



PLASTICS STRATEGY AND COSMETICS

Report of the Polish Union of the Cosmetics Industry



THE POLISH
UNION OF
THE COSMETICS
INDUSTRY

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Recommended citation method:

Plastics Strategy and Cosmetics. Report of the Polish Union of the Cosmetics Industry,
Deloitte Advisory spółka z ograniczoną odpowiedzialnością, sp.k., Warsaw, September 2019

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Introduction

Experts are warning that our planet is in peril. According to the report of the UN Governmental Panel on Climate Change, signed by 91 scientists from 40 countries who have analysed over 6,000 scientific research, we only have 12 years to keep the global warming at no more than 1.5°C (compared to the pre-industrial era, i.e. the second half of the 19th century)¹. The loss of animal and plant species is accelerating to a rate that is tens or hundreds times faster than in the past 10 million years. In its biodiversity report 2, the UN cautions that one in four species is at risk of extinction, whereas almost a million will die out in the next few decades².

Circular economy (CE) – an economy in which the value of products, materials and resources is maintained for as long as possible, and the creation of waste is minimised.

Environmental footprint (ecological footprint) – the environmental impact of an entity, its activities or a product, e.g. the amount of natural resources used or the quantity of harmful gases produced.

According to the scientific consensus, sudden climate changes in recent decades are the result of human activities, and only people can stop them. “We don’t have a plan B because we don’t have a planet B” was the catchphrase of the 2015 Climate Conference in Paris where more than 200 countries from around the globe made commitments to reduce carbon dioxide emissions. The world’s biggest media, like The New York Times and The Guardian, no longer write about a “climate change” but rather of a “climate catastrophe.” Therefore, in order to struggle for the survival of our planet, every sector of the economy, every company, every institution and every human being must take relevant actions.

Waste (and its management, being a global problem also faced by Europe) is a major contributor to the worsening of the climate catastrophe. Among various types of waste, plastic packaging/waste hold a prominent position, particularly due to their presence in seas and oceans. Between 80 and 85% of all the waste found on European beaches is made of plastics. As a continent, we have limited access to

non-renewable resources, e.g. crude oil used to produce plastics, which makes our situation even worse.

The European Union, with Poland as an important Member State, has taken on the role of a global leader to fight environmental pollution. Actions aimed at closing the plastics cycle in the economy have become a natural and necessary choice and direction of European policy. These efforts are reflected by the **circular economy (CE)** concept and the Plastics Strategy.

Major changes will affect nearly every sector of the economy (including the cosmetics industry). For entrepreneurs in Poland, compliance with requirements of CE and the Plastics Strategy will be even more challenging, as the waste management system and the mechanisms of its financing are still in the process of being developed. The cosmetics industry, as a very important stakeholder in this process, must actively participate in the formation of both legal provisions and practices in this respect.

The circular economy policy is not always properly understood or interpreted in public debates or even in certain public institutions. There are many initiatives calling for a total ban on plastics and replacing them with other materials. For various reasons, however, this is impossible.

Plastics are essential for the economy as a lightweight, durable, airtight, easy to process and mould raw material that is also inexpensive. It helps us in almost every area of everyday life. We cannot forget that the plastics we criticise today often saves lives, e.g. as an essential component of many medical devices. It protects other products from spoilage and prevents food waste.

It is not the very existence of plastics that has a negative impact on the environment. The key factor is the duration of its use and possible reuse. The so-called **environmental footprint** of plastics does not always have to be so high. It might be lower than in case of glass, for example (due to lower energy consumption for processing and transport), provided we do not use a disposable product. From the

1 <https://www.polityka.pl/tygodnikpolityka/nauka/1766778,1,raport-na-temat-zmian-klimatycznych-12-lat-do-katastrofy.read>
2 <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report>

environmental point of view, a problem arises when a plastic product or packaging quickly becomes waste and one that is difficult to manage. Today, we neither want nor are able to completely stop using plastics. However, we have to do everything we can to learn how to use it the right way.

The cosmetics industry aims to close the plastics cycle in the economy, so that the material does not end up in the environment as waste, but instead is used as a raw material. Therefore, we should learn to manage plastics in a more responsible and sustainable manner. The Plastics Strategy provides for specific solutions to help us move towards this goal: increase the recycling of plastics, in particular packaging; minimised waste generation; and cooperation of all partners of the **value chain**.

This report of the Polish Union of the Cosmetics Industry and Deloitte Advisory presents the position of the cosmetics industry in respect of the Plastics Strategy and the analysis of the current market situation in terms of preparations for its implementation, including challenges and good practices of the cosmetics industry. It also demonstrates recommendations for individual participants in the plastics (particularly packaging) value chain. The report is also a declaration that the cosmetics industry is fully committed to the objectives of the Plastics Strategy.

The data presented in the report that refer to the companies of the cosmetics industry operating on the Polish market result from surveys carried out in those companies.

Value chain – subsequent parts in a sequence of functions performed in a product's life cycle. There are a number of partners in the value chain, including entities that source raw materials, producers, their sub-suppliers (and their sub-suppliers), distributors, sellers, consumers, waste recipients, and recyclers.

A European Strategy for Plastics in a Circular Economy – the Plastics Strategy

The Plastics Strategy is part of the process of moving to a circular economy model. A vision of the strategy is to create “a smart, innovative and sustainable plastics industry, where design and production fully respect the needs of reuse, repair, and recycling, and which brings growth and jobs to Europe and helps cut EU’s greenhouse gas emissions and dependence on imported fossil fuels.”

Circular economy model (CE)

A system designed to lay the foundations for an innovative plastics sector, where the design and production process fully integrates reuse, repair and recycling aspects, while the materials used are more sustainable. It aims to move from a linear economy model to a circular one.



Addressees of the various parts of the report

- regulator
- cosmetics producer
- packaging producer
- consumer
- recovery organisation/recycler



PLASTICS STRATEGY AND COSMETICS

Sustainable plastics management in the cosmetics industry

Declaration of the Polish Union of the Cosmetics Industry

Cosmetics 4.0 must be close to and safe for both man and nature. As the Polish Union of the Cosmetics Industry, representing over 180 cosmetics companies operating in Poland, we are deeply convinced that this is true. For years, the cosmetics industry in Poland has been known as a responsible market participant committed to sustainable development and the environment. Today, this approach is one of the most important sources of our innovation and a response to the needs of the changing world.

A European Strategy for Plastics announced by the European Commission (the Plastic Strategy) is a challenge. We are taking it on and declare our full commitment to the Strategy.

The Report, prepared by the Polish Union of the Cosmetics Industry and Deloitte Advisory, aims to map out the most important challenges faced by the cosmetics industry. In order to ensure the sustainable management of plastics in an efficient manner, we have identified key areas affected by our industry, and the objectives businesses are obliged to fulfil. Those include:

- sustainable use of packaging materials,
- sustainable management of packaging,
- packaging design that makes recycling possible and easy.

Many industry representatives, from international companies to local start-ups, have already taken a number of long-term steps to meet the objectives of the Strategy (the report presents a few of them).

However, for the industry's actions to be effective, it must operate in the so-called **circular economy. It is formed by all the partners in the packaging value chain:** packaging producers and other entrepreneurs in the plastics sector; producers of packaged products for all industries; legislators in Warsaw and Brussels; waste management organisations; recovery organisations; recyclers; and, ultimately, also consumers. As one of the stakeholders and one of the first industries in Poland, we are starting to define our role in this process.

Each participant in the chain must define their tasks and implement them consistently in order to close the plastics cycle in an effective manner. This is particularly important in Poland, especially now when a modern waste (including packaging) management system is being developed here. We are at the beginning of the road!



We believe that, in order to achieve a common goal for all stakeholders, namely to create a closed-loop recycling of plastics in Poland, the following are necessary:

1. active dialogue between all partners in the packaging value chain,
2. creation of relevant legal frameworks in Poland for a modern and effective waste management system,
3. recycling made easy, cost-effective and accessible for all industries in Poland,
4. education and shaping of consumer attitudes,
5. implementation of **ecodesign** solutions by entrepreneurs,
6. proportional implementation of the Plastics Strategy in Poland, taking into account the availability of technologies and the special costs that Polish entrepreneurs have to incur,
7. inclusion of requirements for cosmetics safe for humans, and the degree of contribution of the cosmetics industry to detailed solutions implementing the Plastics Strategy.

We call on all partners in the packaging value chain, in particular the legislator, to take active steps to best prepare Poland and Polish entrepreneurs to meet the challenges of the Plastics Strategy.

We believe that only thanks to extensive cooperation and working together can we successfully build a sustainable closed-loop system of recycling of plastics in Poland in an effective, holistic, harmonious and non-revolutionary manner, which should be the focal point for all market participants.

Representatives of the Polish Union of the Cosmetics Industry

Ecodesign – a design process as a result of which a product with a lower negative impact on the environment (compared to a standard product) is developed. With respect to packaging, ecodesign means increased recyclability, reuse, or replacement of a material with one that is more environmentally friendly.



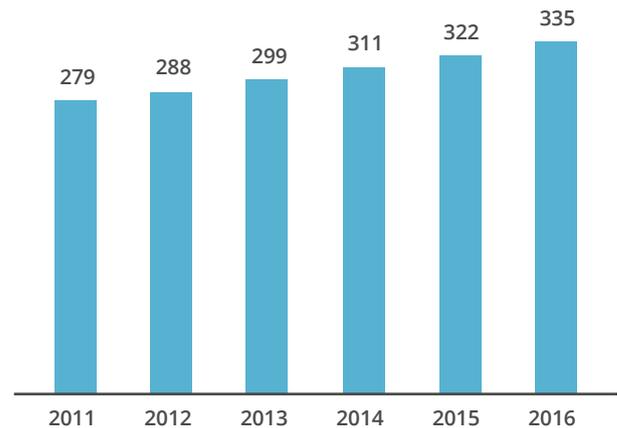
Plastics – an important part of global economies

In the last century, plastics have become a ubiquitous presence in our lives, used in virtually every area of life and economy, from agriculture and transport, through medicine and the clothing industry, to packaging and construction.

Plastics are a lightweight, durable, airtight, easy to process and mould material that is also inexpensive. Therefore, they meet the most stringent industrial and regulatory requirements. Hundreds of millions of tons of plastic materials that reach the market every year improve the safety of our products and the comfort of our lives. Many medical devices and materials could never be created without plastics. Plastic packaging protects products from spoilage: microbiological infection or exposure to light and oxygen. They help us avoid wasting food or many other everyday products. Their beneficial properties and attractive prices mean that contemporary economy would not be able to operate without these materials. Today, humanity is unable to totally ban plastics. However, they can be managed in a smarter and more efficient manner.

In 2017, the global plastics market was worth more than USD 523 billion³. In recent years, the compound annual growth rate (CAGR) of the plastics market has been growing on a global scale at a rate of ca. 3.7%⁴. In 2020, it is expected that the value of the plastics sector will reach USD 654 billion⁵. In 2016, the volume of production of plastic products reached 335 million tonnes⁶.

Chart 1. Plastics production on a global scale (million tonnes)⁷



In the European Union, the average annual production of plastics is 60 million tonnes (18% of the global value), and the main recipient of plastics is the packaging industry, using almost 40% of the total volume, followed by construction (19.7%) and automotive (8.9%) industries⁸. The plastics industry is a major player in the European economy, ranking 7th in terms of added value, consisting of ca. 60,000 enterprises that employ more than 1.5 million employees.

The plastics industry is also an important branch of the Polish economy. Its annual turnover exceeds PLN 85 billion, whereas the growth rate has been ahead of the growth rate of the GDP and of the entire industrial processing sector for several years now. Nearly 9,000 enterprises in the industry employ 190,000 people⁹.

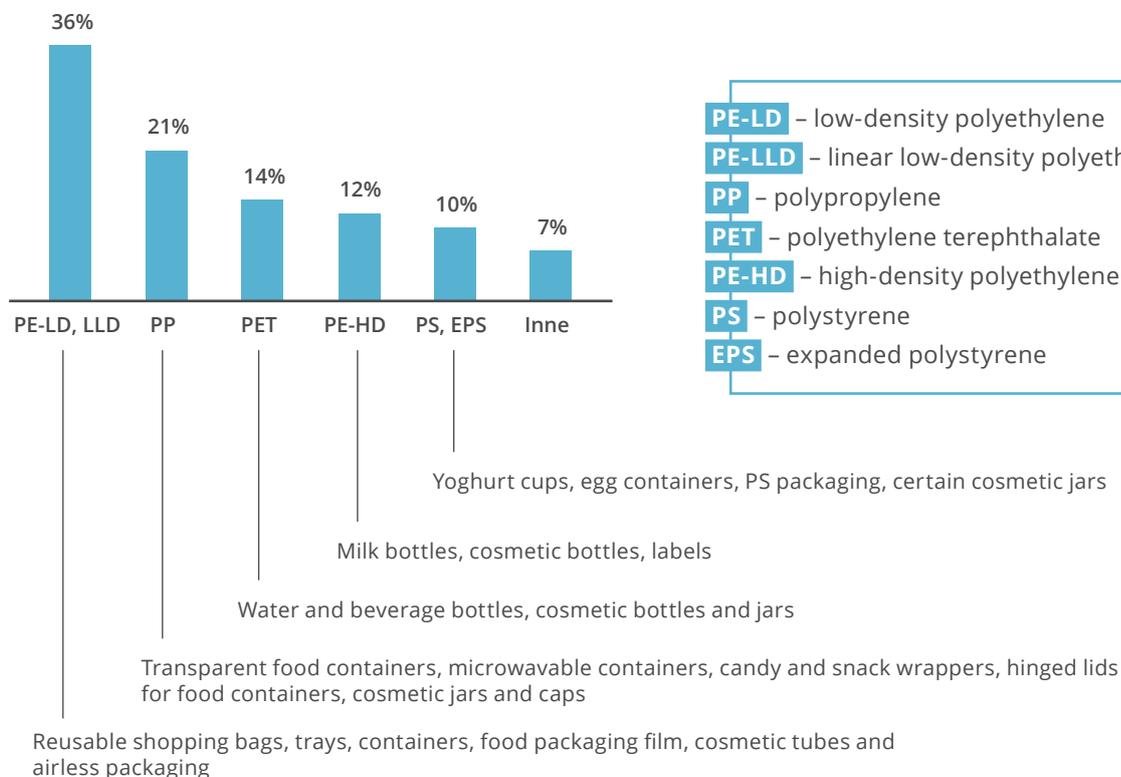
3 Grand View Research Inc., Plastics Market Size, 2019
 4 Grand View Research Inc., CAGR, 2011-2015
 5 Grand View Research, Inc. Growth, Plastic Market Size, 2019
 6 PlasticsEurope, Plastics – Fakty 2017
 7 Raport firmy ICIS, PlasticsEurope, Tworzywa sztuczne – Fakty 2017
 8 PlasticsEurope, Plastics – Fakty 2017
 9 GUS (Statistics Poland), Statistical Yearbook of Industry 2018



In 2017, the domestic demand for plastics in Poland was 3.5 million tonnes, a 9% increase compared to 2016¹⁰. Poland remains 6th in terms of the demand for plastics in Europe, following Germany, Italy, France, Spain and the United Kingdom. The plastics production per capita in Poland is about 89.7 kg; the average in Western European countries is 136 kg, reaching 139 kg per capital in NAFTA (North American Free Trade Zone) countries¹¹.

As with the rest of Europe, the largest recipient of plastics in Poland is the packaging sector. It uses 32.5% of the plastics produced, and the consumption of plastics for packaging production is steadily increasing. Between 2013 and 2017, the weight of plastics used for this purpose increased by 20%, reaching 1.12 million tonnes (in Poland)¹⁰. The average annual growth in plastics consumption in this segment amounted to 4.4%. Polyethylene and polypropylene are among the dominating materials used for packaging.

Chart 2. Plastics consumption for packaging production by type of plastics in Poland in 2017¹⁰.



In 2017, the weight of plastic packaging placed on the market amounted to 995,000 tonnes, or 18% of the total weight of introduced packaging¹². It is estimated that ca. 68% (677,000 tonnes) have reached households, mainly as immediate unit packaging (bottles, jars, wrappers). The remaining 32% (319,000 tonnes) was used by enterprises in industry and trade¹³.

Tabela 1. Weight of packaging placed on the Polish market in 2017 (in tonnes)¹⁴.

2017	
Paper and cardboard	1 787 408
Wood	1 317 463
Glass	1 198 913
Plastics	995 375
Steel	178 305
Aluminium	84 687
Other	3 273
TOTAL	5 565 423

- PE-LD – low-density polyethylene
- PE-LLD – linear low-density polyethylene
- PP – polypropylene
- PET – polyethylene terephthalate
- PE-HD – high-density polyethylene
- PS – polystyrene
- EPS – expanded polystyrene

¹⁰ PlasticsEurope Polska, 2017 Annual Report
¹¹ Statista.com; Per capita consumption of plastic materials worldwide in 2015 by region (in kilograms); 2017 data for Poland; GUS (Statistics Poland), Statistical Yearbook of Industry
¹² Reports of Marshal's Offices
¹³ Deloitte Advisory's estimates based on REKOPOL and Packflow data
¹⁴ The table includes unit packaging, grouped packaging and transport packaging

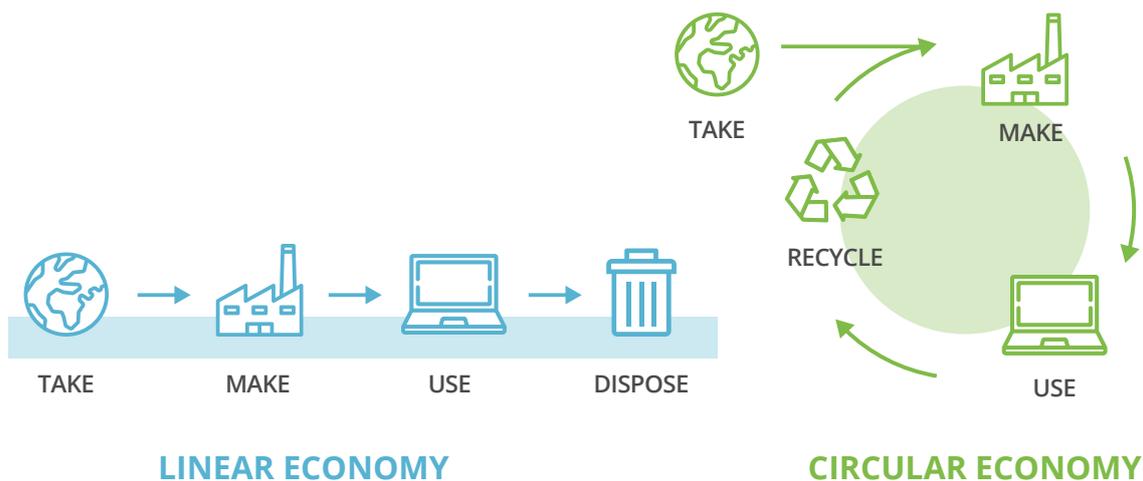


Plastics – too valuable to be thrown away

For years, plastics have been gaining popularity. Due to the material's properties and a relatively low price, they are still being used on a massive scale to satisfy the needs of people in many areas of life. The environmental impact of a plastic product results from the length of its useful life. It may last for several decades (e.g. building components) or seconds (e.g. disposable plastic cups).

From the environmental point of view, a problem arises when a plastic product or packaging becomes waste. In the previous linear economy model, little emphasis was placed on the reuse of waste. Therefore, plastic waste has become a global challenge.

The last 50 years of our civilisation could be referred to as “The Age of Plastics.” We have created a material for everyday use, but we have no effective disposal system. Disposable cutlery, cups or plastic bags used by everyone every day are used for a few minutes, but they will decompose for hundreds of years.



Statistics show that the annual weight of plastic waste generated in Europe is close to 26 million tonnes. Only 30% of plastic waste is recycled. Nearly 70% are burned, deposited in landfills or left in the environment unattended, which is even worse. The European Commission estimates that the related losses could amount to between EUR 70 and 105 billion annually¹⁵.

Plastic waste in the seas is a cross-border problem

Every year, huge quantities of plastic waste are released into the environment, largely into the seas and oceans. It is estimated that between 1.5% and 4% of the world's plastics production (i.e. ca 80% of all the waste in the largest water bodies) reaches the oceans every year¹⁶. Although 88-95% of plastic waste in the seas and oceans comes from Asia and Africa, the problem is of an international, cross-border nature (plastics, move around easily)¹⁷.

¹⁵ European Commission, A European Strategy for Plastics in a Circular Economy, 2018 (SWD(2018) 16 final, 16.01.2018)

¹⁶ Ibidem

¹⁷ Christian Schmidt et al., Export of Plastic Debris by Rivers into the Sea, Environmental Science & Technology, Vol. 51, No. 21, 2017



As much as 13 million tonnes of plastic waste are released into the oceans every year. Try imagining 1,857,000 garbage trucks with an average payload disposing waste straight into the ocean.

The biggest challenge is unit packaging, or immediate packaging for consumer products. This is because of the complexity of their supply chain and the problems encountered at its individual stages. Packaging in the B2B circulation is not an environmental problem: due to the high quality of the raw material, they are easily recycled.

The linear economy model, based on the “make-use-dispose” approach, causes the loss of huge quantities of valuable raw materials. Both the global and the Polish economy are becoming increasingly material-intensive. A small number of secondary raw materials are used. The majority of produced goods end their life prematurely, causing the loss of economic value and negative environmental effects, such as pollution or greenhouse gas emissions.

The Ellen MacArthur Foundation estimates that 95% of the value of plastic packaging is

lost as a result of their ineffective use in the economy. Today, we consume 1.6 times more resources than the Earth’s ability to regenerate them¹⁸. Steps to increase the efficiency (reducing the quantity of fossil fuel resources and energy consumed per unit of economic output) will not change their finite nature, but only delay what is inevitable. Therefore, a profound change in the entire economic model is necessary.

The ubiquitous presence of plastics in our everyday life and the market data demonstrate that plastics will remain one of the key materials in the contemporary world. Today, a total ban on plastics is simply impossible. This would be very difficult due to their unique properties. After 60 years of their presence on the market, we still have no alternative to plastics that would prove useful in various conditions. The catchphrases “stop plastic” or “break up with plastic” used by various organisations or initiatives are simply naive, even if they are said with good intentions and care for the environment. It is crucial that the social debate on plastics currently raging in Poland should be based on actual data and the realistic abilities of our economy. It is vital that we reduce the environmental impact of plastics mismanagement.

Vision of the new plastics economy

In January 2018, China introduced a ban on the import of waste (including plastic waste). In the last 30 years, they were the world’s largest importer of waste, using it as a raw material for new products. According to various data, ca. 87% of plastic waste from Europe and 56% from around the world reached China. In its justification for the new pro-environmental policy, China acknowledged that the import of waste and, with it, toxic compounds poses too great a threat to the safety of the environment and of the people. The European Union’s waste policy had to change quickly.

The European Commission took steps to create a new economic model in which the role of plastics would be redefined. In mid-2018, multi-faceted discussions in this respect were sealed by the **Circular Economy (CE) Package**.

The package is a comprehensive action plan with a clear, ambitious, long-term strategy to develop waste-free production, recycling processes, reuse and reduction of the negative environmental impact. It also proposes concrete measures to support and eliminate obstacles to improvement. Furthermore, it takes into consideration conditions present in individual Member States, as well as in the different sectors and industries, including in material streams.

How does the recycling rate of individual packaging materials have to change in the coming years?



Recycling rate of packaging waste for individual fractions:

	current level (2017)	by 2025	by 2030
Total packaging	58%	65%	70%
Plastics	35%	50%	55%
Wood	33%	25%	30%
Steel	88%	70%	80%
Aluminium	68%	50%	60%
Glass	62%	70%	75%
Paper and board	82%	75%	85%



Rate of recycling and reuse of municipal waste

to be achieved in the coming years:

	current level (2017)	by 2025	by 2030	by 2035
Recycled municipal waste	27%	55%	60%	65%



The costs of selective collection, transport and processing of packaging waste will be shared between producers and consumers. The former will cover between 50 and 80% of the costs (depending on national regulations and the degree of compliance with the required recycling rates). The latter will probably see this in higher prices of products on shelves.



The EU has given member states until **5 January 2023**. They have less than four years to implement the amended directives and comply with existing provisions, e.g. the **Extended Producer Responsibility (ERP) Scheme**, to required standards.

Extended Producer Responsibility (ERP)

– the rule that makes the producer responsible for the product and its packaging throughout the entire life cycle of the product until the waste management of the product or its packaging.



A European Strategy for Plastics in a Circular Economy (“Plastics Strategy”)

The CE package does not cover all areas of a circular economy. It is supplemented by other steps and proposals of the European Commission. One of those is “A European Strategy for Plastics in a Circular Economy,” also referred to as “Plastics Strategy.” This is the first document of its kind addressed to all stakeholders: from consumers, through industries, to legislators. It also takes into consideration the entire life cycle of plastics. The Plastics Strategy sets an ambitious goal of creating closed-loop recycling of plastics in the economy. This is to be done by:

- changing how plastics are designed,
- improving the system of separate collection of plastics, and increasing their recycling rates,
- increasing the recyclability and economical viability of recycling,
- stepping up cooperation between the various entities operating in the plastics sector,
- creating incentives for investments and innovations, and stimulating changes in other parts of the world.

The goal of the Plastics Strategy is not a total ban but rather a more sustainable and responsible management of plastics.

By 2030, all plastic packaging placed on the EU market should be reusable or recyclable in a cost-effective manner. By the same year, more than half of the plastic waste generated in Europe must be recycled.

The European Commission has already started to implement specific plans and objectives. They focus on analyses, public consultations, legislative projects and funding programmes. Decisions of individual Member States are also to play a crucial role in supporting the transformation and determining the direction of the changes. As yet, however, strategic tasks have not been transposed into the national law.

The Plastics Strategy assumes the commitment of all market participants (citizens, government and industry) in promoting sustainable consumption and production, thereby achieving the following objectives:

- decoupling the increase of plastic waste generation from economic growth,
- developing innovative enterprises and circular solutions,
- reducing the leakage of plastic waste into the environment,
- preventing **plastic microbeads** from reaching the seas, oceans and the atmosphere.

Plastic microbeads – smaller than 5 mm, water insoluble, solid plastic particles used in products of various industries.

Single-Use Plastics Directive

The first legal act aimed at achieving the objectives of the Plastics Strategy is the Directive on the reduction of the impact of certain plastic products on the environment (Single-Use Plastics Directive), adopted in May 2019. It provides for various actions to be taken as of 2021 to reduce the negative impact of plastic waste on the environment. Disposable products, such as cotton buds, cutlery, plates, straws, stirrers, balloon sticks and take-out containers made of polystyrene foam (expanded polystyrene), will be banned. They will have to be replaced by more sustainable alternatives (e.g. reusable or biodegradable ones). Other products, e.g. food containers, bottle

wraparounds and packs, beverage cups, filter tobacco products, wet wipes, balloons and lightweight plastic bags will still be allowed to be placed on the market. However, Extended Producer Responsibility (EPR) schemes will be strengthened in respect of them, with labels applied to disseminate knowledge. As of 2024, plastic caps and lids will only be placed on the market if they remain attached to bottles and containers. From the same year onwards, all PET bottles will have to be made at least in 25% from a recycled raw material, whereas, as of 2030, all plastic bottles (regardless of the type of plastic) – at least in 30%. By the end of 2025, the rate of collection and recycling of beverage plastic packaging is expected to reach 77%, and 90% by 2029. Today, the rate is ca. 40%.

Single-Use Plastics Directive: consequences for the FMCG sector

1

Ban on disposable plastic products



cutlery, plates, stirrers, straws



cotton buds



balloon sticks



take-out containers made of polystyrene foam

2

Need to introduce Extended Producer Responsibility schemes



food containers



beverage bottles



packaging and wrappings



beverage bottles and their caps



filters of tobacco products



personal hygiene products



lightweight plastic shopping bags



fishing nets

3

Target: at least 25% rPET in bottles as of 2025, and 30% as of 2030

4

Collection of 77% of beverage packaging by 2025, and 90% by 2029

5

By 2024, caps and lids of all beverage containers will have to remain attached to the containers

The cosmetics industry's proactive approach to *Single-Use Plastics*

The *Single-Use Plastics* Directive is applicable to the cosmetics industry only to a limited extent. The only cosmetic products included among the major waste polluting the seas and oceans are wipes that contain plastic nonwovens. They will be subject to labelling requirements in order to inform consumers on how to dispose of them after use. Producers of wipes containing plastic nonwovens will also be included in the ERP scheme. Their obligations will include, among others, educational actions to prevent the generation and to reduce the occurrence of such waste. The ERP scheme will also involve fees for the use of the environment.

The cosmetics industry has already taken steps to prepare for these changes: the European Disposables and Nonwovens Association EDANA, in cooperation with Cosmetics Europe, has prepared a proposal for the labelling of wipes that would comply with the requirements of the *Single-Use Plastics* Directive. It has been presented to the European Commission as a self-regulation of the cosmetics industry.

Microplastics

Another project aimed at a more sustainable management of plastics and responding to the environmental pollution is the introduction of restrictions on microplastics. Microplastics are very fine pieces of plastics with a diameter of under 5 mm. They can be generated accidentally (e.g. from tyres as a result of abrasion or from textiles during the washing process) or intentionally added to products, in which case they are referred to as plastic microbeads. Plastic microbeads are used in fertilisers, paints, varnishes, detergents and, until recently, also in rinse-off cosmetics. Microplastics comprise an important part of the marine pollution.

Plastic microbeads: self-regulation of the cosmetics industry

Thus far, cosmetic companies have used plastic microbeads primarily as peel-offs, sometimes in other rinse-off products, such as toothpastes, soaps and shampoos. Environmental analyses have shown that the share of the cosmetics industry in the weight of actual waste plastic microbeads in marine waters is only 0.1 to 2%¹⁹.

Despite this low level of contribution, in 2015, on its own accord and as the first industry, the cosmetics industry declared it would be phasing out plastic microbeads used in rinse-off products by 2020. According to the assessment of effects of this self-regulation, carried out in 2018 by Cosmetics Europe, the use of plastic microbeads in cosmetics between 2012 and 2017 dropped by as much as 97.6%. This is one of the good practices of the cosmetics industry with regards to responsible plastics management.

In early 2019, the European Chemicals Agency (ECHA) published a proposal for the regulation of microplastics intentionally added to products. The cosmetics industry perceived it as controversial, because the ECHA proposed a very wide ban on the use of microplastics. The definition of microplastics developed by the Agency included not only plastic microbeads, but also many polymers that are not plastics. And yet, according to documents presented by the ECHA itself, plastics are the major marine pollutants²⁰.

We must recognise that many synthetic polymers in cosmetics are essential functional substances without which certain products could not be made. These include, e.g., emulsifiers, stabilisers or thickeners that ensure that cosmetics are easy to use and offer the desired quality (e.g. they do not separate when stored in the bathroom).

The industry is mainly concerned with the lack of proportionality in the ECHA's proposal with respect to individual industries. In its dossier, the ECHA has estimated the emissions of microplastics into the environment from specific industries and products (including rinse-off and leave-on cosmetics.) Furthermore, the Agency has estimated the costs of changing product formulas to be borne by individual industries. According to the analyses, despite the fact that microplastics and polymers from leave-on cosmetics constitute only 2% of the emission of these materi-

19 Gouin et al, Use of Micro-Plastic Beads in Cosmetic Products in Europe and Their Estimated Emission to the North Sea Environment, 2015; Primary microplastics in the oceans: a global evaluation of sources, IUCN Report, 2017

20 The problem with microplastics, materiały informacyjne Europejskiej Agencji ds. Chemikaliów <https://youtu.be/sl82ZO9AT4Y>

als to the environment, the cosmetics industry will bear ca. 80% of the costs (to be incurred by all industries and all products) in order to adapt the formulas to the changes. Microplastics (understood as plastic microbeads) have already been phased out by the cosmetics industry as

a result of its self-regulation. However, the ban on the use of all synthetic polymers (including those that are not plastics) will turn the whole industry upside down. Yet, the resulting beneficial impact on the environment will be miniscule.

Microplastics according to ECHA: proposed restrictions

The restriction of microplastic emissions to the environment is part of the EU's Plastics Strategy. On 20 March 2019, ECHA published the "Annex XV Restriction Report. Proposal for a Restriction. Intentionally added microplastics".

What would the restrictions involve?

1. A ban on the placing on the market of microplastics where their use will inevitably result in releases to the environment, irrespective of the conditions of use (for some of these uses, a transitional period is proposed, e.g. certain cosmetics, plant protection products).
2. A labelling requirement where the use of microplastics will not inevitably result in releases to the environment but where residual releases could occur if they are not used or disposed of appropriately.
3. A reporting requirement.

The restrictions on microplastics are scheduled to come into force in 2021, and will be implemented within the scope of the EU REACH Regulation.

Certain Member States have introduced individual regulations on the restriction of microplastics (e.g. Belgium, France, Ireland, Italy, Sweden and the United Kingdom). However, they apply mostly to plastic microbeads, i.e. solid plastic particles, not to the polymers of which they are made²¹.

As mentioned above, the ECHA has proposed broad restrictions: a ban on the use of many polymers, including those that are not plastics. The detailed scope of the restrictions was not available at the time of preparing the report; it will depend on the definition of the microplastic finally adopted by the Agency.

How to make sense of the plethora of documents and regulations applicable to plastics?

The above mentioned regulatory issues and references to strategic documents may result in interpretation difficulties. It is not easy to say which of the regulations are superior, which ones are directly applicable, and which ones only determine directions of actions. In addition to EU regulations, there are plenty of Polish legal acts (see Appendix I. List of legal acts and key

documents) one should be familiar with when operating on this market.

We should remember that all the listed documents are important and not mutually exclusive, so it is difficult to determine their hierarchy structure. The Plastics Strategy is a strategic document that determines directions (however, it is not a regulation in the strict sense of the word and, as such, is not implemented directly into the national law). Specific regulations will only be developed on its basis. However, the above-listed directives include objectives and require implementation into national law (yet they do not apply directly). On the other hand, the package of directives refers to the principal objective, but regulates it within individual scopes in separate documents. For each of them, we have tried to identify the key aspects to be faced by the cosmetics industry and the Polish economy in the near future.



Poland's challenge: building an effective plastic waste management system

An effective packaging waste management system must be at the heart of an effective implementation of the circular economy model. The key condition for its creation is the right Extended Producer Responsibility (EPR) scheme. This will ensure, among others, that the scheme is adequately financed. The existing EPR scheme in Poland has limited actual responsibility of producers for the packaging placed on the market: they bear inadequately low costs compared to the costs of waste collection, recycling and recovery waste. The development of minimum requirements related to EPR is one of the key findings of the circular economy package. In Poland, the changes must be implemented by 2023.

A system of incentives for individual market participants, mentioned by the Commission in the Plastics Strategy, could be an important financial instrument here. It should be linked to economic instruments aimed at reducing the leakage of plastics from the economy (understood as illegal or non-compliant plastics management resulting in damage to the economy and the environment).

Analysing Poland's situation from the viewpoint of the cosmetics industry, there are several tasks of the government that seem necessary to build an effective waste management system. The most important of these include the following:

- **Extended Producer Responsibility** – determination of minimum requirements for an Extended Producer Responsibility scheme, including, among others, a relevant coverage level of costs related to separate collection and processing of waste, definition of roles and responsibilities of individual market participants, ensuring fair competition among entities and appropriate supervision of the scheme. A well-functioning EPR scheme would allow to increase the rate of separate collection and recovery of plastics in the value chain, including, among others, in the cosmetics industry.
- **Design for recyclability** – facilitating the dialogue between designers and packaging producers, and recyclers, taking into consideration the characteristics of individual industries; acquiring knowledge on the actual recycling capacities on the domestic market; providing designers and producers with knowledge of the principles and possibilities of selective collection and recycling.
- **Adaptation of the collection system to recycling capacities** and ensuring the actions taken are effective.
- **Development of recycling infrastructure and technology** – the new EPR scheme should ensure further development and maintenance of the necessary recycling infrastructure in Poland. The application of innovative solutions may be one of the main drivers increasing the recycling rate in Poland. The use of other countries' experiences in optimum technological solutions, support for R&D activities involving innovative plastics recycling, and improving the operation of the government sector with respect to issuing investment permits are equally important.
- **Boost of competitiveness on the secondary raw materials market** – the relatively low price of plastics contributes to little interest in the recycling of plastic waste. It is easier for producers to make new material from fossil fuels than to process waste that is often difficult to manage because they contain additives and are characterised by insufficient recycling potential. If plastic waste has a real and high value for the economy, it is less likely it will drop out of the circular economy system. An interesting solution in this respect has been introduced in the United Kingdom where each plastic packaging with less than 30% of recycled content is subject to a special tax.

- **Involvement of the entire value chain in the process of transition to a circular economy** by initiating and supporting cooperation and knowledge exchange, industry meetings, educational activities, and better use of the initiatives already existing on the market (e.g. "Koalicja 5 Frakcji," "Działaj z im-PETem!").
- **Development of solutions to advance innovative material and process technologies**, e.g. funding programmes or popularisation of already developed inventions.
- **System-wide ecological education and dissemination of knowledge and practices involving sorting, recovery and recycling**, adapted to the type and age of the audience, is essential. Otherwise, sustainable innovations at the design and production stage will not bring expected results.

What is today's recycling rate of unit packaging in Poland?

According to official data, the recycling rate of plastic packaging introduced into Polish households is below 35%²². The rest is lost in the stream of mixed waste, ending up on illegal landfills, or in household stoves or incinerators.

The reached rate meets the requirements of the regulations currently in force. Nevertheless, this still means wasting 60% of the raw material and huge economic and environmental losses. The current imperfect circulation of plastics in the economy contributes to the rise of negative phenomena, including environmental degradation and harmful effects on human health. The target required recycling rate in 2025 is 50%.

In the context of EU requirements, Poland has a lot to do in order to improve the plastics cycle management and to increase plastics recycling to the rate achieved by European leaders. The Polish system of the rational management of packaging and packaging waste is only now being formulated. Separate waste collection in Poland provides recyclers with limited quantities of the material. Also, recycling capacities are still limited: the current technological potential in this respects makes recycling unprofitable for most plastic packaging.

Therefore, using the European requirements, Polish lawmakers must extensively rebuild the selective collection and recycling system operating in Poland and its financing. The first step in this direction is the introduction of the nationwide selective waste collection system divided into 5 fractions as of 1 January 2017.

However, the system still does not operate throughout Poland. Warsaw implemented the 5 fractions only in January 2019, whereas some municipalities in Poland are still preparing for this.

POLAND



Challenges posed to the management of the plastics circulation system

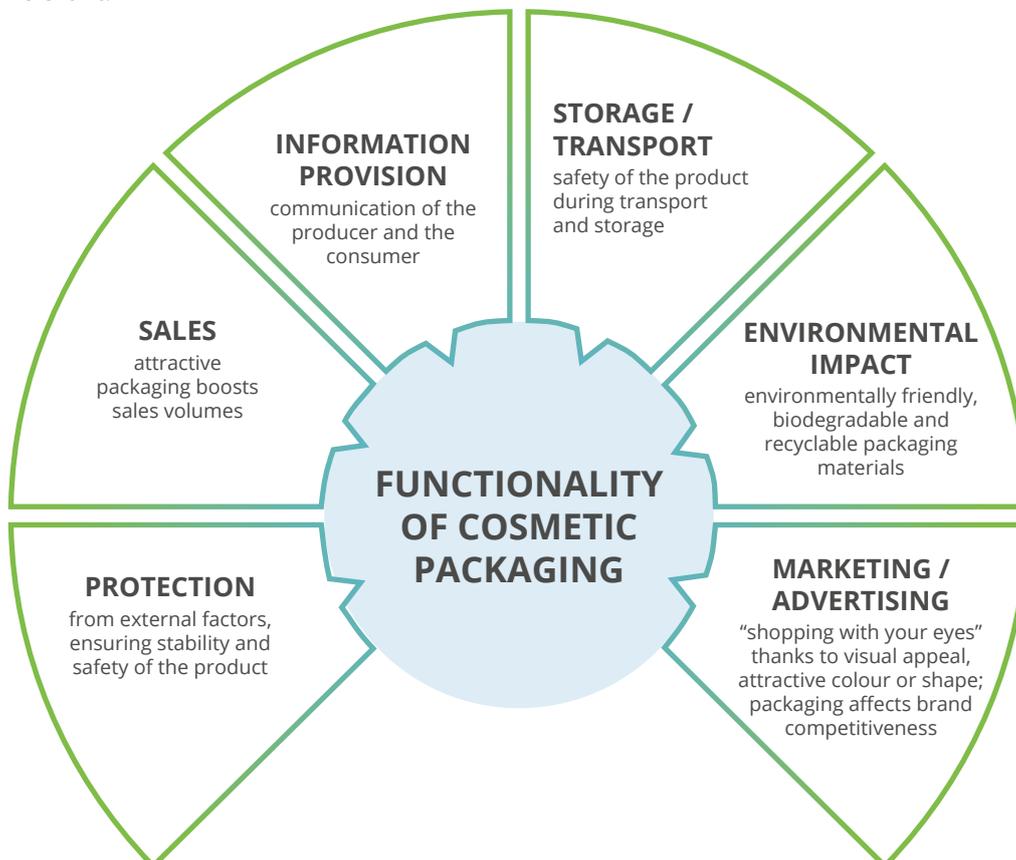
22 GUS (Statistics Poland), 2018 Environmental Protection, data for 2017; the rate refers to all plastic packaging placed on the market. The 35% recycling rate is achieved with the use of all packaging making up the entire packaging system in which goods are placed on the domestic market, i.e. unit, group and transport packaging



Packaging 4.0: challenges for the cosmetics industry in Poland

Packaging is an integral part of a cosmetic product. Its role in the purchase is considerably more important in the cosmetics industry than in other industries: the packaging plays a number of roles. The most important one is to protect the product from contamination or spoilage, thus protecting its user's health. The type of packaging affects how long a relevant product can be used, whereas its composition and interaction with the weight of the product are taken into consideration when assessing the safety of the cosmetic product. Here, safety and quality standards required by law are similar to those in the food sector. However, packaging is also a unique form of the producer's communication with buyers who belong to very different groups and have various preferences. For instance, European consumers have different expectations than buyers in Arab countries. Consumers in certain world regions prefer packaging that are richly ornamented and metallised, while environmental issues are still irrelevant.

Yet, regardless of the differences in preferences, the purpose of packaging is to attract the customer's attention. An interesting appearance, original graphic design responding to latest trends and functionality are important. It is the packaging that makes consumers buy a certain product they see on a shop shelf. It attracts consumer's attention, and its appeal affects the speed and certainty of a purchasing decision. This marketing and communication role is extremely important for cosmetics producers. Packaging is part of brand identity and recognition. It is an added value of a cosmetic product, ensuring its quality, whereas in the case of premium products, it is synonymous with luxury. Therefore, packaging becomes a tool that shapes the demand for certain products, and helps win the battle for consumers in an increasingly competitive world offering a variety of products on shop shelves.



Recently, one of those roles has become increasingly important for a growing number of customers: environmental issues are becoming more and more essential, and customers are paying attention not only to the appearance but also to the impact of packaging of their favourite product on the environment.

How should legal regulations respond to these changing expectations? On the one hand, they must not compromise the basic requirement: product safety. On the other hand, they should ensure that basic packaging functions expected by consumers are maintained. Yet, being ahead of regulators in this respect, consumers also expect that the packaging will not lose any of its previous features and functions, but gain a new one: it will be environmentally friendly.

The dynamically developing packaging sector has been introducing more and more new solutions that are competitive in terms of their functionality, appearance and improvements. Technological innovations involving plastics, seen in the extensive availability of materials or application variants, enable to create safe and practical packaging, thus ensuring the materials are widely used by the industry. The use of plastics is preferred thanks to their low price and high flexibility in terms of quality, functionality and image-related requirements.

The cosmetics industry is not the one that introduces the largest number of plastic packaging on the Polish market. Irrespective of the raw material or materials used, cosmetic packaging accounts for only 5%. The remaining ones are used, among others, by the food, beverage and chemical industries. Looking closely at the materials used in the 5%, we see that plastics account for 26%.

Chart 3. Weight of packaging marketed in the cosmetics industry.

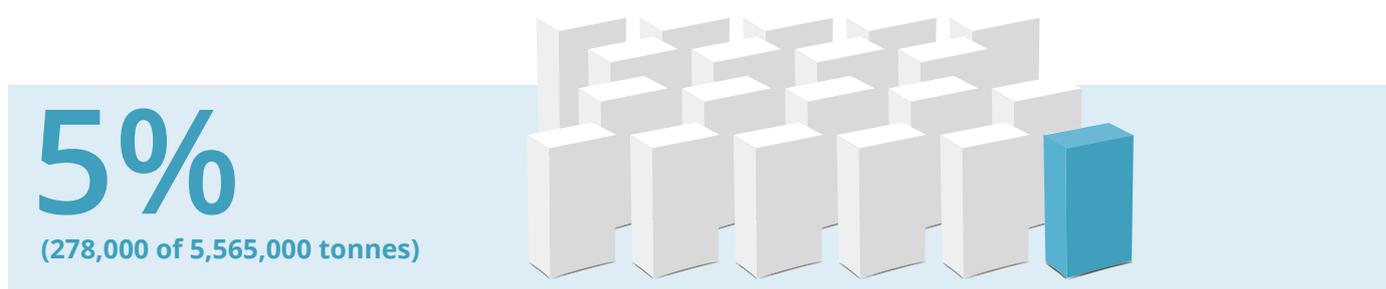
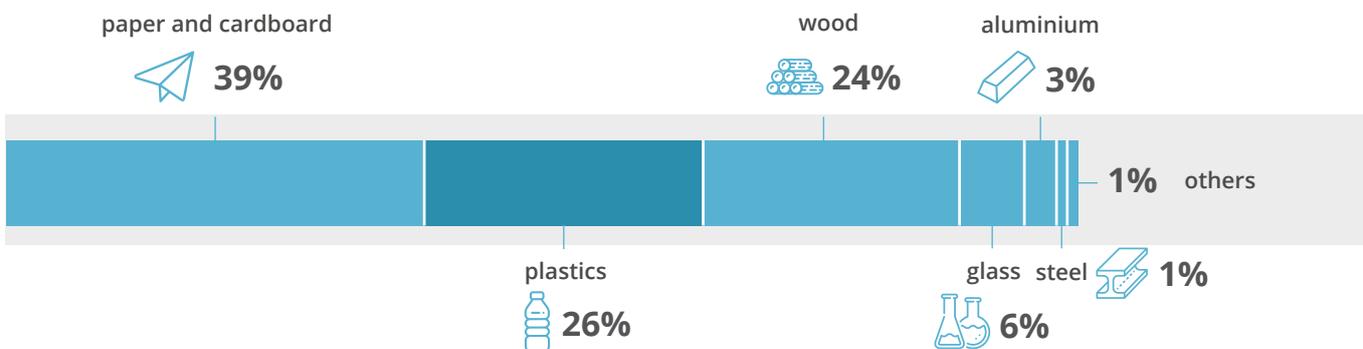


Chart 4. The breakdown of packaging placed on the market by the cosmetics industry in Poland²³.



23 Deloitte Advisory's estimates based on REKOPOL data. The table includes unit packaging, grouped packaging and transport packaging

Plastic packaging used by the cosmetics industry accounts for ca. 70,000 tonnes. Ca. 50,000 tonnes (i.e. 7% of the total weight of plastic packaging used in households) reach consumers as unit packaging.

According to the declarations of companies of the cosmetics industry²⁴, the most important plastics used in unit packaging of cosmetics are the materials shown in Table 2.

Results of a completed survey show that the first three plastics are used by almost all producers and are absolutely essential for the cosmetics industry. Their unique properties enable full compatibility with the weight of the relevant product, and provide barrier protection, thus making them universally applicable in most categories of cosmetics. However, certain categories of product require specific packaging with specific barrier functions due to the content of active ingredients and the risk of spoilage (e.g. as a result of oxidation). Therefore, many cosmetic companies use a certain amount of multi-material packaging. These include e.g. laminated tubes for toothpastes and shaving creams or multi-material sachets. The survey also indicated that specific requirements may apply to premium products. In this case, the presence of atypical (e.g. multi-material) packaging is often a prerequisite for consumers' purchasing decisions.

Plastics are also used in grouped packaging for storage and transport. These mainly include films and foils.

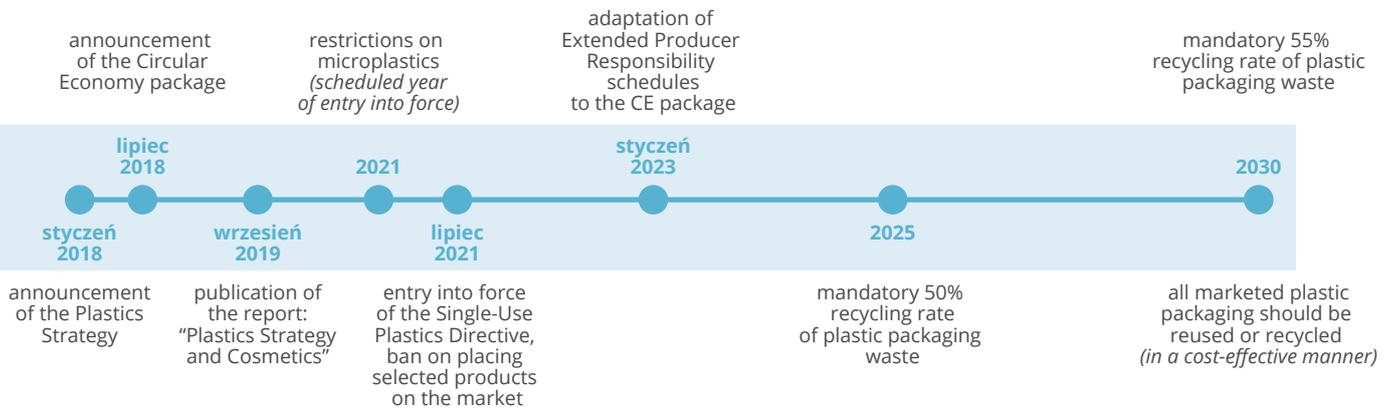
Cosmetic companies are aware of the major changes they will have to introduce in order to ensure the closed loop of packaging for cosmetic products, including facilitation of separate collection and recycling.

Tabela 2. The most important plastics used in unit packaging of cosmetics based on declarations of companies of the cosmetics industry (% of respondents in the survey).

% of respondents		
92%		PE, polyethylene and its derivatives (HDPE, LDPE)
86%		PP, polypropylene
78%		PET, polyethylene terephthalate
20%		PS, polystyrene
20%		PVC, polyvinyl chloride

24 Survey done for the purposes of the report, n = 49, 2018

Key dates for the introduction of certain plastic products and packaging in the cosmetics industry



The key areas that will need to be changed include packaging design, as well as the structure and types of materials used. We asked entre-

preneurs what major challenges they see in the process of preparing for the implementation of the Plastics Strategy.

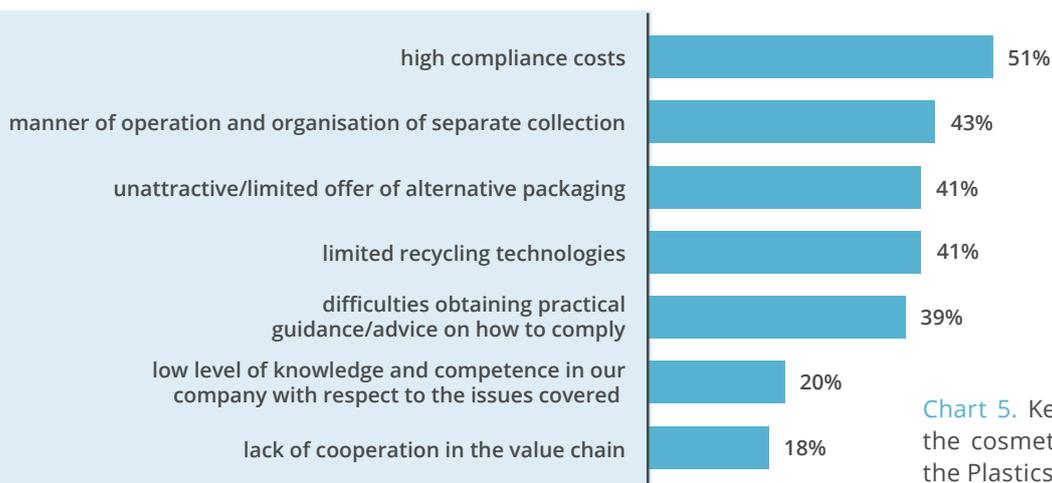


Chart 5. Key Challenges for companies of the cosmetics industry in preparation for the Plastics Strategy.

Apart from costs of compliance, the most frequently mentioned issues were the manner of operation of the waste management system in Poland, access to knowledge, and the relatively poor offer of alternative solutions for plastics. Glass is a common alternative, yet its processing has a major impact on the environment, particularly because of its high energy intensity (the glass melting process) and weight (logistics and transport). On the other hand, in most cases, bioplastics cannot be used for cosmetic packaging due to their low barrier properties. This means that biodegradable packaging might insufficiently protect a cosmetic product from external factors, thus deteriorating its original properties.

The two most commonly used packaging materials for cosmetics are PE and PP. Unfortunately their recycling in Poland is difficult due to the lack of economic justification for the process. Poland mainly processes PET, but one that comes from food packaging (beverages).

For PET, the recycling stream is well-defined and "clean," as these are mostly beverage bottles. Therefore, the recyclate from this stream is of high quality, can be approved for food and used as packaging for food products or cosmetics. For PP and PE, the waste stream is much more diverse, as it mixes different packaging groups subject to various legal requirements concern-

ing quality (e.g. heavy metals content, other additives): cream jars, petrol cans, toilet cleaner bottles. Currently, no PP pellets approved for

contact with food can be obtained on the Polish market. Today, recycled PE/PP bottles are used primarily for household chemicals.



Involvement of all partners in the value chain: the key to the implementation of the Plastics Strategy

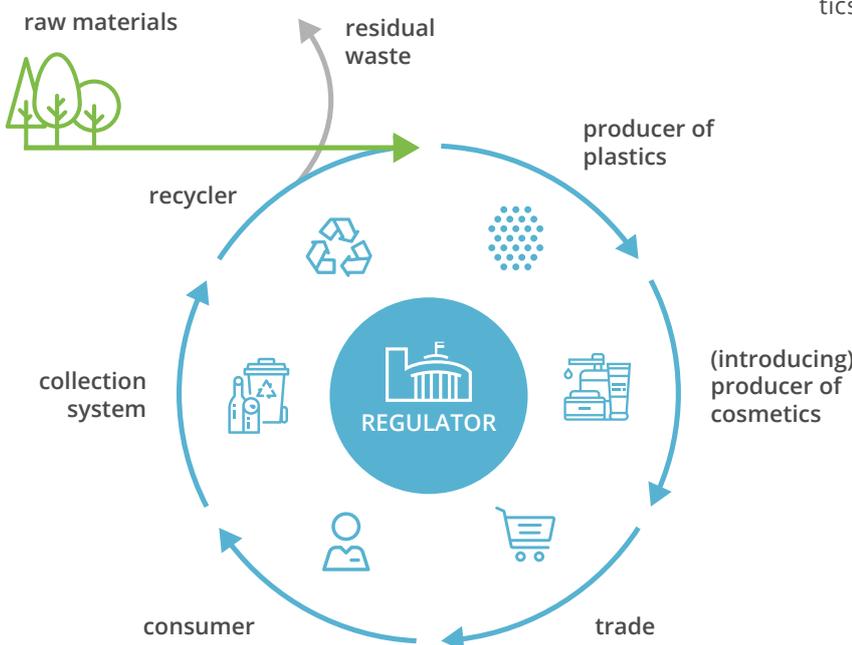
Polish entrepreneurs will be particularly affected by challenges related to the implementation of the Plastics Strategy. As the closed-loop plastics management is implemented, the **entire packaging and packaging waste management system will have to be streamlined**. A new financing regime for the entire waste management system will be necessary to enable more efficient separate collection and recycling of waste, also changing attitudes of consumers and entities that market the packaging.

Making the entire packaging sector compliant with the new circular economy model involves the reorganisation of operations of all the entities that function in the value chain. This requires commitment of all market participants and the development of new principles of cooperation and communication.

Reasons for the current linear economy of plastics are very complex. We will find them at every stage of the chain: from the production of plastics, packaging and consumer products, through the consumption of products, waste collection and recycling, to the accompanying legislation. Only joint actions can bring tangible benefits and real changes.

For many stakeholders, the new approach to plastics management is a technological challenge. For some companies, this may be a barrier to further development. For others, this may drive innovation.

This chapter presents the Union's observations and recommendations for individual participants of the plastics waste management system, gathered based on our experience since the announcement of the Plastics Strategy by the Commission.





Cosmetics producer. Design for recyclability. Education

As a result of the implementation of the Plastics Strategy, there will be significant changes in the cosmetics industry. Many companies will certainly use them as a driver of innovation and, perhaps, also as a tool of dialogue with consumers, e.g. thanks to being able to respond quickly to market and consumer needs.

More sustainable plastics management by closing the loop in the economy will need pack-

aging to be designed with a view to easier sorting of waste (especially packaging waste) and its recycling. **The development of relevant guidelines and innovations will require intensive research and close cooperation of all partners involved in the entire value chain of packaging and plastics products.** Guidelines for such solutions may include, e.g., the elimination, at the stage of packaging design, of all non-recyclable elements or simplifying their composition to one or only several materials that can be separated and processed in existing systems.

DESIGN FOR THE ENVIRONMENT

According to PKN-ISO/TR 14062:2004 ("Environmental management – Integrating environmental aspects into product design and development"), ecodesign means "integrating environmental aspects into product design and development." Therefore, ecodesign complements the main elements analysed in the standard process, including safety, functionality, ergonomics, strength parameters and costs. In practice, this means developing a new or improved version of a packaging (or product) with a lower environmental impact. There are many methods and tools to achieve this goal. Ecodesign practices may include, among others:

- use of reusable packaging,
- replacement of materials or structural forms with more environmentally friendly alternatives,
- reduction of packaging weight,
- use of homogeneous materials that are separately collected and recyclable,
- if many materials are used, ensuring they can be easily separated, with elements that are easily removable by consumers,
- use of labelling identifying materials, indicating proper waste management and determining its recyclability,
- taking into account practical and cost-effective recycling options.

When selecting one (or more) of these solutions, an **LCA** study is the first step. It enables to determine which stage of the packaging life cycle constitutes the main source of negative environmental impact. LCA is a cradle-to-grave analysis, and its results show a holistic approach to the environmental impact of a product, including production, transport and end-of-life management processes.

LCA – Life Cycle Assessment, i.e. the process of measuring the environmental impacts of a project over its entire life cycle.

There are numerous factors making a product more environmentally friendly. Reducing empty space or avoiding multi-level and multi-material packaging will already make it more sustainable. Packaging innovations should focus on the minimised consumption of raw materials, the application of alternative materials, e.g. biodegradable or recyclable ones, and the use of recycled materials. Certainly, all this must happen while meeting requirements regarding safety, quality and product protection, as well as consumer expectations regarding the functionality of packaging. An important element ensuring a balanced approach to packaging is also education of consumers, e.g. using relevant labelling and waste management instructions. It is necessary to take actions to increase the environmental awareness among consumers. The impact of packaging on the environment largely depends on their proper management after the use of cosmetic products. Ecological education is also necessary to enable informed choices and shape consumer attitudes with regards to the use of cosmetic products (including packaging).

For more information on increasing the recovery rate of packaging for perfumes and cosmetic products, read the guide of STANPA (Spanish Cosmetic, Toiletry and Perfumery Association) i ECOEMBES (Spanish recovery organisation). The Polish translation of the document is available to members of the Polish Union of the Cosmetics Industry, and has been prepared in cooperation with REKOPOL Organizacja Odzysku Opakowań S.A.

The following chapters of the Report contain numerous sources of inspiration for cosmetics producers.



Consumer. Responsible choice and sorting

Striking a balance between the expectations of consumers as to the design and functionality of packaging and their impact on the environment is an extremely difficult task. Consumers demonstrate various attitudes, but they have and always will have a huge impact on the actions taken by the industry (including in refer-

ence to packaging). Some consumers choose sustainable and ecological solutions. Others prefer usability (e.g. ease of dosage) or attractive appearance.

The challenge for the cosmetics industry is ensuring that packaging is safe to health, but also complying with environmental requirements. Structural changes, e.g. flexible packaging or with the use of recyclates, may be adversely perceived by users, being associated with low quality.

Therefore, actions to increase consumer awareness with respect to the impact of packaging on the environment (including the choice of packaging and its management after use) are so important.

As of yet, no in-depth public opinion surveys have been done in Poland on plastic packaging and preferences with respect to the environmental properties of packaging. Eurobarometer surveys²⁵, which confirm the growing interest of consumers in environmental issues in reference to plastic products, may help us here. As many as 94% of respondents believe that packaging should be easily recyclable. The same number of people believe that the industry should be able to reduce the amount of plastic packaging that is placed on the market. Other studies, done in 2017 on a group of 3,300 consumers from 16 metropolitan areas, demonstrate that 72% of consumers are able to pay more for a product if its packaging is more sustainable²⁶. This is confirmed by Nielsen's survey, involving 30,000 consumers from 60 countries. According to its results, 52% of respondents claim that ecological packaging is one of the factors affecting their purchasing decisions²⁷. More than half of them are millennials whose impact on sales in the coming years will significantly increase. Ecological trends are also gaining more supporters in Poland.

25 Special Eurobarometer 468, Attitudes of European citizens towards the environment, 2017

26 BillerudKorsnäs Consumer Panel 2017

27 Nielsen Global Survey on Corporate Social Responsibility, 2014

Cosmetic 4.0 and its packaging. In the eyes of the consumer

One of the features distinguishing Economy 4.0 from previous generations is shaping the intelligent production chains, linking suppliers, producers and recipients with consumers. In view of the emerging vision of the future economy and, above all, the transformation of customers into consumers 4.0, the cosmetics industry has no other way, but to prepare for Cosmetic 4.0.

However, the 21st century consumer does not seek a compromise. Cosmetic 4.0 is to meet all the current requirements of cosmetic recipients, similar in terms of composition, action, in line with their beliefs and tastes, and safe for both people and nature. All previous product and packaging components important to customers still remain relevant. However, the environmental aspect of packaging is among those of high importance. An average Pole is ready for environmentally friendly packaging. Experts predict that, in time, this will likely play an increasingly important role in the purchasing process. Importantly, customers do not want to give up other functions of products and packaging.

Packaging cannot be less attractive, the price higher, and the action and composition significantly different. How do we know that?

Based on the opinions of cosmetics users obtained in a study done via TestMeToo – a platform shaping consumer opinions, influencing products and producers in Poland, and awarding the Consumer Seal of Quality. Between 8 and 14 August 2019, we asked 2,504 people which components of a cosmetic product, its packaging and related regulations were important to them.

Results show that Polish consumers demonstrate a common-sense, realistic approach to plastics. Interestingly, it is in contrast to the populist catchphrases, which say that it is easy to break up with plastics. Nearly $\frac{3}{4}$ of respondents agree with the statement that it cannot be totally banned, but should be recycled and reused. More than half believe that plastic would not be a major problem if an efficient waste sorting and recycling system existed in Poland. Only one

in five respondents would completely ban plastics. This is an excellent starting point to engage consumers in the process of creating a circular economy (CE). It is also great to see that one in ten respondents sees the advantages of plastics as ensuring convenience and hygiene of the products packed.

When asked about the most important criteria followed when buying cosmetics, respondents first indicated effective action and appropriate product selection, as well as composition. These were followed by the second most important group of criteria: ecological and environmentally friendly features of cosmetics. Surprisingly, they were deemed more important than the price! As we know, Poles are extremely price-sensitive consumers. When shopping, they try following the value for money principle (depending on current offers of the brands they know, they choose a brand of a relevant category that has the best value for money ratio at a relevant time). Speaking of value-driven quality, we mean both quality characteristics of a specific cosmetic product, as well as its quantity and packaging appearance.

Recently a lot has been said about plastics in the environment. Mark the sentences you agree with

Plastics are everywhere and cannot be completely phased out, but should be recycled and reused	74%
The worst thing about plastics is that they pollute the seas and oceans	70%
If there was an efficient waste sorting and recycling system, – plastics would not be a big problem	53%
Plastics are harmful; they usually contain a number of harmful additives, such as phthalates and BPA	41%
The problem is not plastics, but the fact that they are released to the environment as waste	40%
Plastics are bad and should be totally banned	22%
Europe would like to ban plastics, but it is Asia that produces most plastic waste that is released into the environment	16%
Plastic is comfortable and hygienic	11%

How important are the following criteria for you when buying a cosmetic product?

Effectiveness	Very important 91%
Suitability for my complexion/skin/hair	Very important 86%
Composition	Very important 75%
Natural/ecological characteristics	Very important 69%
Environmentally friendly packaging	Very important 61%
Price	Very important 42%
Familiarity with the product	Very important 35%
Producer	Very important 32%
Packaging appearance	Very important 20%

Therefore, we can almost certainly determine that “packaging appearance” or “familiarity with the product” still play important roles in the actual purchasing process.

Cosmetic users were also asked which features of product packaging were most important for them. They consistently first referred to the information on the properties and composition of the cosmetic product. As with the above-mentioned study, the second most frequent responses were those determining environmentally friendly qualities, biodegradability and possible reuse of the packaging. Safety of packed cosmetics was also very high on the list. These declarations are also confirmed in responses to the question: “When buying cosmetics, do you pay attention to the fact that the packaging is environmentally friendly?” Only 2% of respondents declared they never did while 6% admitted that they did it rarely. Again, the least frequent responses referred to packaging appearance, although everyone knows its role in product sales cannot be overestimated.

In the last group of questions, we checked how much, according to Poles, the responsibility for what happens with the marketed plastic packaging should be distributed and what can be really done about this today. Packaging and goods producers, consumers and representatives of the government were among the groups that should participate the most in this process. It is noteworthy that Poles declare their readiness to participate in the costs of plastics management. 43% of respondents said that higher fees and penalties should be paid by people who fail to sort waste, while 44% agreed that the recycling system should also be paid for by those who buy and use products in plastic packaging.

Poles, like Europeans, also agree with the most important actions specified in the Plastics Strategy. In the survey, we asked a question similar to the one asked in the survey done by

Eurobarometer in 2017. Our respondents see the need for governmental and local regulations, and for producers - a new way of thinking about packaging. However, they are also aware of their own responsibilities: they would like to learn more about recycling and are willing to pay more for products in packaging that is difficult to recycle (nearly half of the respondents!).

Results of the survey done by TestMeToo on behalf of the Union have proven that the voice of consumers will sound louder in the discourse related to the production of cosmetics packaging in Poland. We have confirmed that Polish consumers expect real changes today, even before necessary legal regulations are introduced in Europe.

How important are the following packaging features to you?

It contains information on properties/composition of the cosmetic	Very important 78%
It is ecological/biodegradable	Very important 68%
It ensures that the cosmetic is protected and does not dry out too quickly /lose its qualities, etc.	Very important 66%
It is reusable	Very important 65%
It is elegant and communicates high quality of the product	Very important 24%
It has nice appearance and appealing graphic design	Very important 23%

When buying cosmetics, do you pay attention to the fact that the packaging is environmentally friendly?

Yes, often	38%
Yes, always	31%
Sometimes	21%
Rarely	6%
Never	2%

How important do you think each of the following actions is for reduction of the amount of plastic waste and littering?

Local authorities should ensure facilities (possibilities) enabling plastic collection to recycle better and more	Very important 83%
Products should be designed to facilitate plastic recycling	Very important 81%
People should be educated on how to reduce the amount of plastic waste	Very important 81%
The industry and retailers should take efforts to reduce the number of plastic packaging	Very important 79%
Consumers should pay more for products in packaging that is difficult to recycle	Very important 49%

The role of consumers is crucial in the life cycle of a cosmetic product and its packaging. It is the consumer who makes the choice and determines the further fate of the packaging, and, as such, to a large extent determines its actual impact on the environment. Without the right amount of knowledge and ingrained behaviours at this stage of the value chain, actions taken by other stakeholders might be pointless. Regulations should be followed by educating consumers and disseminating information on plastic usage practices. They must have the knowledge enabling them to appropriately manage various types of packaging, including the ones referred to as sustainable packaging. Furthermore, consumers should be prepared for the fact that sustainable packaging may sometimes be less convenient, sometimes less appealing and sometimes increase the product price. Only clear long-term consumer education, carried out by other partners in the value chain (producers, recyclers, recovery organisations the regulator) can bring expected results.



Recycler, recovery organisation. Efficient sorting and recycling. Education

As detailed knowledge on actual recycling possibilities for certain types of plastics and packaging in Poland is not common in the cosmetics industry, an active dialogue with recyclers and recovery organisations who have the knowledge is necessary. They are entities that directly perform waste management tasks. Their feedback will certainly make it easier for cosmetics producers to achieve the Plastics Strategy objectives.

Despite current and planned efforts to improve packaging design and minimise the amount of plastic waste, it is expected that some of them will be difficult to recycle. For these types of packaging, it may be necessary to develop specific sorting and recycling technologies, e.g. based on solutions applied in other countries. The implementation of a practical plastics recycling and reuse system is the key to reducing the consumption of fossil raw materials for the production of these materials. However, the popularisation of recycling is insufficient

Today, only 27% of companies in the cosmetics industry educate consumers on proper waste management.

to achieve the appropriate rate of reduction in demand for crude oil and gas. Producing plastics from renewable raw materials might be a solution. The use of alternative raw materials requires the development and implementation of innovative methods, paying particular attention to the potential of their further recycling in the current and future system. The imperfect nature of currently used materials and their collection, sorting and management technologies result in plastic recyclates often being used to produce materials of lower quality, which are sometimes not further recycled. The key aspect here is strong cooperation of producers of packaging and consumer products with recyclers.

The implementation of the new approach to plastics issues is to be supported by actions aiming at achieving waste recycling objectives set by the European Commission. They pose a huge challenge, particularly for the Polish economy.



Packaging producer. Sustainable and alternative packaging

The future packaging market will be shaped by packaging producers and their offer of sustainable plastic solutions. Packaging producers will play an important role in achieving the Plastics Strategy objectives by the cosmetics industry. Almost all objectives can be included in a single packaging for a cosmetic product, i.e. recyclability or reusability, reduction of plastics use, and use of recyclates. However, we must not forget that we still must maintain strict packaging safety requirements.



Sustainable plastic packaging: how to get started?

The implementation of circular economy solutions may seem like a major challenge. However, the market overview presented on the following pages shows that this is not necessarily the case. Cosmetic companies are already proving that sustainable solutions are not only a challenge, but also a source of innovation and a tool for creating a dialogue with consumers in a changing world. A precondition for innovation, also with respect to sustainable plastics management, is a deep understanding of consumer needs and the organisation's objectives, together with the possible ways they can be implemented on the local market.

How can a company get started with sustainable plastic packaging? Certainly potentially simple changes in plastics management involve a number of multi-aspect actions that producers are already taking or will take. Many of them create both opportunities and challenges for the industry, expressed by many representatives of the industry, which is demonstrated further.

The main area of plastics use in the cosmetics industry is packaging. Here, the unit packaging that reaches consumers has the biggest impact on the environment. Therefore, one of the key areas of action for the cosmetics industry towards sustainable use of plastics is ecodesign packaging. Ecodesign ensures that the negative impact on the environment is minimised. Thus, it should aim to ensure the recovery of materials from unit cosmetic packaging. A well-designed packaging can be reused in a closed loop or converted into another product.

The actions should be planned and take into consideration local selective waste collection and recycling systems. Therefore, it is worth acting in consultation with various partners in the supply chain. A local recovery organisation, with which a company has signed a contract to perform relevant obligations, and recyclers, who have the knowledge of which type of packaging is suitable for recycling and which is not, may be particularly important here. An increasing number of companies on the market also specialise in ecodesign packaging consulting. This results from a growing awareness among entrepreneurs of the challenges resulting from the Plastic Strategy.

We have asked several members of the Polish Union of the Cosmetics Industry how they got started with ecodesign and sustainable plastic packaging. Some of these companies had already implemented such solutions many years ago, long before the Plastics Strategy was announced, when plastic waste had not yet become a global problem. The following tutorials describe a few examples of good practices to use or get inspired by and look for own solutions.

More examples are included in the Good Practice Guide of the cosmetics industry, available soon at www.kosmetyczny.pl/pl/ksiega-dobrych-praktyk.html.

How does YOPE do it?

YOPE's idea focuses on natural cosmetics and ecological cleaning products that are safe for people and the environment. Early in our activity, **we have introduced the refill packaging option** with respect to our first products: bathroom soaps. Furthermore, all our cleaning products are Ecolabel certified, confirming their lowest possible impact on the environment. Currently, we use R-PET bottles, bio-PET packaging, bio-PE labels and more increasingly available refill options (including for glass bottles). We are also working on other ecological and environmentally friendly solutions. They are available on international markets, but it is sometimes difficult to find partners for such non-standard activities in Poland.

Karolina Kuklińska-Kosowicz, YOPE Sp. z o.o.

How does PHENOMÉ do it?

Our ecophilosophy, in which the Phenomé brand of natural and organic cosmetics is rooted, follows the principle: “maximum positive effect on the skin, minimum impact on the environment.” As far as packaging is concerned, this reasoning is illustrated by the two very specific indicators:

1. **Quantity indicator:** the rate of the quantity of raw materials used for packaging to the capacity of the cosmetic product should be as low as possible.
2. **Quality indicator:** the ecological characteristics (neutrality, recyclability) of the raw materials used for the packaging.

Phenomé’s packaging is as small as possible. They do not contain insets increasing their size, double bottoms or decorative elements. The quality indicator has translated into the use of glass packaging, but also plastic packaging (e.g. PET bottles) that is made from 100% PCR (post-consumer recycled) plastics. For external packaging, we use cardboard boxes made from 80% recycled paper.

Aleksander Drzewiecki, Phenomé, Natural Element Sp. z o.o.

How does ZIAJA do it?

At Ziaja, we have always followed the principle “less is more,” creating the brand’s balanced image and focusing on minimalist solutions. **We eliminate additional packaging;** today, our customers can choose from many creams (including the olive cream) available without cardboard boxes. We contribute to reducing the impact of waste on the environment by minimising the packaging weight, reducing the number of multi-material packaging, and using capacities that ensure longer period of use of our cosmetics.

Bartosz Ziaja, Ziaja Ltd. Zakład Produkcji Leków Sp. z o.o.

How does L’ORÉAL do it?

Sustainable development has been an integral part of the way we do business for many years now. By 1995, the L’Oréal Group had established an environmental research lab, whereas in 2013 **L’Oréal recognised sustainable development as one of the key pillars of the Group’s business strategy**, by introducing its Sharing Beauty with All programme. Since then, we have consistently pursued our ambitious goals, to be achieved by 2020, as part of our sustainability commitments, monitoring progress at the top management level. In order to implement this strategy and sustain our desire for continuous improvement, we have set even more ambitious goals for the coming years. Personally, I think it is extremely important that we have committed to have 100% of our packaging be reusable, refillable, recyclable or compostable by 2025.

Niels Juhl, L’Oréal Poland and Baltic States



How does CLOCHEE do it?

We have been focusing on ecological solutions in every aspect of our cosmetics production from the very beginning, offering natural ingredients, but also using the right packaging. We have decided that smaller creams [15-50 ml] would be put in glass bottles, whereas bigger products [from 100 ml], which should not be too heavy for transport purposes, in ecological plastic packaging. This is also why we have come up with the idea of recycled bottles [we use 100% PCR plastics suitable for recycling, and jars with d2w, i.e. an oxo-biodegradable plastic additive, both ensuring faster degradation [several years] in composting conditions.

We have also phased out double packaging for products: we do not use cardboard boxes or wrapping film. Customers receive Clochee directly in glass packaging. In order to implement ecological solutions throughout the entire production and logistics cycle, we have decided to use corn starch packing peanuts, rejecting any bubble foil or other plastics. We have started with ourselves, but we also educate our customers. We have launched the Little Steps Count [#littlestepscount] campaign to make customers aware that even the smallest eco-friendly step and gesture is important for our planet and our environment.

Daria Prochenka, CLOCHEE Sp. z o.o.

How does NATURATIV do it?

Since my very beginning in the field of cosmetics production (since 2007), I have been delving deeper and deeper into the issue of “better” and “worse” plastics. There were limited sources of information at the time, but the British company MH Plastics helped me understand plastics and their recyclability. Because we started with large-volume products (high-capacity body care cosmetics), glass was not an option. That is why we have decided to use HDPE. Packaging made from HDPE is 100% recyclable, can be recycled up to 10 times, and their collection systems are efficient. Today, we place almost 100% of our cosmetics in HDPE or glass packaging.

Magda Hajduk, NATURATIV Sp. z o.o.

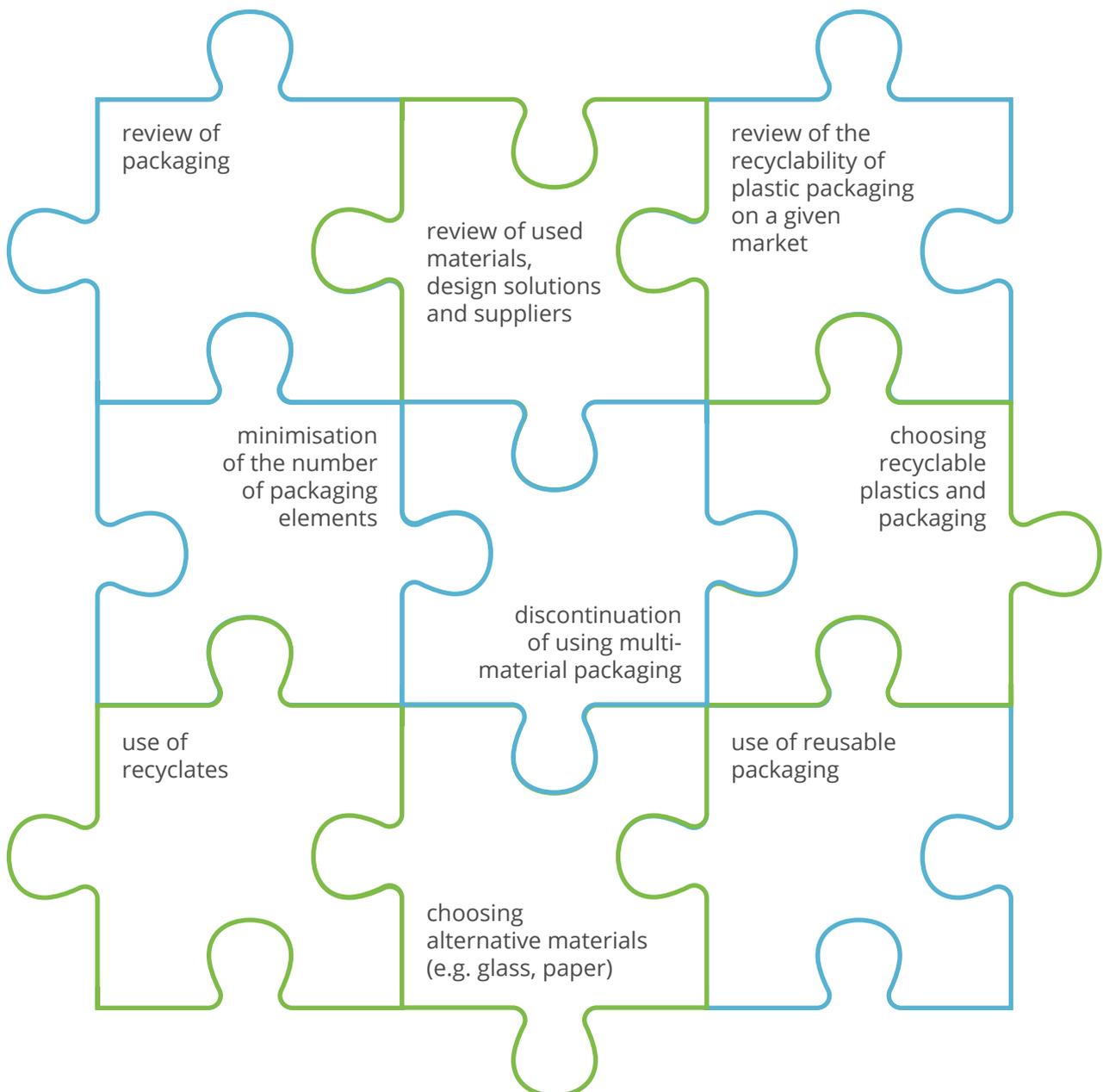
How does INGLOT do it?

From the very beginning of our brand's existence, we have been trying to choose environmentally friendly solutions. The first step towards eco-friendly solutions was the pioneering Freedom System. We have offered our customers the possibility to choose their favourite cosmetics in a customised configuration in multi-purpose cases. This results in the freedom to create a personalised product and minimise the use of plastics. To keep up the momentum, we have created a limited edition: a Freedom System product, giving the proceeds from its sale to Project AWARE, an organisation working to protect underwater environments.

Grzegorz Inglot, INGLOT Sp. z o.o.

Ecodesign of plastic packaging: how to get started?

POSSIBLE ACTIONS



Reduced use of plastics in packaging (elimination of unnecessary packaging, reduction of packaging weight, etc.)

OPPORTUNITIES

- + Reducing the degree of utilisation of natural resources
- + Ensuring positive perception by informed consumers

CHALLENGES

- ! Developing packaging with performance comparable for consumers (e.g. higher degree of flexibility = less convenient use of the product)
- ! Developing solutions acceptable to consumers

Discontinued use of multi-material packaging

OPPORTUNITIES

- + Increasing the recycling rate of plastic packaging waste
- + Ensuring positive perception by informed consumers
- + Ensuring an increased innovation in packaging

CHALLENGES

- ! Developing solutions acceptable to consumers
- ! Maintaining the innovative character of packaging
- ! Delivering similar/acceptable properties and safety of the product

Choosing only recyclable plastic packaging

OPPORTUNITIES

- + Increasing the packaging recycling rate and reducing greenhouse gas emissions
- + Reducing the environmental pollution rate with plastic packaging waste
- + Ensuring an increased innovation in packaging

CHALLENGES

- ! Maintaining the innovative character of packaging
- ! Preserving similar (acceptable) functionality/performance

Choosing packaging made (partly) from recyclates

OPPORTUNITIES

- + Reducing the degree of utilisation of natural resources
- + Potentially reducing greenhouse gas emission

CHALLENGES

- ! Maintaining product and packaging safety
- ! Maintaining high-quality packaging
- ! Ensuring the possibility of packaging assessment in terms of safety and quality (e.g. contamination assessment)

Replacing plastics with other materials (glass, metal, paper, etc.)

OPPORTUNITIES

- + Ensuring positive perception by informed consumers
- + Reducing the environmental pollution rate with plastic packaging waste

CHALLENGES

- ! Developing solutions acceptable to consumers (increasing packaging weight with respect to glass packaging; preserving the attractiveness of plastic packaging)
- ! Developing solutions with the same high safety level of product usage
- ! Maintaining acceptable packaging price
- ! Preventing the negative impact of the change on the environment (e.g. costs of recycling and transport of glass)

Introducing reusable packaging (e.g. refill packaging)

OPPORTUNITIES

- + Reducing the degree of utilisation of natural resources
- + Reducing the environmental pollution rate with plastic packaging waste
- + Producing less packaging waste
- + Ensuring positive perception by informed consumers

CHALLENGES

- ! Maintaining user-friendliness properties
- ! Maintaining product safety, in particular microbiological safety
- ! Finding replacements for all product categories



The chief objective of the Plastics Strategy is to close the plastics cycle, including an increasingly effective recycling. However, this is not the only way towards achieving more sustainable plastics and packaging. Another important aspect is the use of alternative materials, including glass and bioplastics.

Even though the extent of their applications is still small, bioplastics are considered very promising materials. More and more companies are introducing them into their portfolios, and many research institutions are doing research on improving their properties. Bioplastics are a diverse group of materials with different origins and properties. However, their use gives rise to many controversies, including those concerning their impact on the environment. It is important that they must be sustainable and responsible, and take into consideration local conditions, including the availability of renewable materials in a given area, recycling and composting possibilities, etc.

Bioplastics used in the cosmetics industry are usually standard polymers, e.g. bio-PET, but obtained from renewable sources. At the current stage of technological development, other bioplastics (e.g. biodegradable and compostable ones) cannot be used due to the long storage time and shelf life of cosmetic products. It is much easier to use such materials for food packaging: storage times are shorter, and the packaging could withstand contact with the products, especially the water within it.

BIOPLASTICS

Bioplastics are a diverse group of materials with different origins, properties and disposal options after use. Bioplastics can be obtained on an industrial scale from both renewable and petrochemical raw materials. They can be divided into three groups according to their origin and biodegradability:

- plastics from renewable but non-biodegradable raw materials, e.g. polyamide (PA), polyethylene terephthalate (PET);
- bioplastics from biodegradable renewable raw materials (biodegradable polymers), e.g. polylactide (plastic based on lactic acid (PLA), poly-glycolic acid (PGA) or modified starch);
- non-renewable but biodegradable plastics, e.g. poly(1,4-butylene adipate-co-terephthalate (PBAT) or polycaprolactone (PCL).

Bioplastics raise controversy. Firstly, in the case of renewable raw materials, for many sectors they mean the misuse of agricultural products (the direct use of raw food materials or utilisation of soil and water that could be used to produce food). Secondly, biodegradable materials are often characterised by lower resistance to humidity, high temperature or mechanical damage, factors of particular importance for the cosmetics industry. Thirdly, the Polish market is not yet ready for bioplastics: the selective collection system is not yet adapted, and there are few recycling plants that would accept them. Due to various origins, they are also not accepted by composting plants. Moreover, in this case, we are not closing the plastic cycle within the economy, but removing it from circulation. Finally, the production of bioplastics from materials obtained in the farthest corners of the world (e.g. production of sugar cane packaging in Poland) may potentially have a more negative impact on the environment (transport) than the use of conventional plastics.



Sustainable plastic packaging: who can inspire us?

Good practices with respect to sustainable plastic packaging are followed by foreign, as well as Polish companies. These activities can be an inspiration for those who are just beginning.

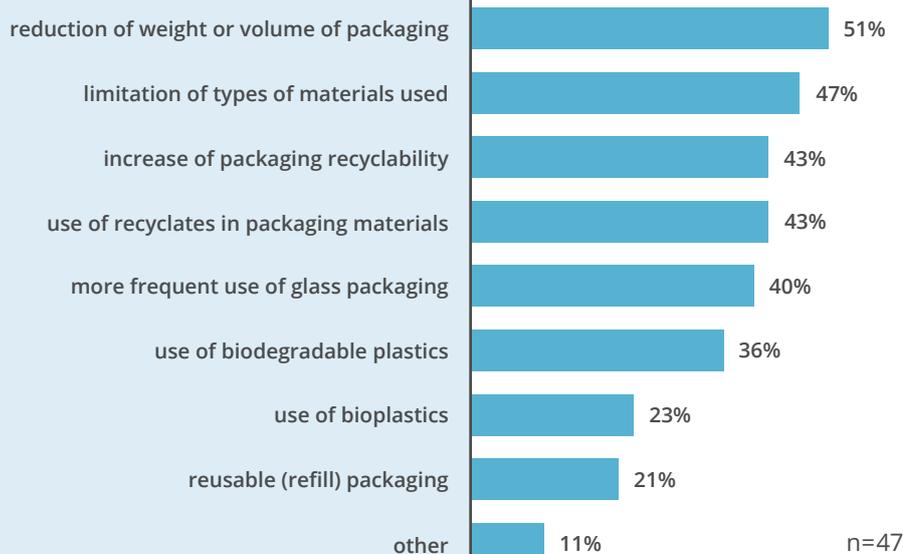
As part of the survey done for the purposes of this study, cosmetic companies in Poland were asked about their approach to the challenges related to plastics. Responses were received from 49 companies (96% of which belong to the Polish Union of the Cosmetics Industry), whose distribution is similar to the structure of the entire cosmetics industry in Poland²⁸. Despite the fact that this is only the beginning of the packaging revolution, 90% of surveyed companies are aware of the Plastics Strategy. 63% say they have already considered or started to consider the environmental impact of packaging when designing or ordering packaging from suppliers.

The most frequently taken actions with respect to ecodesign include:

- reducing the weight or volume of packaging,
- limiting the types of materials used,
- increasing packaging recyclability and using recyclates in packaging materials,
- increasing the use of packaging made from easily recyclable raw materials.

Other actions identified by the companies as good practices include discontinuing external packaging, replacing plastic packaging with glass, and introducing bioplastics, PET and PP into packaging production. The use of recycled materials can involve using PCR (post-consumer recycled) plastics or reusing post-production plastic waste in order to reduce the amount of waste sent to recycling companies.

Chart 6. Which ecodesign solutions in packaging does your company use?



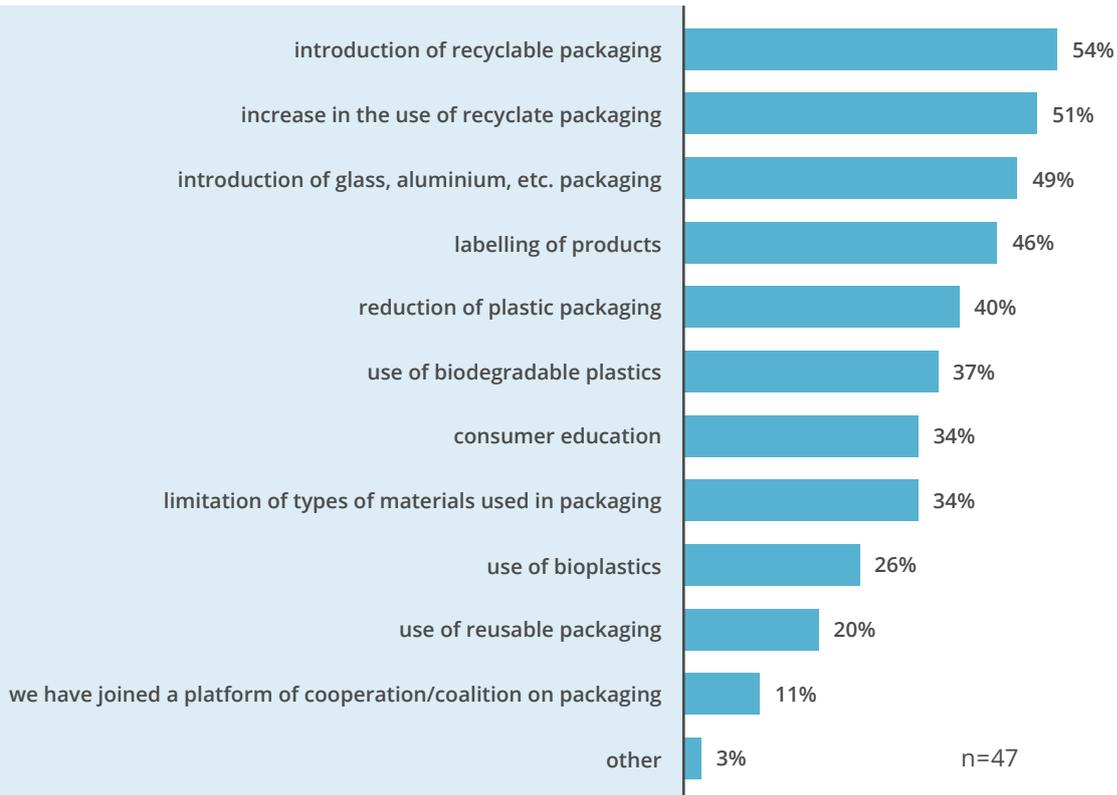
28 20% – micro-enterprises, 10% – small enterprises, 37% – medium-sized enterprises, 33% – large enterprises



As part of the survey, the companies were also asked about their activities and specific objectives in the context of the plastics regulation. 71% of the companies declared that

they have taken on voluntary commitments or introduced self-regulation with respect to packaging, or are planning to do so in the future.

Chart 7. Which voluntary commitments with respect to packaging have you taken on or are planning to take on in the future?



Companies that have taken on or are planning to take on voluntary commitments or introduce self-regulation with respect to packaging in the future have most frequently indicated objectives related to the introduction of recyclable packaging, use of recyclate packaging, introduction of alternative packaging (glass, aluminium, etc.), and appropriate labelling of products/packaging.

We have asked several members of the Union who have already implemented a number of actions with respect to sustainable plastic packaging for recommendations for those companies that are just beginning.

Examples of actions and good practices shown in this section and further in the document could be an inspiration for other companies in the cosmetics industry, in the wake of the implementation of the Plastics Strategy.

CLOCHEE

We encourage other companies, not just those in the beauty sector, to stop using double packaging and replace standard plastic packaging with ecological ones. Today, the use of such green solutions is still a bit expensive, but this is how we can help the planet. **If the demand for ecological packaging increases, production costs will drop and the packaging sector will be driven to look for new, ecological solutions.** We also recommend purchasing from local distributors or producers in order to reduce the delivery route and carbon footprint as much as possible.

In the long term, changes towards ecology are only for the better. Companies that are afraid of drastic changes may start with small steps. The most important thing is that they notice the problem.

Daria Prochenka, CLOCHEE Sp. z o.o.

PHENOMÉ

It is worth picking a solution that will not only comply with stricter legal standards, but will also **combine the idea of the neutral impact on the environment (circular economy) with the personality of an individual brand and values it offers to consumers.** Consumers' commitment to the mission of ecological responsibility of a cosmetic brand may increase loyalty and brand recognition. This way, costs of introducing ecological packaging will also become a marketing investment.

Aleksander Drzewiecki, Phenomé, Natural Element Sp. z o.o.

YOPE

The eco-packaging market is one huge experiment. Some packaging producers treat green materials as a good marketing trick, not offering specific solutions for cosmetic companies like us. **If the cosmetics industry starts to put pressure on producers and more frequently use environmentally friendly solutions, they will become more accessible, custom-made and, thus, less expensive and more affordable.**

Paweł Kosowicz, YOPE Sp. z o.o.



L'ORÉAL

Based on our experience, I can recommend that other companies make sustainable development an important part of their strategy and manage it at all levels of their organisation. Next, they should focus on dialogue with partners in order to generate economies of scale and develop new environmental solutions, taking advantage of synergies and exchange of know-how. As far as plastics are concerned, we must not forget about advertising activities, including the ecodesign of point-of-sale materials and, in general, raising the environmental awareness among our consumers.

Niels Juhl, L'Oréal Poland and Baltic States

NATURATIV

We should pay attention not only to the usefulness of packaging to be processed (and this is the kind of knowledge that needs going into), but also to excessive (multi-layer, multi-material, oversized) packaging. I am particularly irritated by how cosmetic products bought by e-commerce are packed. Wrapping the products in several layers of film and additionally wrapping the final box in yet another film! For many years, we have been sending out parcels (cardboard boxes) covered only with easily removable tape, with only cosmetics and some paper inside. We had no complaints.

Magda Hajduk, NATURATIV Sp. z o.o.

INGLOT

We understand that the environment in which we live has a huge impact on our present and future. We believe that all actions taken to protect it are important, and we are convinced that even small steps are important.

Grzegorz Inglot, INGLOT Sp. z o.o.

ZIAJA

The development of sustainable, ecological packaging is possible thanks to the **close cooperation with packaging producers**. We test our solutions with the idea of safe cosmetics in mind, and learn from one another. We are working on 100% recyclable packaging made from renewable raw materials. This way, Ziaja aims to achieve the objective related to circular economy.

Bartosz Ziaja, Ziaja Ltd Zakład Produkcji Leków sp. z o.o.



Sustainable plastic packaging

The cosmetics industry Book of Good Practice

Today, innovative companies are an example of how the transition towards a circular economy does not only benefit the environment, but can also result in developing profitable business models. In this part of the report, we present examples of companies (producers of cosmetics, packaging and packaging materials) that have successfully introduced packaging solutions typical for a circular economy into their business. The case studies include large corporations as well as medium, small and micro enterprises. They show a wide range of packaging innovations, illustrating a wide range of possibilities for introducing circular economy solutions. The following Good Practice Guide is open and will be successively supplemented, as the cosmetics industry grows, prepares and gains experience in the wake of the implementation of the Plastics Strategy.

Solutions with respect to sustainable plastic packaging can be divided into three main categories: partnerships, process/product innovations, and customer commitment.



PARTNERSHIPS

Agreements with other market participants enable companies to use synergies resulting from their mutual strengths and opportunities.

Partnerships based on the circular economy idea and with respect to sustainable packaging facilitate exchange of knowledge and experience otherwise not available to certain market participants. This helps achieve sustainable objectives and promote best practices in the cosmetics industry in this respect. Cooperation with other partners in the value chain helps optimise processes, use resources better, and reduce the quantity and impact of waste on the environment. Partnerships act as mines of further ideas. Experience shows that partnership-building projects bring benefits that individual enterprises would otherwise not be able to achieve individually.

Examples of partnerships in which organisations from the cosmetics industry are involved:

Circular Plastics Alliance

Circular Plastics Alliance brings together public and private organisations active in the plastics sector, and aims to promote voluntary actions and commitments to source recycled plastics. In September 2019, they are planning to officially announce their key declaration, a response to the Commission's call presented in the Plastics Strategy. Its primary point is to ensure that at least 10,000,000 tonnes of recycled plastics will be used in the production of new products in 2025. The declaration has already been signed by the most important European organisations in the entire value chain, including Cosmetics Europe, of which the Polish Union is a member.

https://ec.europa.eu/growth/industry/policy/circular-plastics-alliance_en



SPICE – The Sustainable Packaging Initiative for CosmEtics

This is a joint initiative of the L'Oréal Group and Quantis, a sustainable development consulting company, in order to advance solutions for sustainable packaging. Today, SPICE includes several companies and organisations from the cosmetics industry that develop and publish data, methods and solutions to support the development of sustainable and ecological packaging.

The organisation focuses on three main areas:

- Development of guidelines and policies related to sustainable packaging for the cosmetics industry,
- Introduction of innovative solutions based on objective ecodesign criteria,
- Development of communication with consumers, ensuring greater transparency of information on the environmental impact of products.

www.open-spice.com

New Plastics Economy

New Plastics Economy is an initiative of the Ellen MacArthur Foundation that aims to and promotes the creation of a plastics management system in compliance with the principles of a circular economy. This was the first global initiative implementing the objectives of the Plastics Strategy. Its signatories are to rethink and redesign the future of plastics, starting with packaging.

The initiative brings together more than 400 stakeholders. It is run by the Ellen MacArthur Foundation in cooperation with a wide group of leading companies, cities, philanthropists, governments, scientists, students, NGOs and citizens.

<https://www.newplasticseconomy.org>

Bioplastic Feedstock Alliance

This programme aims to support the responsible use of raw materials from renewable sources in the production of plastics (bio-based plastics). It gathers scientists, NGO leaders and partners from the consumer product industries (including the cosmetics industry). Together, they aim to support the responsible choice of raw materials used in the production of bioplastics and encourage a more sustainable flow of materials within the supply chain.

<https://bioplasticfeedstockalliance.org>

Alliance To End Plastics Waste

The purpose of the initiative is to contribute to the elimination of plastic waste from the environment. The organisation aims to develop solutions supporting the closed packaging cycle by promoting the reuse of plastics, minimising the amount of plastics waste, and ensuring their proper management. They take actions involving infrastructure, innovation, education and elimination of existing plastic contaminants. Members of the initiative (global plastics and consumer product companies with links to the packaging industry, including selected members of Cosmetics Europe) have pledged the financial support for the initiative amounting to USD 1.5 billion over the next 5 years.

www.endplasticwaste.org

Koalicja 5 Frakcji (5 Faction Coalition) ---

Koalicja 5 Frakcji is an initiative created as part of the “Kampania 17 celów” campaign. Koalicja 5 Frakcji is the first in Poland to develop a uniform and transparent system of pictograms for packaging that let consumers know how to manage waste. It is adapted to the new legislation on the sorting of waste into 5 fractions.

Producers of packaging and packed products can use the pictograms created by the initiative on their packaging, whereas local governments and companies – on waste containers. All stakeholders involved in the recycling and recovery of packaging, and in environmental education can join the initiative’s joint educational projects, promoting labelling and proper waste sorting.

Polski Pakt na rzecz zrównoważonego wykorzystywania tworzyw sztucznych (Polish Pact for the sustainable use of plastics) ---

This is one of the initiatives created as part of the “Kampania 17 celów” campaign. The pact was formed by a group of companies placing products packed in plastics on the market, companies associated with the value chain – leaders of their industries, and industry and non-governmental organisations.

Signatories of the pact are to develop a **Roadmap** with proposals for solutions to move towards a more sustainable use of plastics in Poland, and then to promote the solutions. They will also disseminate examples of good practices of companies, so that they become part of everyday business practice in as many companies in Poland as possible.

Centrum Zrównoważonych Opakowań (Sustainable Packaging Centre) ---

Centrum Zrównoważonych Opakowań is a centre that brings together knowledge and innovation in the field of sustainable packaging. This is the third packaging initiative created as part of the “Kampania 17 celów” campaign. The key objective of the centre is to bring together all up-to-date and verified information on sustainable packaging: from types and methods of recycling, to issues concerning new legislation at national and European level (both planned and those already in force). The knowledge will be translated into business practice and specific guidelines for the industry. The second objective of the centre will be to provide practical support to companies in their search for new, more environmentally friendly packaging.

Działaj z imPETem (Act with imPET) ---

The “Działaj z imPETem!” campaign aims to educate the public on how to manage valuable material, such as PET bottles. The project involves various educational activities through which it draws attention of residents to the right sorting of packaging waste and its recycling.

The “Działaj z imPETem!” campaign is an initiative of leading FMCG producers who place water and beverages in PET bottles on the Polish market. It is implemented by Rekopol Organizacja Odzysku Opakowań S.A. in cooperation with municipal waste management companies. This is the first undertaking of this kind in Poland.



PROCESS/PRODUCT INNOVATIONS

This group of innovations includes activities and operations that are directly applicable to the product portfolio of a company. They become the hallmark of a company, creating unique features and functionalities that make products greener and more sustainable, and ensure less waste is generated. Ecodesign, which involves simplifying the structure, minimising the packaging weight and increasing the recyclability of packaging, is the key solution in product innovations that are related to packaging. There are also solutions that extend the product/packaging life or raise consumer awareness. Such innovations also include products and packaging developed in accordance with LCA guidelines or other life cycle assessment methods, e.g. Environmental-, Carbon- and Water-Footprinting.

The use of sustainable solutions directly in consumer products supports, in the most direct way, the implementation of a circular economy, and is most recognisable to consumers.



PRODUCENCI KOSMETYKÓW

L'ORÉAL

L'Oréal - Sharing Beauty with All

For more than 10 years, L'Oréal has been pursuing an ambitious strategy for sustainable development, including the use of plastics. Environmental life cycle studies have shown that an average of 50% of a product's environmental footprint is related to its packaging.

As part of the sustainable development strategy: Sharing Beauty with All, L'Oréal is committed to improving the ecological and social profile of 100% of its products by 2020. In 2018, 79% of new or refurbished products had an improved social or environmental profile. In the case of 58% of new or refurbished products, the improvement results from the packaging that has a lower environmental impact.

Since 2007, L'Oréal has been committed to a three-pillar packaging optimisation policy:

1. Respect consumer health and safety, and biodiversity:
 - for example: 100% of packaging materials that are in direct contact with the formula comply with food quality standards,
 - zero PVC: 100% of PVC has been eliminated from our product packaging.
2. Reduce the weight and size of your packaging or phase them out and promote reload or refill systems, as well as multiple doses to replace single doses.
3. Replace certain plastics with materials that have less impact by:
 - promoting a circular economy, using post-consumer recycled materials (PCR) and encouraging consumers to recycle,
 - using renewable materials, such as bio-based plastics.

All the commitments have helped avoid the consumption of 8,705 tonnes of original materials in 2018, a 19% increase in comparison with 2017. This progress is mainly owed to the efforts to integrate recycled materials with the plastic component of packaging (+38% compared to 2017).

In order to achieve this strategy and maintain its commitment to continuous improvement, L'Oréal has set itself the following objectives for the coming years:

- Upstream for materials purchased by L'Oréal: by 2025, 50% of the plastics used in our packaging will be recycled or bio-based.
- Downstream for the end of the packaging life: by 2025, 100% of our plastic packaging will be refillable, rechargeable, recyclable or compostable. These measures will significantly reduce the use of fossil fuel energy and contribute to the development of a circular economy.

To this end, L'Oréal works in a partner ecosystem to benefit from the best technologies:

- For example, L'Oréal is a co-founder of a consortium with Carbios to encourage the industrialisation of the enzymatic biorecycling technology.
- L'Oréal has signed a partnership agreement with LOOP® to produce PET that complies with food quality standards, using recycling by chemical depolymerisation.
- L'Oréal has signed a partnership agreement with PURECYCLE to produce processed PP that complies with food quality standards.
- L'Oréal is a key member of the "New Plastics Economy" run by the Ellen MacArthur Foundation. The Group is actively involved in the work related to the use of plastics, and is a signatory of the global commitment issued as part of this initiative.
- L'Oréal is a co-founder of the Quantis the SPICE (Sustainable Packaging Initiative for CosmEtics) initiative, aimed at adapting market participants to a common and robust methodology for the ecological footprint of cosmetic packaging.



"We care"

Sustainable development and responsible business conduct are of high importance in Beiersdorf. The company pursues the sustainable development strategy: "We care." In the field of packaging, the company takes specific actions in accordance with the four principles of sustainability: avoid, reduce, reuse and recycle. The company's principal objective is to protect resources by reducing packaging and developing more sustainable alternatives.

Beiersdorf aims to produce 100% recyclable, compostable and reusable packaging by 2025. It plans to increase the share of recycled materials in plastic packaging to 25% in Europe. The new objectives are among the first definite initiatives that will be implemented as part of the company's C.A.R.E.+ strategy.

Beiersdorf participates in Rezyklat-Forum, a recycling forum in Germany where it works on sustainable solutions for plastic packaging. It also supports the Loop initiative, which aims to prevent the generation of disposable packaging and provide consumers with convenient and environmentally friendly alternatives in the form of long-life and refillable packaging and the continuous supply chain.



Clochee: a pioneer in eco-friendly packaging

Clochee is a Polish brand of natural cosmetics that ensures the product packaging is not only appealing, but also green. It is made from recycled materials and can be recycled further. It includes mainly glass containers or containers made from environmentally and health-safe plastic: special PCR plastic that is reusable after recycling. It also uses degradable plastic with the d2w additive. Therefore, packaging decomposes up to even a hundred times faster than conventional plastics. This process occurs while oxygen is present, and is initiated by water, temperature and light. Clochee has also prepared a research report “Man under protection” that examines, among others, the importance of the green properties of packaging when choosing natural cosmetics, and contains recommendations for consumers regarding the choice of packaging.



By using consistent solutions that are environmentally friendly, Ziaja is heading towards a circular economy. The trademark of the company is minimalism – both in terms of visual identification and its approach to packaging. Wherever possible, the company avoids additional packaging. At the stage of design, Ziaja follows the sustainability principle with respect to raw materials used in production. The company selects packaging that has the lowest environmental impact, including 100% recyclable materials like PE and PP. Taking care of the environment, Ziaja offers its customers products in larger, economical and family packs, reducing the frequency of purchases of cosmetics in smaller packaging. The company simplifies and modifies obsolete packaging structures, making them more environmentally friendly and ensuring they encourage waste sorting. Ziaja focuses on development: it tests new, safe and ecological raw materials. It learns and tests new technologies in practice, and verifies the legitimacy of their green choices by actively participating in training courses and conferences.



Packaging made from recycled raw materials

Phenomé follows the principle: “only as much packaging as is strictly necessary.” In practice, this means packaging that is as simple as possible that does not contain any additional inserts, double bottoms or decorative elements.

The company strives to ensure that the ratio of the amount of raw materials used per packaging in relation to the capacity of the cosmetic product itself is as low as possible. Minimalist packaging also mean less space in transport and, consequently, less impact of transport on the environment.

Phenomé makes sure that the disposal of used packaging material does not result in environmental pollution, or that its materials come from the processing of secondary raw materials. Therefore, the company uses mainly glass packaging, whereas its plastic packaging (e.g. PET bottles) and HDPE are made from 100% PCR plastics. Furthermore, the paper used in the outer packaging (cardboard boxes) is 80% made from recycled paper. Additionally, Phenomé uses green corn starch packing peanuts wherever possible in its logistics and commercial activities. Corn starch packing peanuts are an environmentally friendly, bio-based and fully compostable material used to secure shipments during transport.



Kiehl's "Recycle & Be Rewarded"

"Recycle & Be Rewarded" is an initiative of Kiehl to encourage consumers to properly sort used cosmetic packaging. In return for empty packaging of used Kiehl's products, its consumers receive points that can be redeemed for Kiehl's products. In 2018, as part of this programme, 6,000 empty bottles were collected in Poland (126 kg of waste that would potentially go to a landfill), while 2,900 bottles (60 kg of waste) were collected in the Baltic States.



Earthwards

EARTHWARDS is Johnson & Johnson's approach to supporting the development of more sustainable products. Packaging is one of the 7 key areas to be assessed and optimised in terms of environmental impact.



Structural changes with a positive effect for the environment

Material-related innovations also involve searching for structural solutions to reduce the weight of packaging. This, on the other hand, is fostered by the use of plastics with improved properties. According to the Brazilian Natura, flexible packaging requires 70% less plastics than their rigid equivalents with the same volume. This means that packaging is not only cheaper but also more environmentally friendly: 1,000 bags take up the same space in transport as 28 bottles.



In 2015, the UK company Lush partnered with Ocean Legacy. Plastics collected on beaches are recycled with the support of the company and then the recyclate is added to cosmetic packaging.



NATURATIV

Sustainable packaging without a revolution

Sustainable packaging does not only mean the use of materials collected on beaches or innovative bioplastics. It also means recyclable packaging. Naturativ cosmetics are packed mainly in glass or HDPE plastic, both fully recyclable. These are durable and 100% recyclable materials, and they can be recycled multiple times.

KREMOLAND

Multi-purpose product

In order to minimize the weight of generated packaging waste, Kremoland offers multi-purpose products. "Lawenda 3 w 1" cosmetic bar replaces a conditioner, a shampoo and a hair mask, and, according to the producer, lasts for several weeks.



PRODUCERS OF PACKAGING AND PACKAGING MATERIALS



ChemCycling: a breakthrough in plastics recycling technology

Responsible use of plastics is the key to solving the world’s waste problem. This is applicable to producers and marketers of packaging, consumers, as well as companies that process packaging. BASF has developed a pioneering technology for the chemical recycling of plastics, and is the first company to make products from recycled materials. Chemical recycling is an innovative way of reusing plastic waste that is currently not being recycled and is a huge burden on the environment, such as multi-material packaging or dirty plastics. Chemical recycling can therefore make a significant contribution to reducing the amount of plastic waste.

BASF works closely with its customers and partners – from waste management companies to technology suppliers and packaging producers – to close the packaging cycle within the value chain. Chemical recycling is an innovation supplementing the existing recycling processes and the entire waste management system.



Environmental performance = economic performance

MPS International takes numerous actions aimed to reduce the negative impact of its products on the environment:

- it optimises the weight of packaging, taking into consideration their features and properties, e.g. capacity, shape, type of closure, manner of application, purpose of the packaging, following the principle “every gram matters;”
- it markets I’m Green, a series created using a sugar-cane based polymer,
- it uses recycled materials and production waste (PCR, PCP) to produce its packaging,
- its pallets and cardboard boxes (used as grouped packaging) are reusable, and the trays used to place unit packaging are largely made from recycled paper.



Extensive solutions

HEINZ-PLASTICS Polska Sp. z o.o. provides a number of solutions that enable the cosmetics industry to manage plastic packaging in a responsible manner.

HEINZ-PLASTICS Polska offers e.g. PET bottles made from 100% recyclate, or plastics that have been reprocessed. Packaging made from PET recyclate without a dye additive is greyish. Soon, a new version of the raw material with higher transparency will be available, visually resembling the traditional PET packaging. HEINZ-PLASTICS Polska also offers glass jar nuts made of polypropylene with 30% organic additive (wood fibres), enabling lower consumption of original raw material (PP) and recycling. Furthermore, the company also plans to implement packaging made from bio-based raw materials: sugar cane, corn and sugar beet.



In order to meet customer expectations, Polipack has introduced BIOplastic packaging, such as BIO-PET and BIO-PP. All BIOplastics have certificates of approval for contact with food. The company carries out research and development work on the production of packaging made from recycled plastics, such as polypropylene (PP) and PET. The company's offer will soon be extended to include, among others, packaging made from recycled PET plastics (intended for contact with food) and from recycled PP.

In 2019, Polipack placed an eco-friendly cosmetic jar with a replaceable insert on the market, so that the end customer could only buy the insert, keeping the jar and the cap for reuse. This solution saves as much as 80% of the total weight of the packaging.

The company has improved its production process and the way it processes plastics: it recycles up to 100% of its production waste.



Albea is committed to supporting its customers' sustainability objectives by developing and sourcing packaging that has a low environmental impact and contributes to a circular economy. Albea is a member of the Ellen MacArthur Foundation, a leader in the field of circular economy. Albea offers 33% lighter tubes compared to standard tubes. This means 8.8 tonnes of saved plastics per million SLIM Caps + THIN-WALLS tubes produced. Every year, Albéa produces 33 million PCR packaging that can be fully recycled using existing collection systems. The company produces bottles and tubes from bio-based materials: bioplastics introduced by Albea are made from Brazilian sugar cane. The company supplies more than 1 million PE tubes made from sugar cane.



CONSUMER COMMITMENT

Activities aimed at consumer commitment, including innovative service, support and enhance the value of companies' portfolios. Thus, clients and consumers identify, remember and more willingly use the offer of a company. Packaging trends related to a circular economy can also be applied in this area of innovation. Actions to increase ecological awareness among customers are a great way to create a green image of a brand. On the other hand, companies can create their brands in a way that attracts customers for whom environmental issues are important.

Clearly defined business objectives addressing the challenges of sustainable development they fully identify with are the foundation for building trust, loyalty and lasting relations with customers.

Examples of activities in the cosmetics industry aimed at consumer commitment:



YOPE has introduced reusable packaging for its washing up liquid. Consumers can top up a bottle with the dishwashing liquid in the company's Warsaw store and save 25% of the price compared to the product sold in disposable packaging. YOPE is planning to expand its offer of these types of products from mid-2019.



ARTDECO

INGLOT

Inglot was the first company to introduce a solution to reduce the consumption of plastics, and offered palettes with replaceable inserts. Companies such as Wibo and ArtDeco offer similar solutions: palettes with replaceable shade and powder inserts or topping up of cosmetics packaging.



Ministerstwo Dobrego Mydła accepts returns of cosmetic packaging made from glass. If you bring five jars, you get a 5% discount on your next purchase. Founders of Ministerstwo Dobrego Mydła encourage the reuse of their packaging and suggest that cream jars can also be used to store accessories in the bathroom as plant pots or tea light holders. You can also wash the hydrolate packaging, fill it with water and use it as a plant sprinkler at home or on the balcony.



Resibo engages and encourages its customers to take on eco-challenges. These include stopping the use of plastic bags or drinking tap water. Thus, the company reminds consumers of the importance of environmental issues, not only those related to its products.



BEZ PUDŁA is the first brick-and-mortar shop in Wrocław that supports the Zero Waste idea. BEZ PUDŁA promotes a lifestyle that aims to eliminate waste from our everyday life. It sells natural products, mostly from local suppliers, packaged in containers brought by customers or in eco-friendly packaging.



Collection of used packaging: the Phenomé shop in Warsaw (Galeria Mokotów) helps customers collect used cosmetic packaging, so that they can be recycled and used to produce new generations of packaging.



Jan Barba Raw Cosmetics, created for people who live according to the zero-waste philosophy, enables its customers to return empty packaging to the company and then, after cleaning, the packaging are returned to customers containing another product.



The Purite brand has stopped using cardboard boxes and leaflets, and sells soaps without packaging. Most of its cosmetics are available in jars and bottles made of dark glass. After use, they can also be returned to the company and Purite sends them for recycling.



In return for six empty cosmetic packaging, MAC Cosmetics customers will receive a lipstick in a chosen colour (Back-to-MAC programme); at Lush Botanicals in Poland, customers receive a PLN 50 discount for purchases for bringing in five pieces of packaging; while at the native vegan brand Creamy – a discount of PLN 5 on purchases for each jar or bottle. This is to close the circle of packaging, all the while building the loyalty of green-aware customers.





The future of packaging in the cosmetics industry

The good practices presented above will evolve. As we have repeatedly stated in the report, we are at the beginning of the road. Today, the market for sustainable plastic solutions is rapidly changing. New solutions, proposals, offers and innovations are created almost every month.

The Plastics Strategy in Poland is becoming a reality. The cosmetics industry has already started to do its homework and introduced measures towards more sustainable packaging. These are not yet common practices of the whole industry, but examples to follow.

The Plastics Strategy and its superior objective: the need to protect our environment, will undoubtedly be important factors that will shape the future of cosmetic packaging.

However, we already know that the most important driver of change in our industry will be consumers. As an entire industry and individually as companies, we must focus on close relations with consumers and be aware of their expectations and needs. An important task is also building environmental awareness among consumers: shaping conscious choices and attitudes in waste management, especially in reference to packaging after the use of products.

However, the producer-consumer relation does not guarantee the full success of the Plastics Strategy. If producers' actions are to make sense, we must ensure that the circle of plastics and plastic packaging is actually sustainable and closed. Each of the participants of this process has a role to play here.

It is necessary to introduce system-wide changes that will set the course of actions, determine common standards and systems, and support innovation. Achieving these changes will require cooperation between all participants of the plastics market: plastics producers, processors making plastic packaging, entrepreneurs placing packaged products on the market, recyclers, governmental organisations and consumers.

The commitment of the cosmetics industry in Poland in preparing for the challenges ahead of us shows it is very likely that we will be able to meet them. The application of principles of a circular economy in the plastics packaging sector will have a positive transformative impact on the market, and the packaging of cosmetics will be sustainable in the future.

The Polish Union of the Cosmetics Industry

Warsaw, 5 September 2019

Appendix I List of legal acts and key documents

- Selected directives of the Circular Economy Package:
 - Directive (EU) 2018/850 of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC on the landfill of waste
 - Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste
 - Directive (EU) 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 94/62/EC on packaging and packaging waste
- Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives
- A European Strategy for Plastics in a Circular Economy (“Plastics Strategy”)
- Regulation of the Minister of the Environment of 14 December 2016 on the levels of recycling, preparation for reuse and recovery by other methods in respect of certain fractions of municipal waste (Dz. U. – Journal of Laws Sec. 2167)
- Regulation of the Minister of the Environment of 29 December 2016 on the detailed method of separate collection of selected waste fractions (Dz. U. – Journal of Laws of 2017 Sec. 19)
- Act on waste of 14 December 2012 (Dz. U. – Journal of Laws of 2013 Sec. 21)
- Act of 1 July 2011 amending the Act on maintaining cleanliness and order in municipalities, and amending certain other acts (Dz. U. – Journal of Laws of 2011 No. 152 Sec. 897)
- Act of 13 June 2013 on management of packaging and packaging waste (Dz. U. – Journal of Laws of 2013 Sec. 888)
- Act of 13 September 1996 on maintaining cleanliness and order in municipalities (Dz. U. – Journal of Laws of 1996 No. 132 Sec. 622) Act of 20 July 1991 on the Inspection of Environmental Protection (Dz.U. – Journal of Laws of 1991 No. 77 Sec. 335)
- Roadmap of Transformation towards a circular economy, the Ministry of Entrepreneurship and Technology, December 2018

Appendix II Glossary

Ecological debt – refers to the “debt” incurred by humans to the planet when natural resources are depleted beyond the Earth’s ability to regenerate them. The concept of ecological debt is a feature of the linear economy.

Ecodesign – a design process as a result of which a product with a lower negative impact on the environment (compared to a standard product) is developed. In respect of packaging, ecodesign means increased recyclability, reuse, or replacement of a material with one that is more environmentally friendly.

EPS – expanded polystyrene

Linear economy – an economy following the “take-make-use-dispose” plan, using primary raw materials for production, without respect to the value of the material, and generating large amounts of waste.

Circular economy (CE) – an economy in which the value of products, materials and resources is maintained for as long as possible, and the creation of waste is minimised.

LCA – Life Cycle Assessment, i.e. the process of measuring the environmental impacts of a project over its entire life cycle.

Value chain – subsequent parts in a sequence of functions performed in a product’s life cycle. There are a number of partners in the value chain, including entities that source raw materials, producers, their sub-suppliers (and their sub-suppliers), distributors, sellers, consumers, waste recipients, and recyclers.

Plastic microbeads – smaller than 5 mm, water insoluble, solid plastic particles used in products of various industries.

Microplastics – very small fragments of all kinds of plastics. They have a variety of sources. Primarily, they are created from the degradation of larger plastic products or may be intentionally added.

Raw material waste – a waste stream in which individual fractions of raw materials may be distinguished, e.g. plastics, glass, metal, paper, and which are recyclable and reusable.

Unit packaging – packaging for individual products used to sell them to the final user (usually the consumer).

Sustainable packaging – product packaging generated with the minimum use of materials and energy, safe for the environment and health, and enabling the recovery and reuse of the materials.

Packaging recovery organisation – an organisation established to take over the obligation to recover and recycle packaging waste from entrepreneurs.

PCR – “post-consumer recycled,” i.e. a material from recycling of the waste collected from households, or “post-consumer recycling,” i.e. the process of recycling such waste.

PE – polyethylene

PE-HD – high-density polyethylene

PE-LD – low-density polyethylene

PE-LLD – linear low-density polyethylene

PET – polyethylene terephthalate

PP – polypropylene

PS – polystyrene

Recyclate – the product of the recycling process, i.e. the material ready for reuse.

Recycler – an entity that physically carries out the recycling process of a raw material, and produces the recyclate.

Recycling – the recovery process in which waste is reprocessed into products, materials or substances used for the original or other purposes.

Extended Producer Responsibility (EPR) – the rule that makes the producer responsible for the product and its packaging throughout the entire life cycle of the product until the waste management of the product or the packaging.

rPET – recycled polyethylene terephthalate.

Environmental footprint (ecological footprint) – the environmental impact of an entity, its activities or a product, e.g. the amount of natural resources used or the quantity of harmful gases produced.



Thanks to the Nautilus Superwhite 100% recycled paper, we reduced the negative environmental impact by: **115 kg** of less waste

We reduced the negative environmental impact by:

115 kg 
less waste

27 kg 
less greenhouse

271 km 
a shorter journey by a European middle class car

2866 l. 
less water

351 kWh 
less energy

186 kg 
less wood used

Source: Carbon footprint estimated by Labelia Conseil in accordance with the Bilan Carbone® methodology.



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