

# THE 12 MOST COMMON MISCONCEPTIONS ABOUT PLASTIC PACKAGING

EVERYONE'S TALKING ABOUT IT.  
BUT DO THEY KNOW THE ACTUAL FACTS?



*Plastic accounts for the largest share of the waste we produce.*

# 01\_MISCONCEPTION

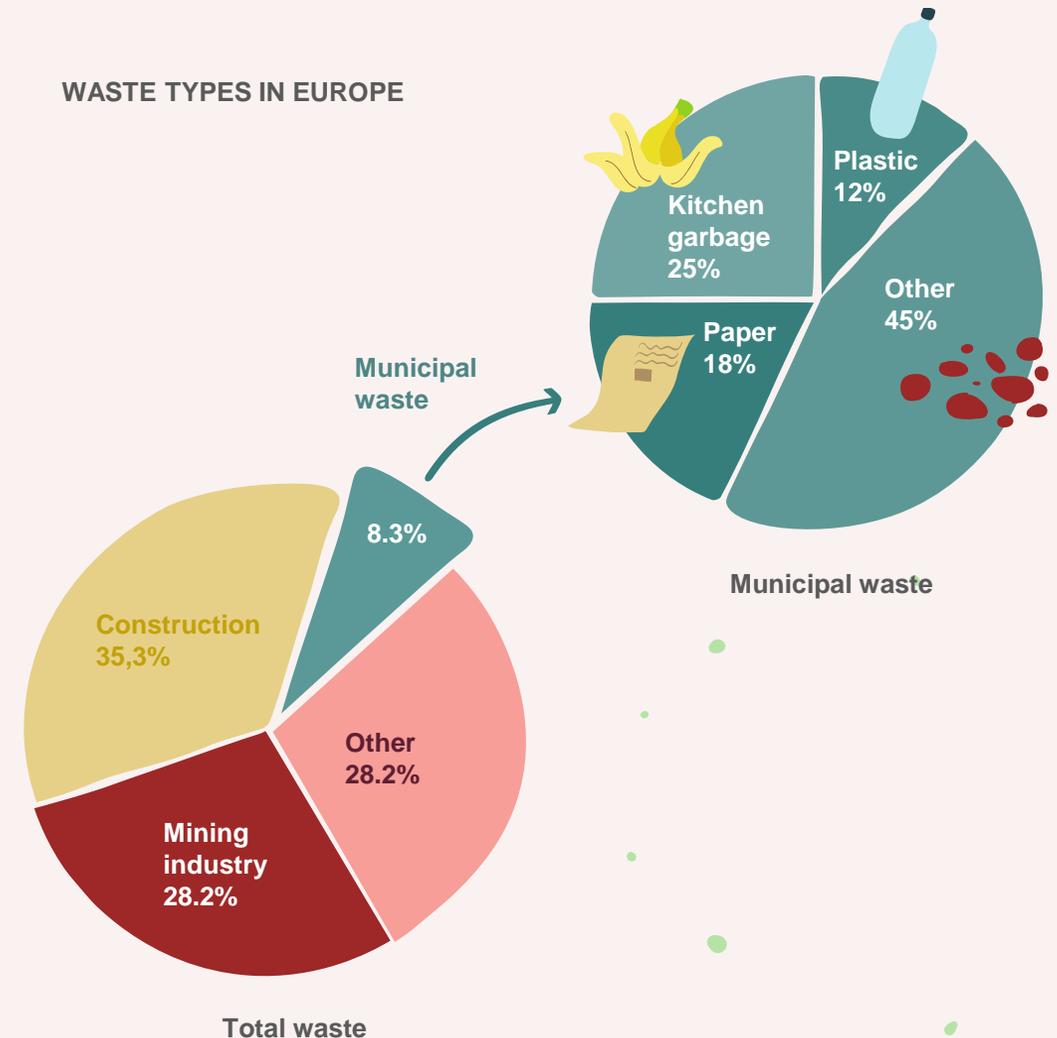


## PLASTIC WASTE

Plastics in private households account for only 1% of the total amount of waste.

- Public waste discussions are being focused on municipal waste and, above all, on plastic packaging.
- Overall, only 1% of the total amount of waste is plastic packaging.

WASTE TYPES IN EUROPE





*Food such as fruit and vegetables are often packaged unnecessarily.*

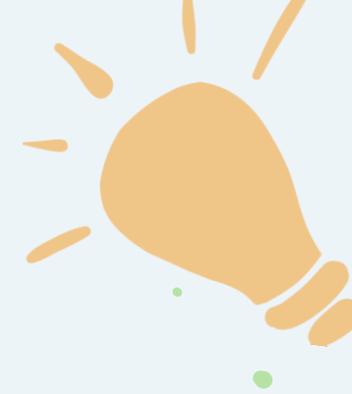
## 02\_MISCONCEPTION



## FOOD PACKAGING

# Plastic packaging extends shelf life of food relevantly.

- Foods have a limited shelf life, which can be extended with packaging.
- About 33% of global food production spoils on the way to the consumer or at home with the consumer.
- Any food that can be saved from being thrown away is a social and climatic success.



DURABILITY OF A CUCUMBER  
UNPACKED



DURABILITY OF A CUCUMBER  
PACKED IN A PE-FILM





*Plastic packaging ends up directly in the garbage anyway.*

## 03\_MISCONCEPTION



## REUSABLE SYSTEMS

# Beverage crates in reusable circulation last up to 21 years!

- Reusable plastic bottles can be refilled up to 25 times. Plastic crates can be used up to 100 times. This corresponds to a service life of almost 21 years.\*
- In Germany, 14% of reusable packaging for beverages is made of plastic.
- More than 95% of all reusable plastic bottles in Europe are used in Germany.





*The industry is doing nothing to reduce plastic consumption.*

## 04\_MISCONCEPTION



## MATERIAL REDUCTION

Without optimization, 6.1 million tons more plastic would be used in Western Europe each year.

- Compared to 1991, plastic packaging today is up to 42% lighter. (On average around 25%.)
- The annual saving corresponds to more than 200 billion 1.5 l PET bottles or a tower that would go to the moon 180 times.



WEIGHT CHANGES IN PLASTIC HOUSEHOLD PACKAGING  
(1991-2013)





*The mass of plastic packaging ensures that we will achieve our CO<sub>2</sub> targets even later.*

## 05\_MISCONCEPTION



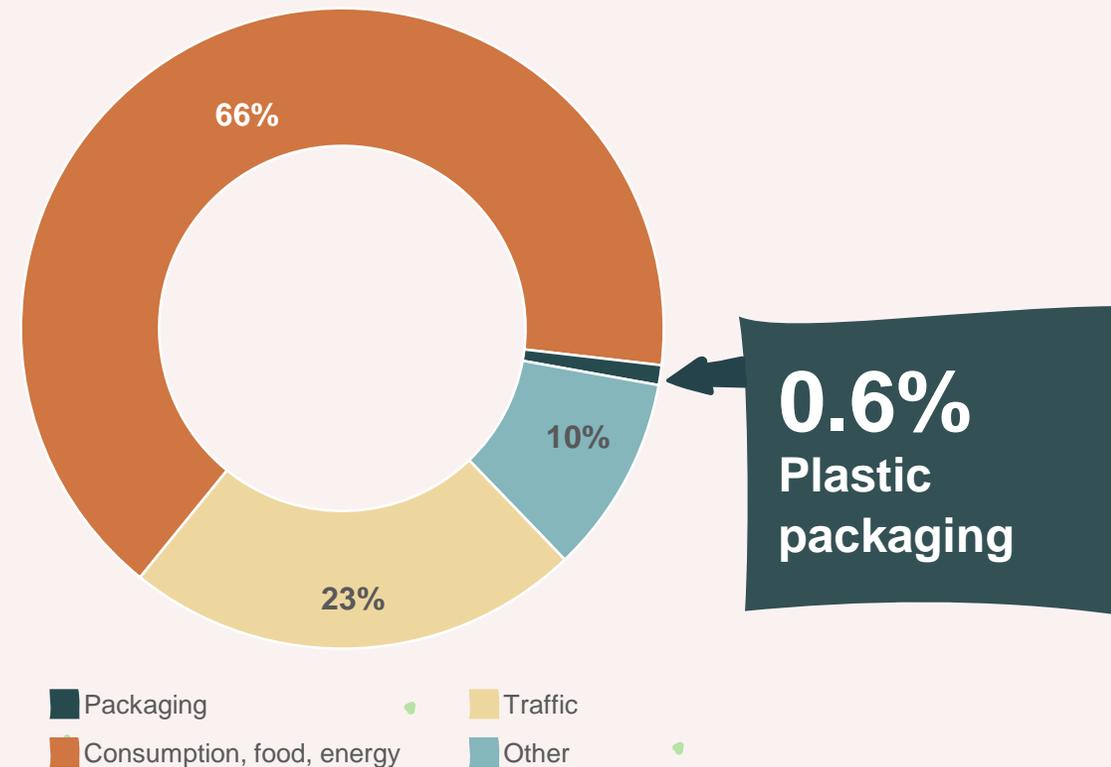
## CO<sub>2</sub>-EMISSION

The importance of plastic packaging to total carbon footprint is overestimated.

- Each person emits an average of 9.1 tons of CO<sub>2</sub> per year.
- Compared to transport, energy and nutrition, packaging accounts for only a fraction of CO<sub>2</sub> emissions.
- A holiday flight Berlin-Mallorca-Berlin alone releases as much CO<sub>2</sub> as the emissions from plastic packaging in **11 years**.

Industrial and consumer packaging made of plastic  
 Source: CO<sub>2</sub>-equivalent, myclimate-calculator, 3.300 km Economy-Class, Return flight

CO<sub>2</sub>-EMISSIONS PER YEAR AND PERSON (EXAMPLE GERMANY)



**0.6%**  
 Plastic packaging



*If we replace plastics with glass, metal or paper packaging, we could save a lot of CO<sub>2</sub>.*

## 06\_MISCONCEPTION

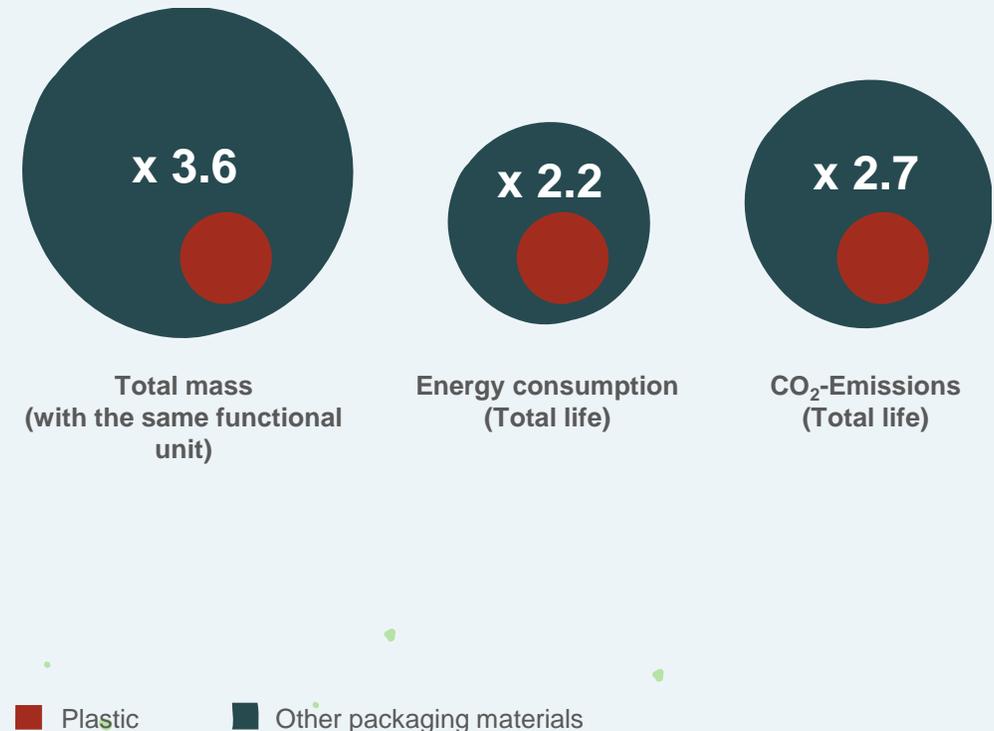


CO<sub>2</sub>-EMISSION

# Plastic packaging helps to achieve climate targets.

- If plastic packaging were to be replaced by other materials, ...
- ... the mass of the corresponding packaging would be on average 3.6 times higher.
- ... energy consumption would increase by a factor of 2.2 or 1,240 million gigajoules per year.
- ... the greenhouse gases emitted would increase by a factor of 2.7 or 61 million tons of CO<sub>2</sub> equivalents per year. This corresponds to the total CO<sub>2</sub> emissions of Denmark.

## COMPARISON: PLASTIC VS. OTHER PACKAGING MATERIALS





*The oil consumption for plastic packaging  
is insanely high!*

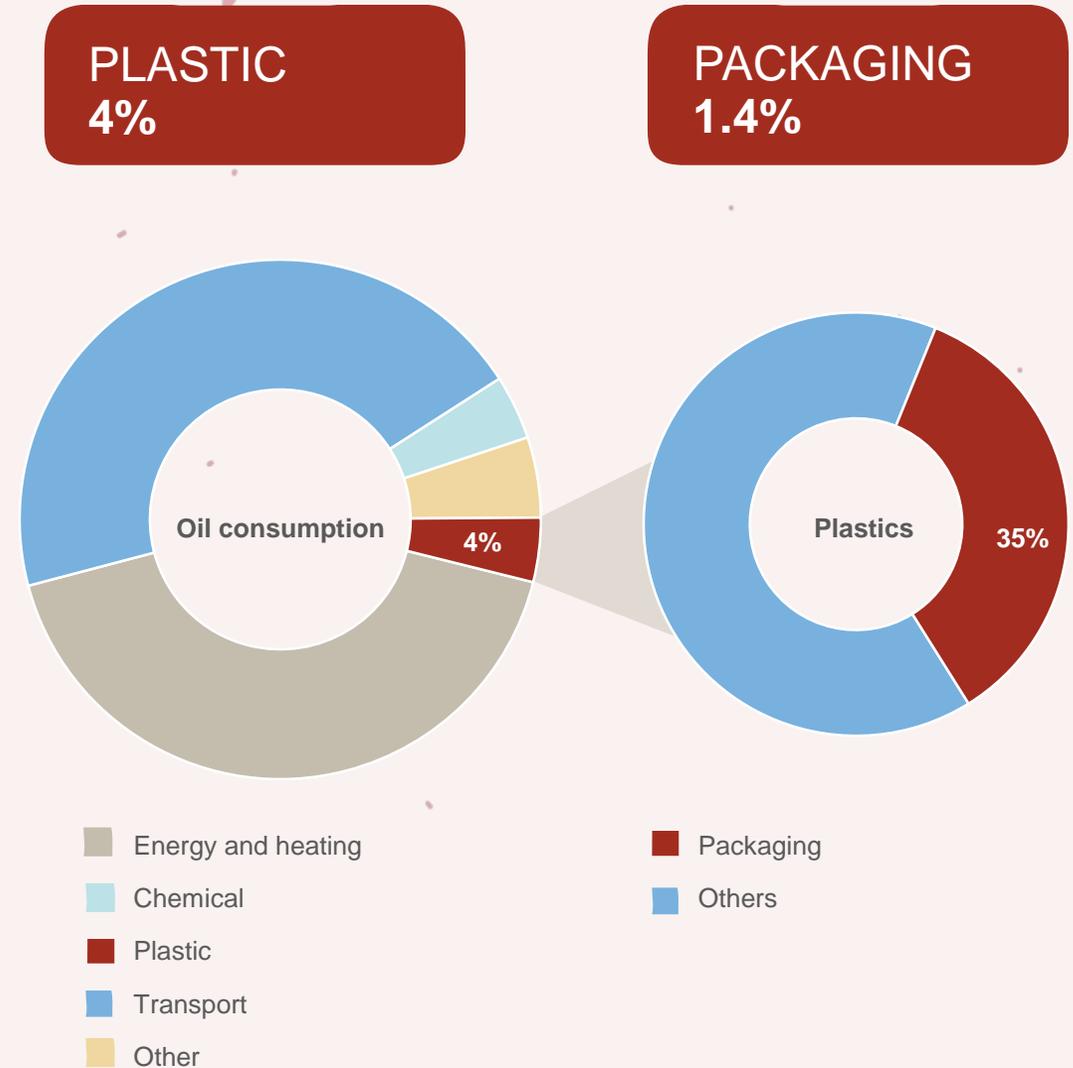
## 07\_MISCONCEPTION



## FOSSIL RAW MATERIALS

Only 1.4% of total oil consumption is used for plastic packaging.

- Gasoline, energy and heat lack this perception. When a litre of petrol is burned, you have already "forgotten" it - provided that you were aware of it at all.





*Plastic packaging in Europe should be banned immediately to stop the ocean littering.*

## 08\_MISCONCEPTION



## OCEAN LITTERING

The littering of the oceans is a mismanagement problem and not a plastic problem.

- About 3 billion people live without access to controlled waste disposal.
- The correlation of high population numbers near the coast and a lack of waste management leads to a high discharge of valuable substances into the ocean.
- A few Asian countries are mainly responsible for this.

95% OF THE PLASTIC WASTE IN THE OCEANS COMES FROM 10 RIVERS





*We pay the Chinese to pick up our plastic waste.*

## 09\_MISCONCEPTION

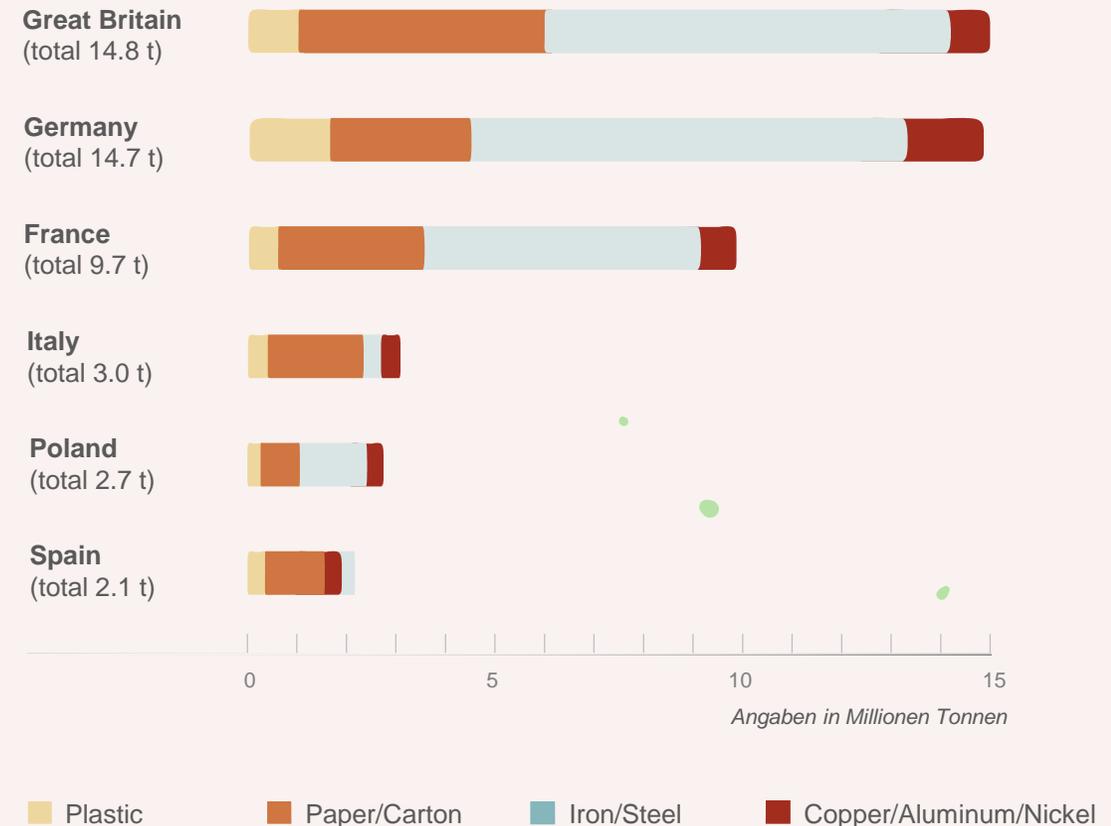


## EXPORT OF PLASTIC WASTE

The export of recyclable materials is a considerable part of the national economy.

- China is one of the largest plastics processors in the world, so the material requirements are correspondingly high.
- In 2016, China purchased around 7.3 million tons of plastic waste worldwide for a total of 3.7 billion US dollars. Of this, 1.6 million tons came from the EU.
- China wants to install its own recycling economy. The country wants to make more use of the ecological and economic advantages of its own secondary raw materials.

### WHICH WASTE IS EXPORTED?





*Plastic packaging is the main cause of microplastics!*

# 10\_MISCONCEPTION

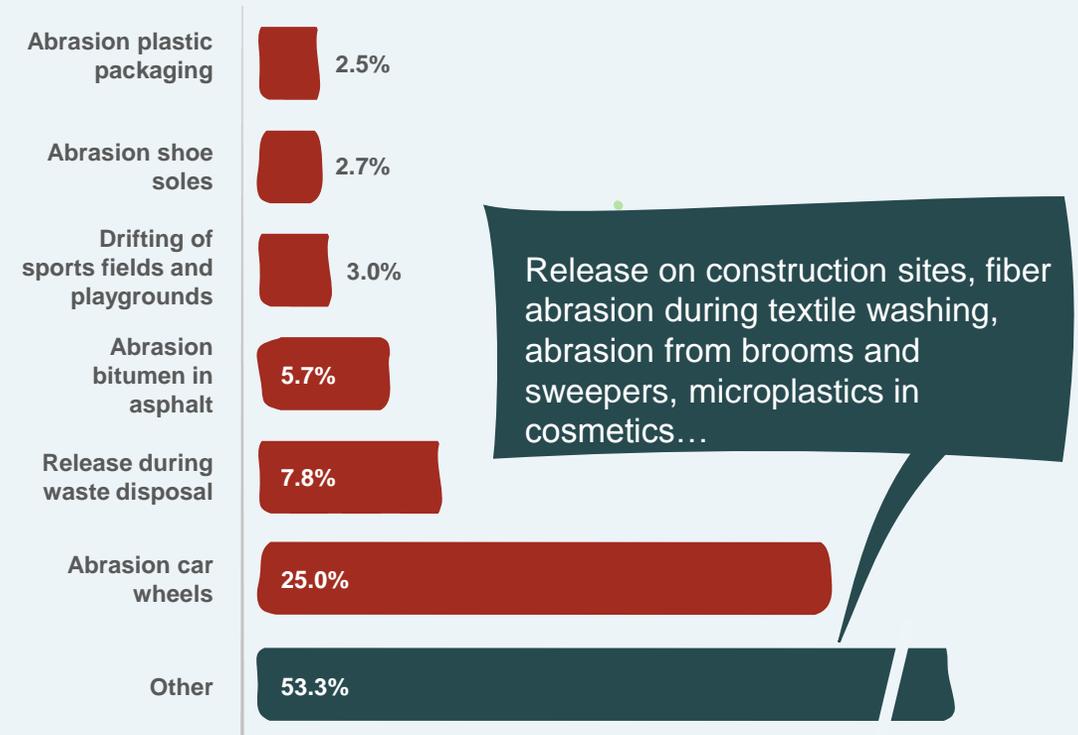


## MICROPLASTIC IN THE OCEANS

# The sources of microplastic are not what you think.

- Each inhabitant in Germany causes an average of 4kg of primary microplastics per year.
- In addition, there is 1.5 kg of secondary microplastic. It is produced by the weathering of plastic waste in the environment.
- Depending on industrial development, consumer behavior and waste management in the region, the inputs of primary and secondary microplastics are very different.

SOURCES FOR PRIMARY MICROPLASTIC IN GERMANY (INHABITANT/YEAR)





*The industry does nothing to recycle plastic packaging!*

# 11\_MISCONCEPTION



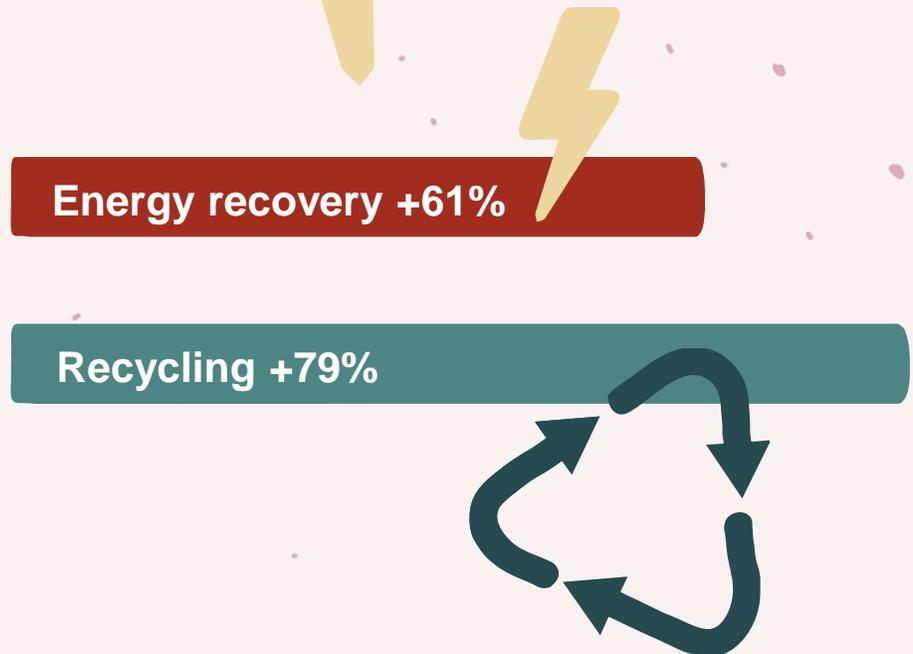
## RECOVERY

Plastic packaging worth almost 10 billion Euros is recycled every year in the EU.

- The recycled plastics have a value of EUR 4.2 billion.
- The energy recovery achieves a value of EUR 5.1 billion.
- As a result of deposition, around 3.5 billion € are still lost in the EU each year.

Source: Plastic Europe 2016, Kunststoffweb 2017, Destatis 2018, Pira 2017 | Post Consumer Plastik Waste in EU28 + Norway+Switzerland, Assumptions: Energy content plastic 40 MJ/kg, Heavy fuel oil 210 EUR/t, Regranulate 500 EUR/t ; Calculation by Berndt+Partner Consultants

DEVELOPMENT OF RECYCLABLE PLASTIC MATERIAL IN EUROPE 2006 - 2016  
(28 EU-STATES+ NORWAY AND SWITZERLAND)





*Plastic packaging changes the hormonal balance of children through the plasticizers and BPA it contains!*

# 12\_MISCONCEPTION

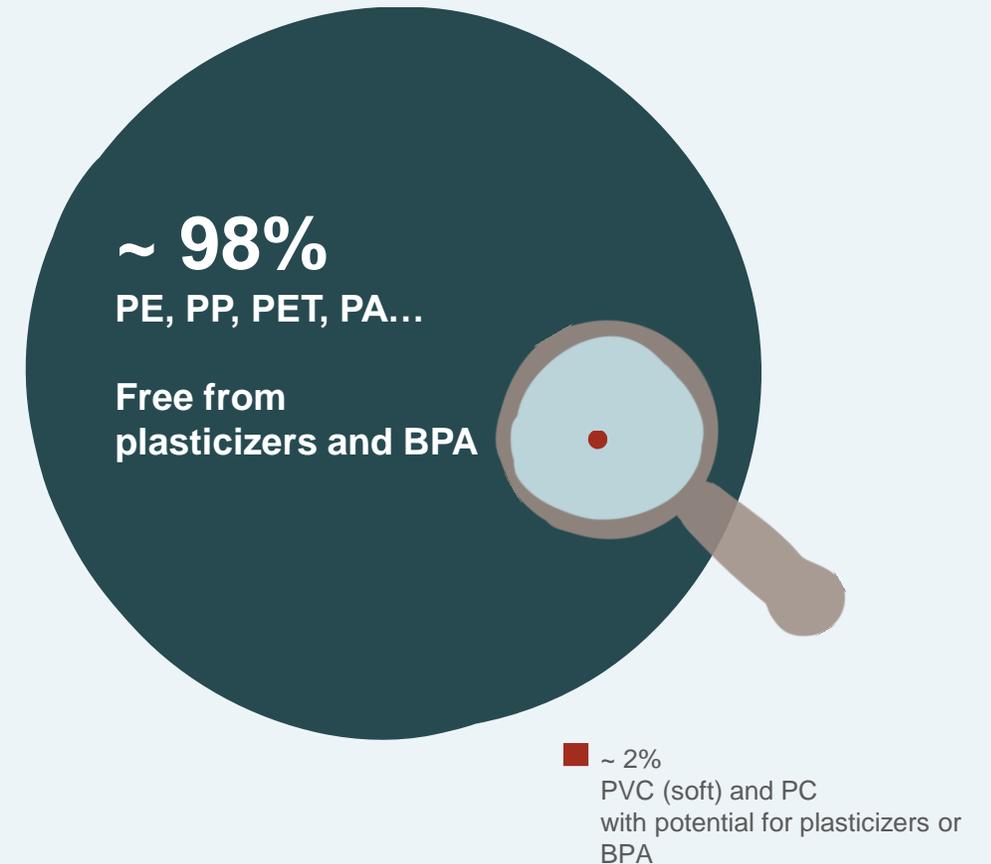


## HEALTH

# Plasticizer/BPA is not an issue of plastic packaging for food.

- Plastics with **plasticizers and BPA** are very rarely used for packaging. They play no role for food and beverage packaging.
- **Plasticizers** (phthalates) are used for the production of plasticized PVC. Areas of applications are mainly non-packaging applications such as cables, floor coverings, sport and leisure articles.
- **Bisphenol A (BPA)** is used for the production of polycarbonate (PC) and epoxy resins, which are used, among other things, in interior coatings for beverage and food cans.

## PACKAGING PRODUCTION ACCORDING TO TYPES OF PLASTIC USED



# MORE INFO

Are you interested in further information about plastics in packaging?  
Please do not hesitate to contact us.



# IMPRESSUM

© 2018 Berndt+Partner Consultants GmbH

Diese Unterlagen sind ausschließlich für Präsentationszwecke bestimmt. Eine Weitergabe an Dritte ist ebenso wie eine Verwendung ganz oder in Teilen ohne vorherige Zustimmung der Berndt+Partner Consultants GmbH untersagt. Der Inhalt dieses Dokumentes ist durch das Urheberrecht geschützt. Alle Rechte an dem Dokument und seinem Inhalt stehen der Berndt+Partner Consultants GmbH zu. Die Nutzung der vorliegenden Entwürfe in ihrer Gesamtheit und/oder in Teilen und/oder Auszügen durch Dritte ist nur nach vorheriger schriftlicher Genehmigung durch und entsprechender Vergütung an den Urheber zulässig. (UrhG§§31ff)

This documents are only assigned for presentation purposes. A transfer to a third party as well as a complete or partly use without previous approval of Berndt+Partner Business Consultants GmbH is not allowed. The content of this document is protected by the copyright. Berndt+Partner Business Consultants GmbH is the owner of the rights regarding document and its content. The use by a third party of all present drafts and/or parts of them and/or extracts is subject to prior approval in writing, and with an adequate remuneration of the author. (UrhG§§31ff)