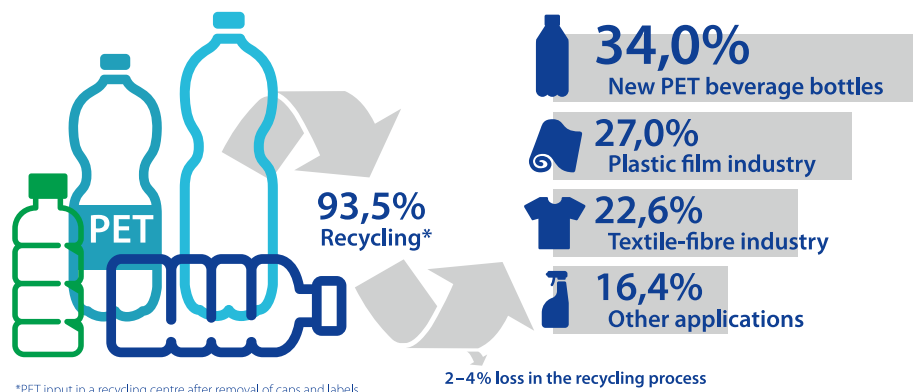
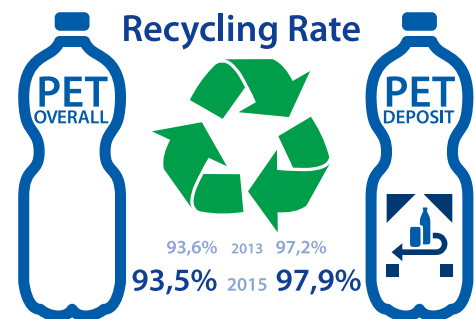


## About the Forum PET in the IK:

The German industrial association IK Industrievereinigung Kunststoffverpackungen e.V. (German Association for Plastics Packaging and Films) represents the interests of manufacturers of plastics packaging and films in Germany and Europe. The Forum PET in the IK provides information about the range of applications, properties, ecological optimisation and recycling of the material PET. Members of the forum include internationally operating companies along the entire value chain: PET manufacturers, preform and bottle manufacturers, machine builders, closure manufacturers, beverage bottlers and recyclers.



\*PET input in a recycling centre after removal of caps and labels

Source: GVM 2016: "Aufkommen und Verwertung von Pet-Getränkflaschen in Deutschland 2015"  
("Occurrence and Utilisation of PET Beverage Bottles in Germany 2015")

## Beverage Bottles Made of PET: Myths and Reality

### Facts about this popular packaging

The plastic material polyethylene terephthalate (PET) celebrated its 75th anniversary in 2016. Originally developed as an alternative to the production of textile fibres, the material is now one of the most important in the packaging and textile industries. PET bottles have had a lasting impact on the beverage market. Over 85 per cent of non-alcoholic beverages in Germany are now bottled in non-reusable PET or reusable PET bottles. But contradictory statements about the subject are still being made. It's been said that PET is harmful to people's health and the environment time and again. But is that even true? The most common PET myths in the fact check.

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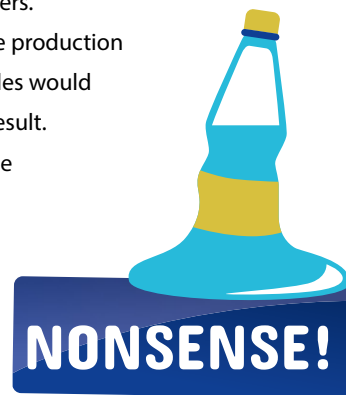
MYTH 1:  
**Glass bottles are more environmentally friendly than PET bottles.**

This is not the case across the board. A wide variety of factors such as packaging material and weight, transport routes and recycling play a role in the complex life cycle assessment of a package. While reusable PET bottles have had a good ecological profile for some time now, disposable PET bottles have also been continuously improving regarding their ecological footprint. In recent years they have become increasingly environmentally friendly, particularly due to measures such as weight reduction, recycling, shorter transport times and the reduction of energy consumption during production. Back in 2010, the Institute for Energy and Environmental Research Heidelberg GmbH (Institut für Energie- und Umweltforschung Heidelberg – ifeu) found that the most common disposable PET bottle on the market – the 1.5-liter bottle for water and carbonated soft drinks – was ecologically equivalent to a reusable glass bottle.



MYTH 2:  
**PET beverage bottles contain plasticizers.**

This assertion is false. As the German Federal Office for Risk Assessment explains on its website, PET bottles do not contain plasticizers. Phthalates and other plasticizers aren't even needed for the production of PET bottles. Furthermore, adding plasticizers to the bottles would also make no sense, as they would lose their stability as a result. This false assumption is probably due to the similarity of the names phthalate and polyethylene terephthalate.



MYTH 3:  
**Bisphenol A (BPA) is used in the production of PET bottles.**

This assertion is also refuted by the German Federal Office for Risk Assessment (BfR), as BPA is not used for the production of PET bottles. Bisphenol A belongs to a group of substances that can have hormone-like properties and be found in objects made of plastics. However, Bisphenol A is not used in PET bottle production.

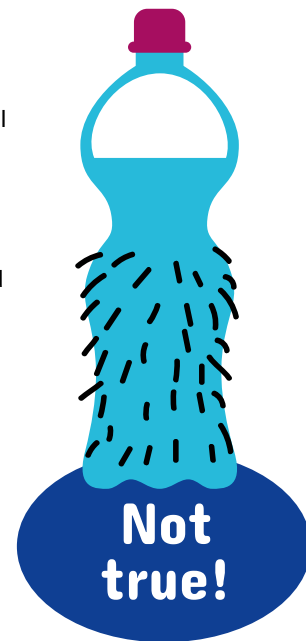


MYTH 5:  
**Used PET bottles are first put into deposit machines and then land in the garbage.**

Since the introduction of the mandatory deposit on disposable drinks packaging in Germany in 2003, retailers in the country have been accepting returns of PET bottles subject to a deposit. Thanks to the deposit system, almost 99 per cent of the PET bottles subject to deposit are collected and the valuable material is recycled. PET is easy to recycle.

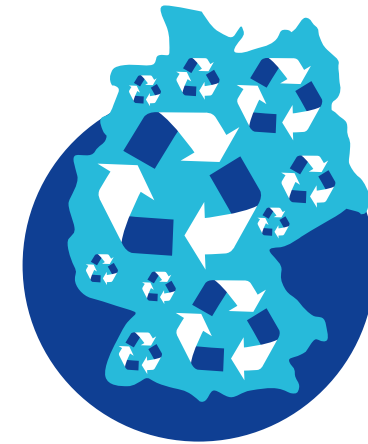
MYTH 4:  
**Hormone-like substances seep from PET bottles into mineral water.**

This is not true either. According to the German Federal Office for Risk Assessment (BfR), studies could not find any difference between the estrogenic activity of mineral water from PET bottles and that from glass bottles. The activity shown in individual studies proved to be the same for both types of bottles and was also about 10,000 times lower than the natural estrogenic activity of beverages such as milk, beer and red wine. The BfR assumes that this low activity is not due to the PET bottles.



MYTH 6:  
**Used PET beverage bottles from Germany are mainly exported to China.**

This too is not true. A study by the Gesellschaft für Verpackungsmarktforschung mbH (GVM – a company focusing on B2B market research on packaging) from 2015 confirms this: Around 80 per cent of PET recycling now takes place in Germany. The remaining quantities of recyclable materials are largely recycled in neighbouring countries. The costs for transport to more distant countries are generally too high. In addition, the demand for recycled material in Europe continues to increase.



MYTH 7:  
**Only inferior products are produced from recycled PET beverage bottles.**

This is not correct. More than a third of the PET beverage bottles collected today are exactly what they were: Raw material for new PET beverage bottles. The GVM study mentioned above also comes to this conclusion. Other customers are the plastic film (27 per cent) and textile fibre industries (23 per cent). Other products such as tapes or cleaning agent bottles (16 per cent) are made from the rest.



MYTH 8:  
**Mineral water from PET bottles does not taste natural.**

That is also not really correct. It is true that the substance acetaldehyde migrates from PET bottles into the beverage and can produce a slightly sweet, fruity taste, even in very small quantities. The substance is harmless to human health, by the way, because acetaldehyde in water can be clearly smelled or tasted even when it contains less than one-hundredth of the legal limit. However, to ensure that the natural taste of mineral water remains unchanged, PET bottles in Germany contain blockers that prevent the acetaldehyde from passing into the water. By the way, acetaldehyde is also a natural component of fruits and other foods such as cheese; in some cases the substance is present in much higher concentrations in these foodstuffs than in mineral waters from PET bottles.

