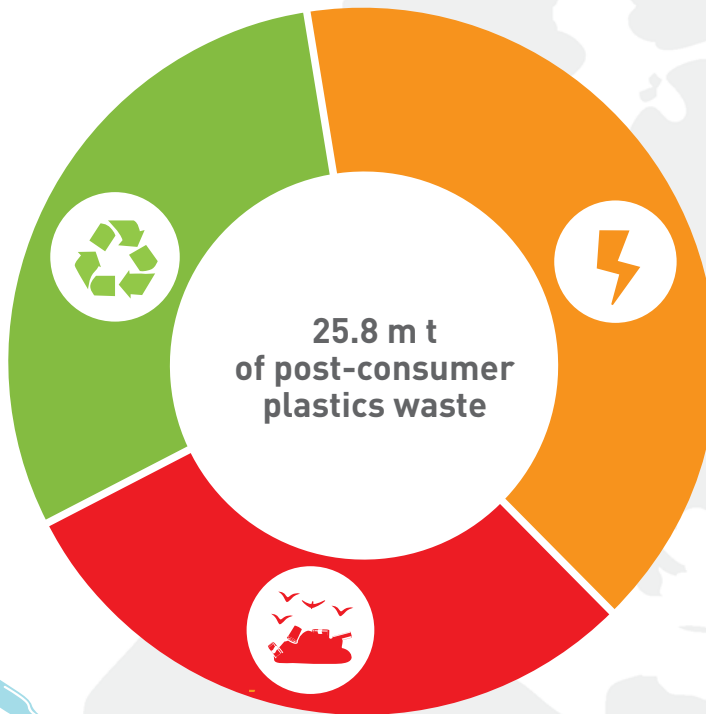
## In 2014 plastics recycling and energy recovery reached 69.2%

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%**

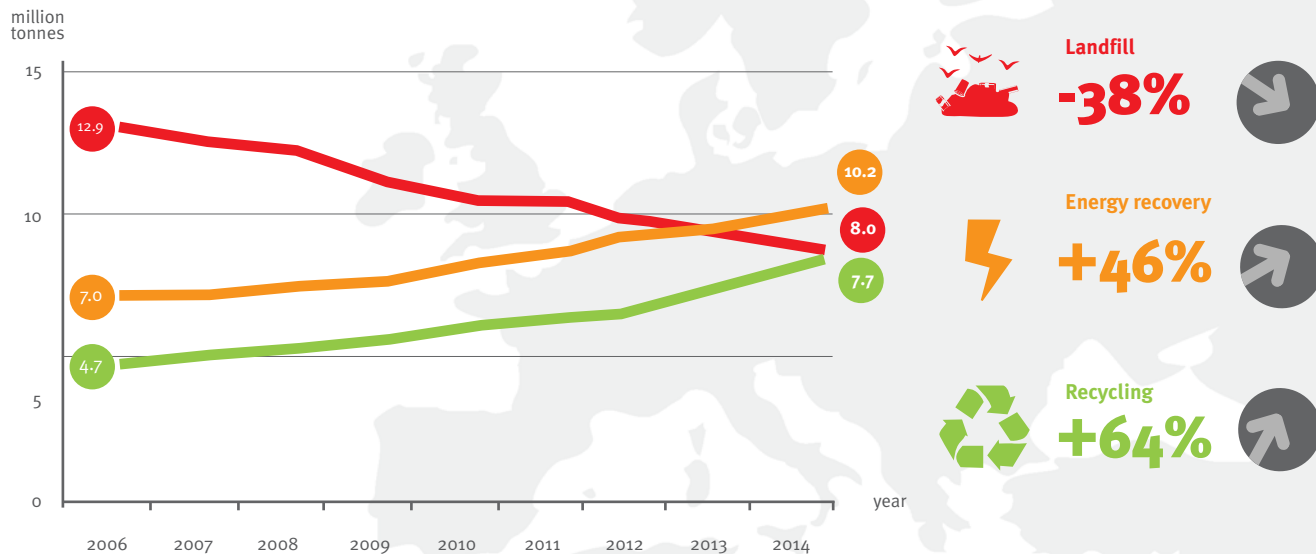


Treatment for post-consumer plastics waste in the EU28 + Norway and Switzerland

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

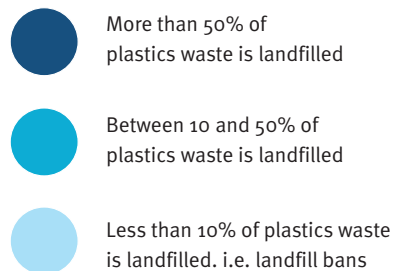


2006-2014 progress of recycling and energy recovery

Source: Consultic

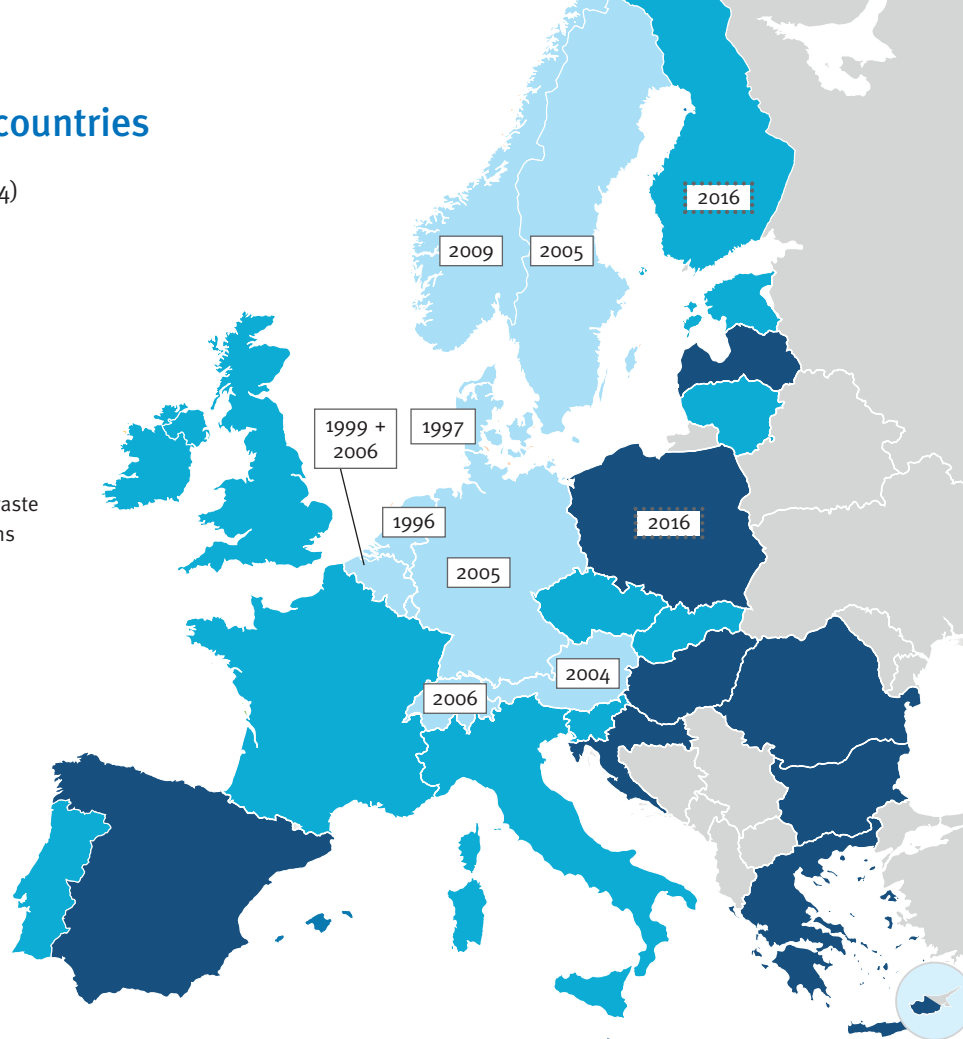
# Landfilling is still the 1<sup>st</sup> option in many EU countries

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

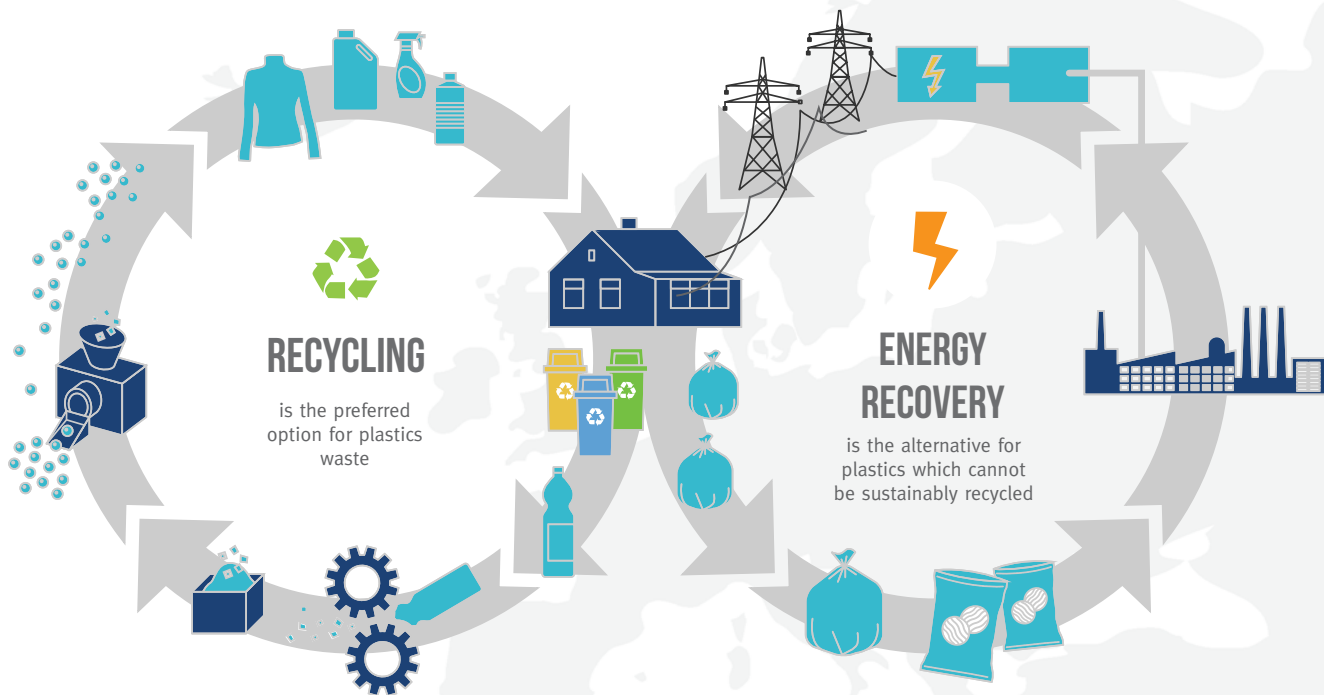


Treatment of post-consumer plastics waste 2014  
(EU-28 + CH/NO)

Source: Consultic

- Recycling rate
- Energy recovery rate
- Landfill rate

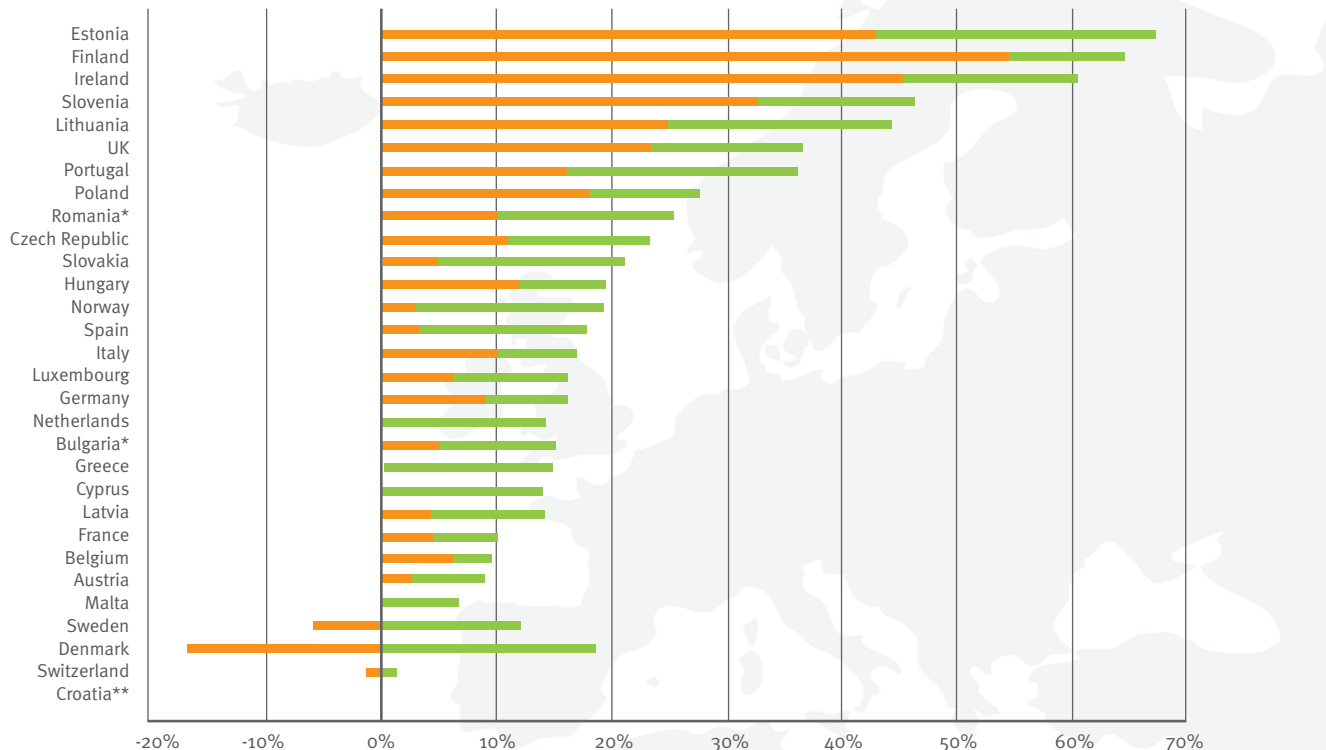
# Plastics waste is a key resource in the move towards circular economy



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

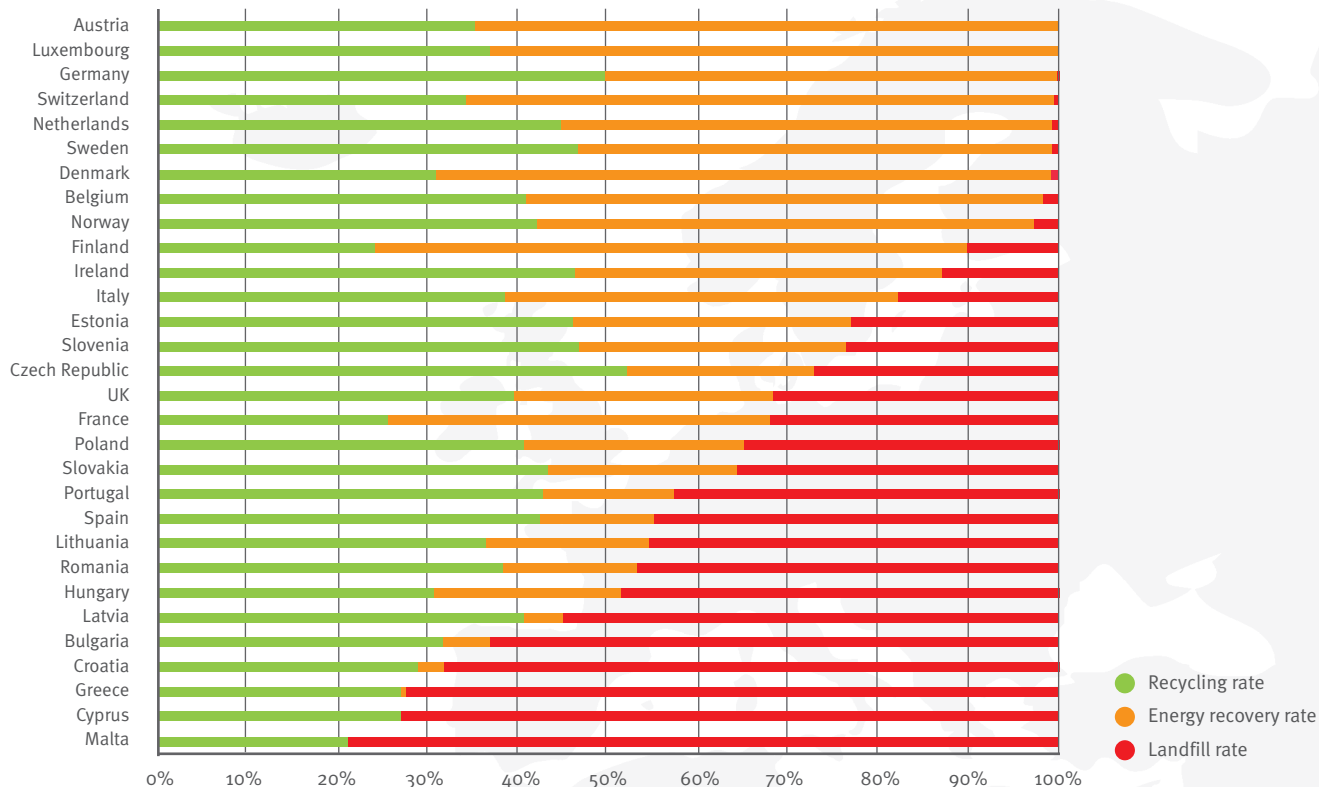
\*\* No comparison available for Croatia

**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



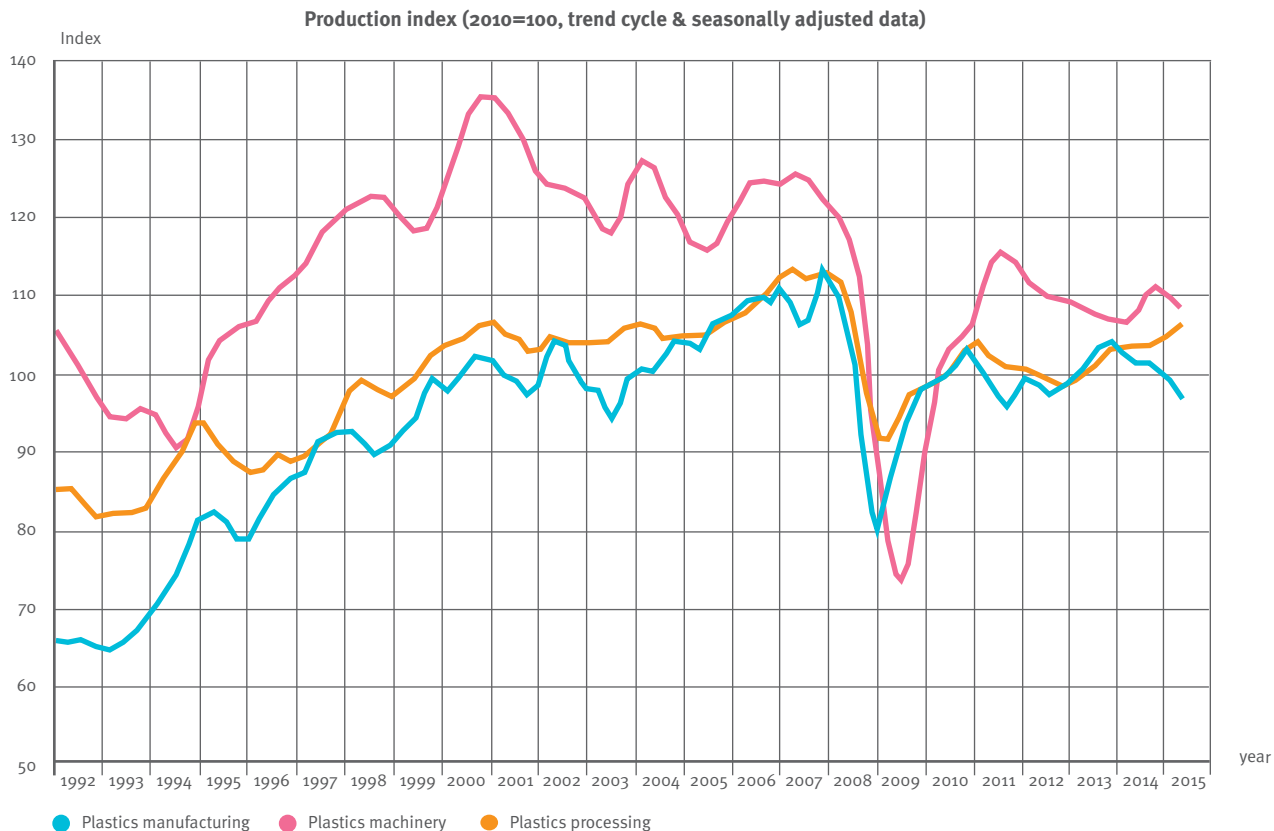
# Snapshot



## 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

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

# PlasticsEurope

Association of Plastics Manufacturers

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