Into the Future with Plastic.

On the Sustainability of Plastic Packagings.

Contents

Sustainable Packaging.

Packagings are increasingly assessed from sustainability aspects. But it is often overlooked that the principle of sustainability is not just limited to ecological factors, but takes equal account of economic and social aspects. Sustainable packaging therefore means economical, consumer friendly and environmentally friendly packaging. Plastic packagings meet these requirements in a very special way. The brochure „Into the Future with Plastic" illustrates this using examples.

Preserving.

Environmentally Friendly Packaging.

„Plastic packagings preserve more resources then they consume themselves.“

Enjoying Sustainably.

Fresh stays fresh...

Plastic packagings extend the shelf life of foods. Fruit stays fresh, cooked meats remain tasty and cheese keeps its flavour. Everything is very different without packaging. Many foodstuffs quickly lose their freshness and quality.

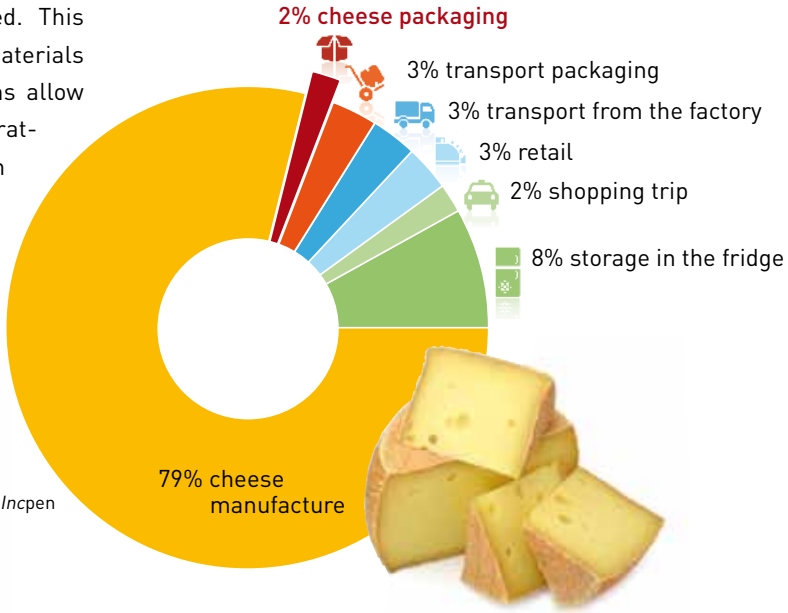
For example, cheese without packaging very quickly loses its appearance and taste. The result: it ends up in the bin.

High-tech barrier films protect against the loss of flavour, drying out and spoiling. Windows make it easy to see: the product is fresh.

Cheese slices packaged - unpackaged

...and for ever longer.

Packagings are constantly being further developed. This means that foodstuffs have longer shelf lives. New materials have improved resealing. Special multi-layered films allow CO_2 to escape, while preventing oxygen from penetrating. The packaging thus slows down the maturation process, e.g. of cheese, so that it keeps for longer. And, for these special properties, plastic packagings need less and less energy in production - as the example of the total energy used in cheese shows.



Source: *Inc*pen

Only 2 per cent for the cheese packaging.

Modern plastic cans made of multi-layered films with an integrated double barrier can already keep various foodstuffs fresh for up to two years.

Product Protection is Climate Protection.

Well packaged. Good for the climate.

Unpackaged or incorrectly packaged - many foodstuffs spoil because they are not in the right packaging. In European households alone more than 70 million tonnes of food are thrown away every year. For example, the production of 1 kg of beef causes the release of 13 kg of CO_2. If the beef goes off because it has not been adequately protected, these 13 kg of CO_2 have burdened the climate unnecessarily. And the same amount is caused again for the production of the replacement. Plastic packagings guarantee a longer shelf life. That is good for the climate.

Odour- and taste-neutral, hygienic, insulating and lightweight: insulating boxes made of polystyrene

Plastic packagings prevent CO_2.

1 kg beef	13.3 kg CO_2
1 kg coffee	8.5 kg CO_2
1 kg French fries	5.7 kg CO_2
1 kg soft cheese	1.95 kg CO_2
1 kg pasta	0.92 kg CO_2

Source: IK

1.5 l PET bottle	0.085 kg CO_2
0.5 l PP meat tray	0.084 kg CO_2
0.5 l PP yoghurt pot	0.073 kg CO_2
0.5 l PS tray	0.065 kg CO_2
1 m2 LDPE film 12µ	0.049 kg CO_2

The CO_2 reality.

Much less CO_2 is emitted in the manufacture of plastic packagings than in the manufacture of the products. The packaging for 1 kg of beef releases just about 200 g CO_2.

If we look at the entire CO_2 consumption of a German citizen over a year, plastic packagings play only a very minor role. This is shown by a scientific study: With a per capita consumption of 9.7 tonnes, this is just 0.3 per cent.

Each year, each person „produces“ 9.7 tonnes of CO_2. Plastic packagings account for just about 0.3 per cent of this.

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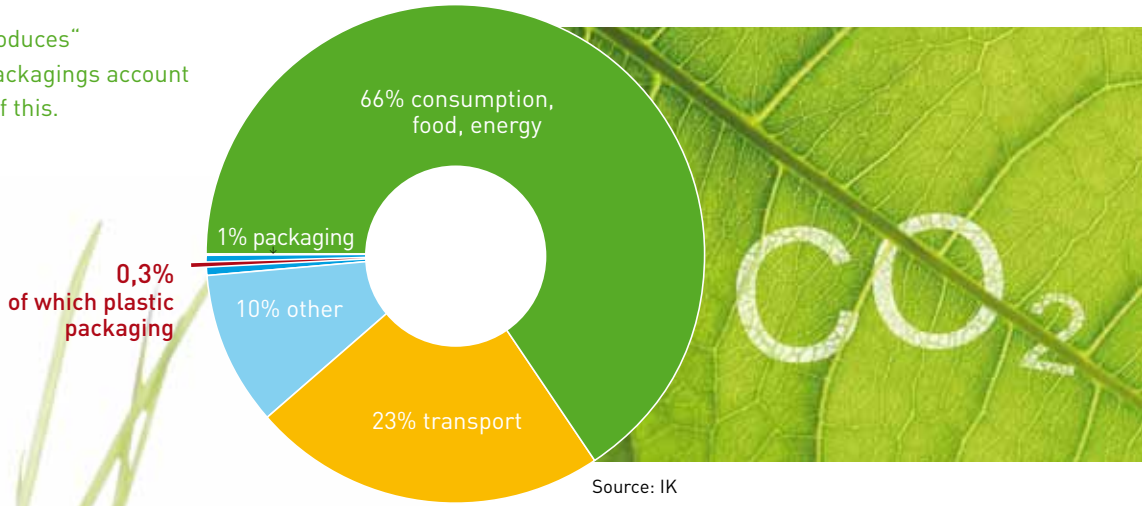


Source: IK

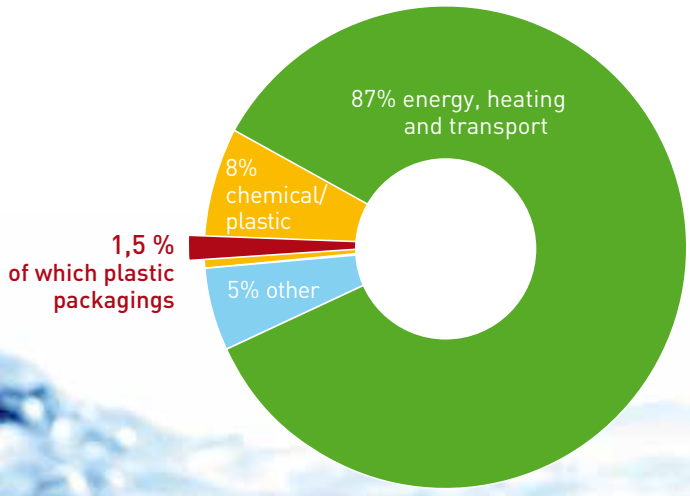
Less is More.

Ever lighter.

Whether film, a paint pot, detergent packaging or yoghurt pot - plastic packagings are light and thus use few raw materials in their manufacture. Just 1.5 per cent of the total mineral oil and gas consumption in Europe is needed for plastic packaging. The vast majority - almost 90 per cent - is used for heating, energy and transport.

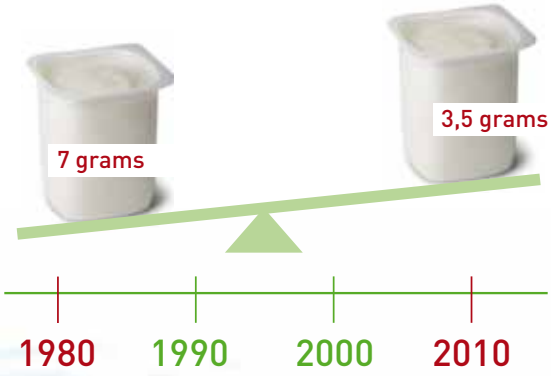
And plastic packagings are becoming ever lighter. And are continuously improving their packaging performance in spite of using ever less material. This saves raw materials and energy.

Mineral oil and gas consumption in Western Europe



Source: PlasticsEurope und IK

Yesterday - Today

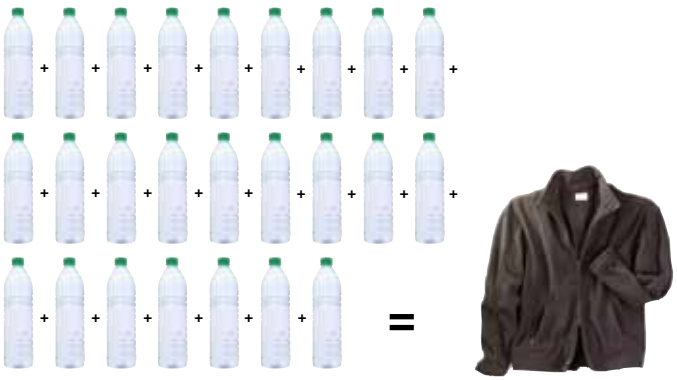


Source: IK

We wear PET.

Plastic packagings that are no longer needed are not waste; they are valuable raw materials. In countries such as Germany, the packagings that are collected separately are screened, cleaned and prepared for new products. PET bottles, for example, become new bottles or pullovers, hats or scarves made of fleece.

But plastic packagings can also generate district heating. Particularly dirty packagings that could be recycled only with great difficulty are recovered as energy in heating power stations. They thus replace precious crude oil.



25 PET bottles for a fleece jacket

Versatile in use.

Plastic packagings are not only especially light. They also protect the most diverse products. As well as foodstuffs, this included sensitive electronic equipment, especially heavy products, cosmetics or chemical substances.

Well protected. Good for the environment. Special containers.

Thin, tear-resistant, self-adhesive and extremely light. Stretch film keeps things in shape.

Impact-absorbing and anti-static lightweights. Padded films not only for sensitive electronic components.

Protecting.

Consumer Friendly Packaging.

„Plastic packagings create quality of life and make our lives easier in many ways.“

Cleanliness.

More Vitamin C. More health.

Thanks to modern plastic packagings, foodstuffs stay fresh for a long time even without preservatives. Deep-frozen vegetables and fruit contain more vitamins than fresh produce from the supermarket. The reason: fruit and vegetables are frozen immediately after harvesting and this preserves the vitamins.

Green beans lost more than 60 per cent of their Vitamin C within the first 4 days. Shock-frosted, deep-frozen beans still contain 80 per cent, even after a year. Special bags made of plastic make this possible.

Hygiene is the order of the day.

The market research company Nielsen has noted that consumers prefer hygienically packaged and undamaged goods when shopping. Plastic packagings protect foods from dirt, the wet and UV radiation.

Hygiene and stability are in particular demand in the medical sector. Plastic performs.

Simple. Practical. Good.

Opened easily. Safely closed.

We open a PET mineral water bottle with a simple turn. The milk packaging is easy to open and close securely thanks to its plastic seal. New types of pressure closures make closing again easier. And child-safe seals on cleaning materials are also made of plastic, naturally.

Unbeatable.

A plastic carrier bag weighs just about 12 grams but can carry up to 15 kilograms. It is almost tear-proof and impermeable to water. Added to this, it can be used many times and ultimate serves as a bin liner.

As early as 2008, the Federal Environmental Agency noted that practically all plastic carrier bags in Germany are reused. New plastic carrier bags often contain up to 80 per cent recycled material.

Child's play and child-proof.

Plastic packagings are not only easy to handle, they also protect against injuries. For example, the unbreakable PET bottle. It is simply practical for sport and play and also at home.

Saving.

Economical Packaging.

„Plastic packagings are especially economical: they do a lot and need little.“

It Always Adds Up.

Plastic packagings are establishing themselves because they are practical, environmentally friendly and cheap.

The customer is king...

Plastic packagings guarantee maximum packaging performance with the most minimal material consumption. It is therefore always especially economical to pack in plastic. Consumers benefit from this most of all. A glance at a supermarket shelf shows: over 60 per cent of packagings are already plastic - and the tendency is rising.

...At home, too.

Packagings made of plastic ensure that fewer foodstuffs spoil. Private households also benefit from this. If you throw away less, you have to replace things less often and save money.

What's more:
Saving fuel is the order of the day.

Because plastic packagings are especially light, loading spaces, e.g. when transporting drinks, can now be used completely without the vehicle being overloaded. The result: More goods per trip.

Packaging of the Future.

Plastics made of regenerative raw materials have been expanding the range of raw materials for several years. For example, films based on sugar or starch are especially permeable to water vapour, and thus protect fruit and vegetables very well. Farmers rely on the degradability of agricultural films made of plastic that can be easily ploughed in after use.

Plastics made of regenerative raw materials supplement the diversity of possible uses for plastic packagings. And diversity is the future.

When the packaging thinks actively.

Freshness indicators on plastic packagings give reliable information about whether the refrigeration chain has been broken and the product has spoiled. This, too, is a contribution to product protection and more sustainability.

Towards new sources.

Manufacturing plastics from CO_2 is sustainability in a completely different way. The first experiments are promising. In a few years, the results may already take a permanent place in the range of raw materials.

Kind to the environment, at the same time it guarantees a high quality of life. The future is plastic.

Imprint

BKV Platform for Plastics and Recovery
www.bkv-gmbh.de

IK Industrievereinigung Kunststoffverpackungen
www.kunststoffverpackungen.de

PlasticsEurope Deutschland e.V.
www.plasticseurope.org

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Trade Fair Brochure for INTERPACK 2011 for the Save Food Project

save FOOD

solutions for a world aware of its real resources

BKV PLATFORM FOR PLASTICS AND RECOVERY

IK Industrievereinigung Kunststoffverpackungen e.V.

PlasticsEurope

Association of Plastics Manufacturers