



MYTHS AND MISCONCEPTIONS ABOUT PLASTICS

The most common customer misconceptions about plastics.

IN FACT, NO MATERIAL DECOMPOSES IMMEDIATELY. THERE IS A NUMBER OF BIODEGRADABLE POLYMERS THAT, UNDER CERTAIN CONDITIONS, ARE DECOMPOSED WITHIN SIX MONTHS BY HOUSEHOLD OR INDUSTRIAL COMPOST.

“Plastics do not decompose”

In fact, no material decomposes immediately. There is a number of biodegradable polymers that, under certain conditions, are decomposed within six months by household or industrial compost.

But even these require independent accumulation and additional sorting.

HOW LONG DOES IT TAKE FOR THE MOST COMMON PACKAGING TO DEGRADE?



Glass bottles

**1,000
years**



Aluminium cans

**500
years**



PET bottles

**450
years**



Paper

**5
years**

Source: <https://www.weforum.org/agenda/2018/11/chart-of-the-day-this-is-how-long-everyday-plastic-items-last-in-the-ocean/>
(<https://www.weforum.org/agenda/2018/11/chart-of-the-day-this-is-how-long-everyday-plastic-items-last-in-the-ocean/%20>)

MANUFACTURE OF PAPER BAGS ENTAILS SEVERE ENVIRONMENTAL POLLUTION — PULP AND PAPER MILLS POLLUTE WATER SOURCES AND CONSUME LARGE AMOUNTS OF WATER.

“A paper bag is greener and less harmful”

In fact, the life of a paper bag is very short, as it is almost never reused due to “fragility”. Once in a landfill, it decomposes, becoming one of the reasons for the release of various gases harmful to both the environment and human health.

Manufacture of paper bags entails severe environmental pollution — pulp and paper mills pollute water sources and consume large amounts of water.

According to the Scottish Report (2005) and Eco Bilan Carrefour Life Cycle Assessment (2004), 70% more CO₂ is emitted per one paper bag than per one plastic bag produced. In addition, the former requires 33 times more water.

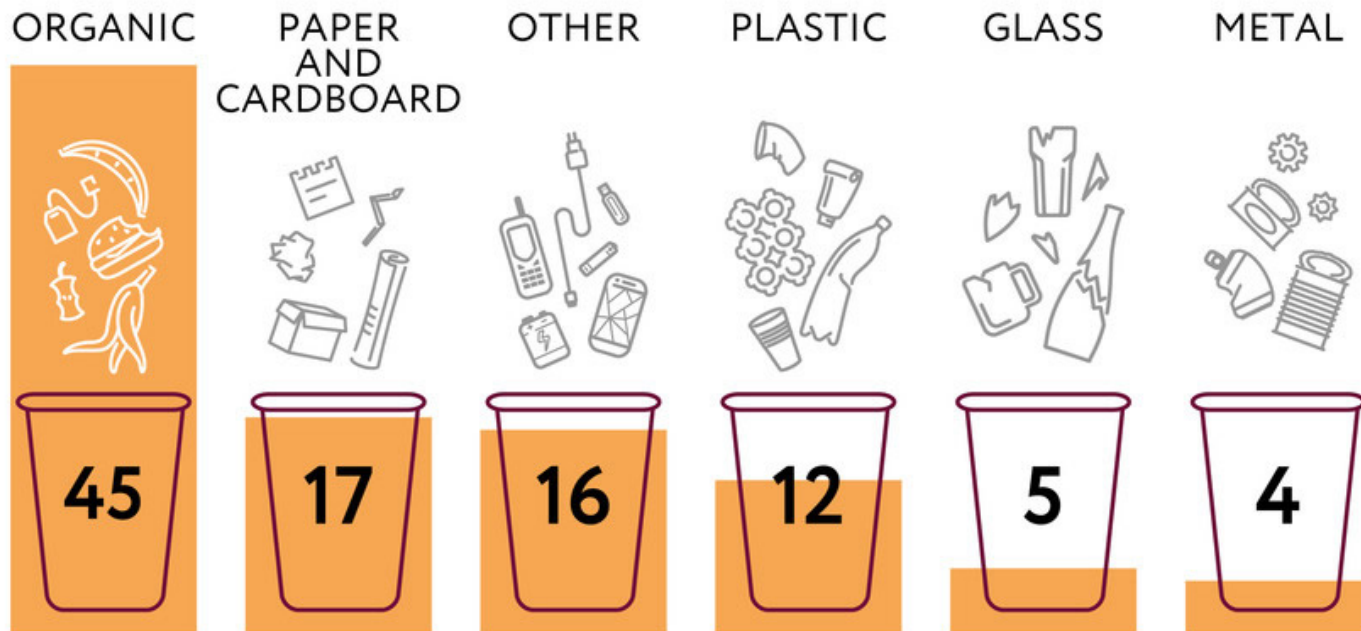
Replacing plastic bags with paper ones is not the best solution. Such replacement will require cutting 16,250,000 trees, and destroying the forests will boost CO₂ emissions by 1.5 times.

Meanwhile, the use of flexible plastic packaging helps cut the costs associated with food delivery and storage. The share of such packaging in the total weight of products is only 0.5–3%, which is many times less than that of alternative packaging solutions.

“The share of plastic waste is high”

Most of the waste is actually organics, paper and cardboard.

GLOBAL WASTE COMPOSITION, %



Source: *What a Waste 2.0 : A Global Snapshot of Solid Waste Management to 2050* (World Bank)

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The share of plastics in the total household waste varies from region to region. For example, in East Asia and the Pacific, Latin America and the Caribbean, the Middle East and North Africa, and North America, they account for 12%. In Europe and Central Asia, plastics represent 11.5% of the total household waste. Their share in Central Africa and South Asia is 8.6% and a mere 8%, respectively.

Plastic waste is not a major environmental pollutant; however, due to its light weight, it does not sink and is therefore more noticeable.

The level of plastic consumption – and hence the share of this type of waste – depend on the region's per capita income. In developed countries, the share of plastic consumption is higher, with the material being widely used in food packaging and helping reduce food waste, while in the less developed economies, the situation is opposite.

“In Europe, everybody looks to replace plastics”

Not exactly. From 2021 onwards, European countries plan to phase out only disposable plastic products rather than the whole range of plastics, subject to the availability of alternatives. Some of these products don't have any comparable non-plastic alternatives. Among them are drinking water bottles and nappies, according to the European Parliament's position on the reduction of the impact of certain plastic products on the environment.

Key EU initiatives

- Introduction of new quality standards for plastic production and processing, development of extended producer responsibility frameworks;
- A number of targeted measures to ban “single-use plastics”;
- Implementation of new approaches to the design and manufacture of polymer products;

- Promotion of waste sorting and expansion of recycling capacities;
- By 2030, all used plastic packaging must be collected, recycled and/or reused.

Source: A European Strategy for Plastics- (European Commission, January 2018), the European Commission's resolution on plastic waste recycling (2019)

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In addition, to reduce the amount of non-recycled plastic, graded taxation of plastic packaging will be launched next year – consumer goods with non-recyclable packaging will become considerably more expensive.

Most countries are moving towards recycling rather than banning plastics altogether. Various solutions are being tested worldwide, depending on the country's progress on waste sorting and recycling.

“Nobody collects plastics”

This is not true. In Europe, for example, plastic waste management has been in place for over 20 years. The amounts of waste in recycling and “value-added” use are several times higher than in Russia, where the waste collection and recycling culture is poor in general, not just when it comes to plastics.

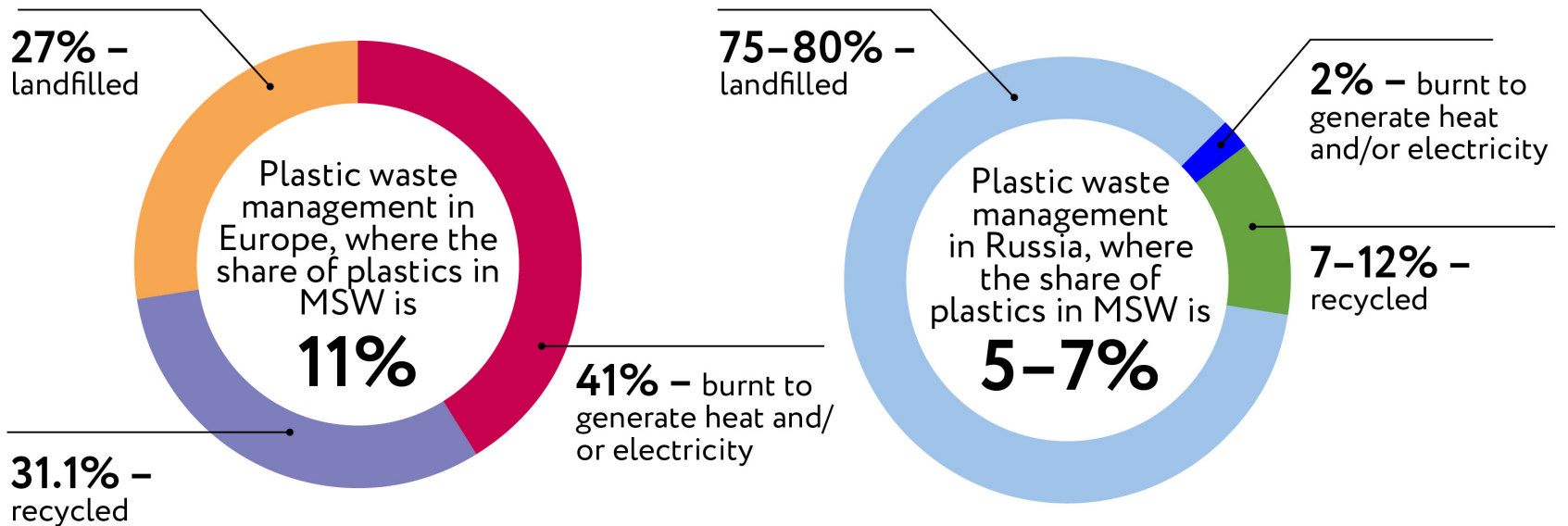
The goals set by our government are designed to narrow the existing gap. However, we must develop a conscious attitude towards both consumption and waste handling.

At the same time, the interest in recycling and the use of recycled plastics is already growing thanks to significant progress on recycling technologies.

SHARE OF RECYCLED WASTE BY 2050 IN THE EU AND RUSSIA

By 2050, the share of recycled waste in the EU should reach 50%.

By 2050, the share of recycled waste in Russia should reach 36%.



Sources: Ministry of Natural Resources and Environment, Federal Service for the Oversight of Consumer Protection and Welfare (Rospotrebnadzor), Eurostat (2018), Techart, government programmes

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SOME OF THESE PRODUCTS DON'T HAVE ANY COMPARABLE NON-PLASTIC ALTERNATIVES. AMONG THEM ARE DRINKING WATER BOTTLES AND NAPPIES.

“Plastics are hard to recycle”

In fact, plastics are potentially 100% recyclable. Under certain conditions, polymers can be chemically recycled countless times.

What can be made of recycled plastics



PET/PETE
Polyethylene
terephthalate

Nonwoven fibres, carpeting, sleeping bags, new bottles for beverages and sunflower oil, bottles for technical fluids, clothes, sports footwear, packaging tapes, auto parts.



HDPE
High-density
polyethylene

Drain pipes, boxes, bottles for liquids (shampoo), soap, pens, benches, waste containers, fences, plastic lumber.



V
Polyvinyl chloride

Floor decking, cladding panels, mudflaps, gutters, floorboards, cables, tiles.



LDPE
Low-density
polyethylene

Films, roof tiles, gaskets, envelopes, furniture, rubbish bins.

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Source: Battelle Memorial Institute, *Flexible Packaging Lightweighting Strategies and Innovation* (Flexible Packaging Association , 2012)

MOST COUNTRIES ARE MOVING TOWARDS RECYCLING RATHER THAN BANNING PLASTICS ALTOGETHER.

“Our customer is asking to avoid plastics”

Plastic packaging cannot always be replaced by a suitable alternative, especially when it comes to food storage. This type of packaging has strong barrier properties: in particular, it protects against ultraviolet radiation, moisture, oxygen and dirt while also limiting gas permeability. It increases the shelf life by 1.5 to 10 times (depending on the product) and reduces the amount of organic waste by 75%, minimising CO2 emissions.

According to a study carried out in Sweden, 20–25% of food waste can be avoided by using proper packaging.

The FAO, Boston Consulting Group and World Resources Institute estimate that , if plastic packaging is phased out, by 2030 food waste will amount to 2.1 billion tonnes, generating about 8% of all greenhouse gases on the planet while 870 million people suffer from chronic hunger.

“We want to use biodegradable bags”

Such packaging has a number of significant disadvantages and limitations. Many “biodegradable” bags are produced with the use of oxidising additives, which make recycling impossible and only help decompose them into particles. The truly biodegradable bags are

THE INTEREST IN RECYCLING AND THE USE OF RECYCLED PLASTICS IS ALREADY GROWING THANKS TO SIGNIFICANT PROGRESS ON RECYCLING TECHNOLOGIES.

made of such materials as polylactide (PLA). However, their market share is less than 1%, and recycling this type of packaging requires specific waste management infrastructure.

In addition, mixing such bags with the regular ones would make it impossible to properly recycle either.

The cost of a truly biodegradable plastic product is 1.5–2 times higher. At the same time, a regular plastic bag, if judged by carbon footprint, is several times better than a paper one. Today's regular bags are made entirely or partially of recycled materials and can be used up to 40 times and then be recycled again.

Source: Danish Environmental Protection Agency (2018)

“Using plastics would expose us to higher taxes and levies”

Today, not only plastic but also paper and cardboard packaging is subject to environmental charges, and paying those is socially important as all the money will be used by authorities to implement regional waste management programmes.

Alternatives to paying environmental charges

- 1** Set up recycling and waste management (for packaging);
- 2** Engage a contractor to do this for you;
- 3** Pass the matter over to an industry association.

Advantages

-  Being in control of your waste management expenses;
-  Enjoying new business opportunities;
-  Improving the company's image with green projects.

PLASTIC PACKAGING CANNOT ALWAYS BE REPLACED BY A SUITABLE ALTERNATIVE, ESPECIALLY WHEN IT COMES TO FOOD STORAGE.

“Customers are asking to use recycled plastics”

This trend is actively developing abroad and supported by major FMCG companies, but not all products can be made of secondary plastics.

In Russia, there are no restrictions on the use of secondary polymers in the production of non-food packaging and consumer goods. On the other hand, using them in food packaging requires certification for compliance with the technical regulations of the Customs Union.

It is also not allowed to use recycled polymers in toys, and baby food packaging (but one may make toys with own production waste)*.

Many processors already use recycled waste to make primary materials. For example, SIBUR is considering a project to use grinded PET bottles, or flakes, in new polyethylene terephthalate.

**Source: (<https://tass.ru/v-strane/5466153>)<https://tass.ru/v-strane/5466153> (<https://tass.ru/v-strane/5466153>) (<https://tass.ru/v-strane/5466153>)(in Russian), Customs Union Commission's Resolution No. 798 On the Adoption of the Customs Union's Technical Regulation On Toy Safety dated 23 September 2011 (Article 4.2)*

“Our customers thinks plastics are less eco-friendly”

On closer examination, one can see that in reality the total environmental footprint of plastics is smaller compared to alternative packaging. For example, energy costs associated with plastic production are on average two times lower than those for alternative materials.

Advantages of plastic packaging in terms of environmental footprint



TRANSPORTATION AND STORAGE

Lower fuel consumption during goods transportation.



CARBON FOOTPRINT

Less emissions per life cycle (CO2 equivalent).



WASTE

Tens of times less waste and lower weight of landfilled packaging.



RECYCLING AND REUSE

The packaging can be recycled and reused in the production of polymer products up to ten times.

Source: <http://www.allaboutbags.ca/papervplasticstudies.html> (<http://www.allaboutbags.ca/papervplasticstudies.html>)

TODAY, NOT ONLY PLASTIC BUT ALSO PAPER AND CARDBOARD PACKAGING IS SUBJECT TO ENVIRONMENTAL CHARGES.

“No one offers recycled-plastic products”

In fact, many large companies have been actively implementing pilot programmes to promote plastic waste collection and recycling, including a joint effort by Magnit and Unilever. Reverse vending machines now collect used plastic containers at Magnit supermarkets in Tula and Krasnodar. In exchange for bottles, they issue coupons for a 10% discount on Unilever products. All collected plastics will be recycled and reused in Unilever product packaging. The project is expected to last one year. Based on its results, the companies may extend it to other Russian regions as well.

Global corporate targets



Nestlé

By 2025: 100% recyclable or reusable packaging.



Coca-Cola

By 2030: 100% recyclable packaging, 50% share of recycled content in bottles, 100% of bottles are collected and recycled.



Unilever

By 2025: 100% recyclable packaging that is reusable or biodegradable. Recycled content above 25%.



Danone

By 2025: 100% recyclable packaging that is reusable or biodegradable. Evian bottles entirely made of recycled feedstock.