

Plastics industry in pandemic Fundacja PlasticsEurope Polska – report 2020/2021



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PlasticsEurope Polska

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Umberto Credali President of PlasticsEurope Polska (Basell Orlen Polyolefins Sp. z o.o.)

INTRODUCTION

DEAR READER!

Whether you are a polymer producer, a converter, a recycler, a specifier or in general a plastic user like every one of us, I am sure you will find this booklet interesting, not only filled with data and statistics, but also with activities, initiatives and ideas on how to make our world a better place. How to introduce a report about the year 2020 without touching what this year will be remembered for? Covid-19 pandemic exploded in Europe in the course of 1Q last year and it reached Poland a bit later, however touching all of us deeply, professionally and privately. Even if we cannot say that it is completely over now, for sure it is not affecting our lives and our businesses today the same way

as it did in the early days, last year. There was so much unknown, so much uncertainty, both on personal level and in business. Thanks to the teamwork of many people, companies, organizations, industries, agencies etc., we are now in a different place with much better outlooks for the future that we could have expected. PlasticsEurope Polska has played its usual cohesive role in this networking, and also secured the follow up of complex and tight legislative agendas at European and national level.

What we have learned in 2020 is that plastic is actually more helpful than what many thought, especially in a pandemic, it helps saving people's health and lives: it preserves our food whether aseptically bought in supermarkets or home-delivered, it protects ourselves in the form of masks or shields when forced to keep on going out into the world for work or buying food, it enables us to carry sanitizing liquids or gels in our pockets and so on. On a more general level, we have also learned that the plastic industry is very resilient, although some durable applications were affected more deeply than others in the lockdowns, the overall recovery has been surprisingly fast. There are many more take-aways from the pandemic on personal level and not enough space here for all of them, but one is worth mentioning for me: how important it is for us individuals the connection with other human beings, you don't really know what you have until you lose it. We are a community and we share common interests which go beyond business and reach out to our daily lives, our environment, our planet. Let's keep the connection and make it work to everybody's benefit, let's keep on liaising, let's do it for our own benefit and for the Earth, which is our common goal!

Happy reading!



Ingemar Bühler Director PlasticsEurope Central Region Managing Director PlasticsEurope Deutschland

SEIZING OPPORTUNITIES: TOGETHER

In recent years, we have got more and more used to talk about challenges for our society and industry. And it is true indeed: the impacts of the pandemic come to mind first, followed by ever more ambitious climate targets and the massive task to end the littering of plastics.

In fact, these challenges are too often seen only as obstacles. However, they are also huge opportunities for our industry. Plastics sustainably designed, sourced, produced and kept in the cycle, are indispensable when it comes e.g. to climate protection. Key words

are e-mobility, renewable energies and energy efficiency. And more than this, we are undergoing a truly historic transformation by ourselves: The linear 'waste economy' will be a business model of the past very soon. With the circular economy business model ahead, we will become more efficient and more profitable, and we will save those resources that remain in the cycle. Climate protection and business are far from being opponents. In a circular model, they are mutually reinforcing each other.

A well-known proverb says that the first step is always the hardest. I agree, while emphasizing that the actual first step requires the willingness to reflect first and then make bold decisions to set the fundament to finally step out of the ancient linear economy.

One does not take such a step alone. One takes it with strong partners and friends who are driven by the very same goals. The German and Polish economies are not only important trading partners, but also similarly high industrialised and share a lot of common success. We face similar challenges, which we will increasingly see as opportunities for continuing to live as prosperous as today – thanks to an industry that will have sustainability firmly embedded in its circular way of doing business.



Anna Kozera-Szałkowsk Managing Director PlasticsEurope Polska

OUR PRIORITIES

In 2020, we had the impression that the whole world stopped. The uncertainty associated with the COVID-19 pandemic affected many decisions that had their economic consequences. Despite these difficult conditions, our industry has flexibly redefined priorities and has responsibly played its role in ensuring supply of hygienic articles and food protection. At the same time, in Poland the plastics industry responded relatively well in a crisis situation, maintaining stable employment. The pandemic, however, has not changed key European and global priorities, including the most important one – climate change prevention, with the aid of a zero-emission economy and the closure of raw material cycles. The legislative agenda of the past several months remained tight and the new Circular Economy Action Plan, announced at the beginning of the previous year, further strengthened some environmental aspects, including those related to plastics. The PlasticsEurope Polska Foundation, by fulfilling its statutory activities, monitored on an ongoing basis all planned and introduced amendments to the law and presented the industry position, focusing on cooperation with all stakeholders in order to enable the industry voice to be representative and coherent. In virtual reality, we also coped well in communicating and educating on plastics. For the PlasticsEurope association, the last year was a time

of organizational changes which resulted in adapting the

organization's strategy to a rapidly changing business reality. Through responsible actions, partnerships and innovations of the European plastics industry, we wish to deliver sustainable solutions that are appreciated by the society. Our activities focus on three groups of issues: climate and production, sustainable use of plastics and the waste phase - a source of new raw materials. Redefining objectives and key areas have allowed us to better adapt our actions and reactions to the current situation and emerging challenges, as well as to the changing needs and expectations of stakeholders. Within this report you will find a summary of the most important issues related to the functioning of the plastics industry in Poland and Europe. I hope that the presented facts will be useful for the discussion on the future of plastics, which undoubtedly are and will be a material for a continuous sustainable development.



Marcin Bereza Board Member of PlasticsEurope Polska (Dow Polska Sp. z o.o.)

In Poland, despite the turbulences in the economy last year, the demand for plastics slightly increased. The industry has kept the employment level unchanged, ensuring safety of employees in this difficult period. The COVID-19 pandemic has highlighted the important role that the products offered by our industry play in ensuring hygiene safety.



PLASTICS INDUSTRY IN POLAND

The plastics industry in Poland contributes significantly to the Polish GDP and provides jobs to over 200 thousand employees. For several years, the plastics industry has been growing dynamically, reaching an average annual growth level of about 7.2% in the last 10 years (by comparison, the growth of all the manufacturing industry is approx. 5,3%). The biggest sector of the plastics industry is represented by plastics processors - manufacturers of end products, e.g. packaging, household appliances and automotive parts. Other sectors - manufacturers and suppliers of raw materials (polymers, ancillary materials, compounds, etc.), suppliers of machinery and tools – constitute a smaller part of the industry, but are not less important. It is also necessary to remember about the newest sector of the plastics industry - recyclers, who, although still less numerous, are becoming an increasingly important link in the circular economy. Moreover, current times are marked by the departure from traditional specialization of the plastics industry (polymer production, compounding, processing, recycling) towards merging these activities "under one roof" – more and more polymer manufacturing companies expand their activities to recycling and processing of plastics. This seems to be the companies' response to the challenges of the circular economy and an attempt to better manage the circularity of materials. The COVID-19 pandemic, which had a deep impact on the economy of all countries, also affected the plastics industry. Monitoring the economic activity of the industry in Poland, based on the example of statistical data concerning the sector of manufacturers of plastics and rubber products, it clearly follows that in the second quarter of 2020 there was a sharp decrease in production, which affected the results of sales in the industry throughout 2020 – production was practically at the level of 2019.

Almost all types of mass polymers are produced in Poland, i.e.: polyolefins (HDPE, LDPE, PP – Basell Orlen Polyolefins), polyvinyl chloride (PVC – Anwil), polystyrene (PS, EPS - Synthos) and polyethylene terephthalate (PET – Indorama). Domestically produced engineering plastics are primarily polyamide (PA6)

JOBS over 200,000 employees



approx. 7.2%

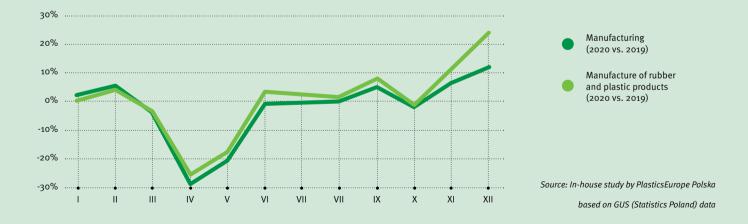
and polyoxymethylene (POM) produced by Grupa Azoty, as well as polyester, epoxy, phenol resins and polyurethane systems. Other engineering plastics such as ABS, SAN or polycarbonate (PC) and methyl polymethacrylate (PMMA) are imported to Poland. The production capacities of polymers in Poland did not change in the previous year - all plants continued production adapting to the market situation. It should be noted that in the first half of 2021, Grupa Azoty gave up production and sale of POM due to the small scale of production and the resulting difficulties in maintaining the product profitability. Under the agreement with Celanese, Grupa Azoty transferred to Celanese the existing POM business (products with the commercial name Tarnoform), together with the know-how for the production of all speciality grades. The agreement between Grupa Azoty and Celanese Corp. does not cover the assets of Grupa Azoty concerning the production and sale of POM (production facilities, warehouses, sales offices remain the property of Grupa Azoty).

At this point, it is worth mentioning about the large investment project carried out by Grupa Azoty in Police, where a large plant of propylene and polypropylene production is being built (approx. 430 thousand tonnes) and which according to the investor's plans is to be commissioned in 2023. This investment project should improve the negative balance of polymer deliveries to the Polish market, which has been the case for many years.

Other large investment projects include new investment plans of PKN Orlen group, worth PLN 140 billion (spread over 10 years), aimed at modernization and expansion of petrochemical assets and investments in projects related to plastics recycling. PKN Orlen declares the construction of a new cracker with a production capacity of 740 thousand tonnes/year, which should definitely improve the supply of olefins to local producers of polyolefins (Basell Orlen Polyolefins) and polyvinyl chloride (Anwil).



Dynamics of monthly sold production sold (at current prices) in 2020 in relation to the relevant months in 2019 – comparison of the entire industrial processing and production of plastic and rubber products



PLASTICS INDUSTRY

In terms of recycling, PKN Orlen intends to build a strong position in mechanical and chemical recycling, including solvent-based recycling of PLA and PHB based plastics.

However, the pandemic resulted in changes in some ongoing investment projects carried out by the plastic products manufacturing sector – in 2020 the investment expenditures in this sector decreased by 18% compared to the previous year and amounted to approx. PLN 4.5 billion.

The dynamics of the plastics industry in the years 2011–2020. Comparison of the sold production sold (at current prices) of the entire industrial processing sector to the rubber and plastic products manufacturing sector



PLASTICS INDUSTRY



Employment in the rubber and plastic products manufacturing sector during the pandemic was generally stable – 215 thousand people at the end of 2020, which translates to the sector's share of 7.7% in the entire industry. Over the last 10 years, this sector showed a high increase in employment (growing by 40% between 2011 and 2020), which was a very good result in relation to the whole manufacturing industry (increase by only 11.6% in the same period).



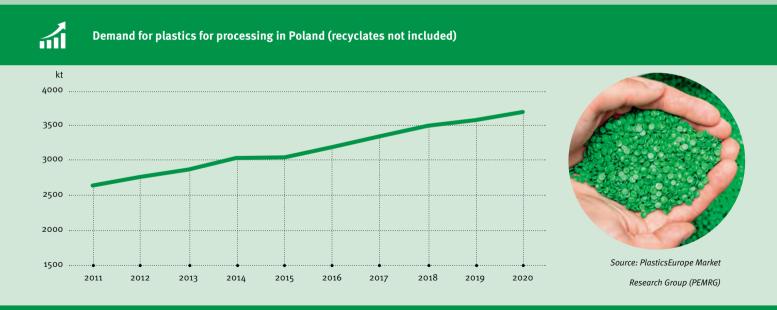
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Comparison of capital expenditures in the Polish plastics processing sector to the entire manufacturing industry (reference point – capital expenditures in 2008).



DEMAND FOR PLASTICS

Despite the difficult business environment in 2020, the demand for plastics for the production of products in Poland increased by approx. 3% compared to 2019 and amounted to approx. 3.7 million tonnes. This data fits into the continuous trend of a rapid increase in consumption of plastics for plastic products manufacturing in Poland – in the last 10 years the cumulative increase



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Production dynamics in the plastics industry (2015 and 2019)

	December Whole 2020 year 2020		December 2020	Whole year 2020	
	Producti for 201		Growth (%) in comparison to parallel months of 2019		
Chemicals and chemical products	120.9	118.1	5.5%	1.8%	
Plastic and rubber products	152.5	133.7	17.9%	1.3%	

Source: Eurostat

in demand was 40%. The production index describing in a more comprehensive manner the results of business activity for the chemicals (including, among others, polymer production) and rubber and plastic products manufacturing sector (including plastics processing) showed an increase in 2020 in relation to 2019 at the level of 1.8% and 1.3%, respectively. The Polish market represented approx. 7.7% of the European consumption of plastics – Poland remains in sixth place in Europe after Germany, Italy, France, Spain and the United Kingdom. For many years, the main sectors of plastics application in Poland have been packaging (33.6% share in 2020) and construction (25.1%). The automotive industry, usually ranked third, remained in this place with a share of 8.1% despite a sharp decrease in terms of activity in the second guarter of 2020. Other areas of plastics application in Poland include the electrical and electronics industry (E&E) - 7.5%, household appliances (4.3%) and agriculture (2.5%). The remaining 19.3% covers other domains, including sports goods, furniture, medical devices, etc.

PERSPECTIVES FOR 2021

The first months of industry activity in 2021 indicate a continuation of dynamic growth commenced in the fourth quarter of 2020. Despite the problems with the availability of raw materials, a reflection of the global situation, the sector of rubber and plastic products so far (data for the first 6 months of 2021) shows a clear increase of sold production in relation to the period before the pandemic. It seems that the year 2021 may turn out to be no worse than the previous year for the plastics industry in Poland.

The industry continues to grow dynamically in 2021. Monthly sold production (at current prices) in relation to the relevant months in 2019



PLASTICS INDUSTRY

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EXPORT – IMPORT

As already mentioned in this report, the plastics industry in Poland has been a net importer for a long time; the domestic production of plastics is far from sufficient. The negative balance of foreign exchange of raw materials (plastics for processing) increased by 11% to 2.79 million tonnes last year. On the other hand, a very optimistic effect is the positive



Foreign trade in 2020 – raw materials (plastics) for production of products. Foreign trade balance: -2.79 million tonnes (negative)

	UE trade partners				Extra UE trade partners			
	Position	Country	Amount [kt]	Udział [%]	Position	Country	Amount [kt]	Share [%]
		Total	1630	100%		Total	323	100%
	1	Germany	783	48%	1	Ukraine	66	21%
Export	2	Czech Republic	183	11%	2	Russia	49	15%
Ĕ	3	Italy	112	7%	3	Turkey	36	11%
	4	Lithuania	73	4%	4	United Kingdom	25	8%
		Total	4141	100%		Total	597	100%
	1	Germany	1337	32%	1	China	139	23%
Import	2	Italy	614	15%	2	United Kingdom	86	14%
	3	Belgium	496	12%	3	Turkey	83	14%
	4	France	256	6%	4	Russia	43	7%

Source: Eurostat

(and increasing) balance of foreign exchange of plastic products – in the last year, the balance was positive and amounted to 960 thousand tonnes. It is certainly an effect of a systematic increase in the investment of domestic and foreign capital in capacities and modern technologies in the plastics processing sector which we have observed in Poland for several years.



Foreign trade in 2020 – plastic products. Foreign trade balance: 0.96 million tonnes (positive)

	UE trade partners			Extra UE trade partners				
	Position	Country	Amount [kt]	Share [%]	Position	Country	Amount [kt]	Share [%]
ut.		Total	2175	100%		Total	519	100%
	1	Germany	731	34%	1	United Kingdom	124	24%
Export	2	France	181	8%	2	Ukraine	96	19%
	3	Czech Republic	179	8%	3	Russia	83	16%
	4	The Netherlands	141	6%	4	Norway	26	5%
		Total	1289	100%		Total	447	100%
Import	1	Germany	545	42%	1	China	187	42%
	2	Italy	134	10%	2	United Kingdom	42	9%
	3	Belgium	83	6%	3	Turkey	42	9%
	4	France	70	5%	4	Russia	34	8%

Source: Eurostat



Slawomir Górski Board Member of PlasticsEurope Polska (BASF Polska Sp. z o.o.) The implementation of the ambitious targets of the European Green Deal, while maintaining the competitiveness of the economy and quality of life of Europeans, is a major challenge and will have a significant impact on all sectors. Building on the innovation of plastics, the industry, as an important participant in this transformation, provides solutions for almost every field of life.

PLASTICS • MATERIAL OF A SUSTAINABLE FUTURE

ROLE OF PLASTICS IN CLIMATE PROTECTION

Climate protection and a circular economy are more than just an ecological obligation for plastics manufacturers. This challenge affects the economic fundamentals of our industry, thus directly influencing the possibility of further ensuring social well-being, in which versatile and multi-functional plastics provide a key contribution. The implementation of the European Green Deal, which is an extremely ambitious strategy for Europe to achieve climate neutrality by 2050, while maintaining the economic competitiveness and quality of life of Europeans, will have profound consequences for all sectors of the economy and will exert a major impact on the daily lives of the population. The plastics industry is an important participant in this transformation. due to the innovation of the solutions it delivers in almost every field of life. Light, durable and versatile plastics contribute to saving energy and natural resources in strategic economic sectors, including food production and distribution, construction, health, automotive and renewable energy production. On the other hand, plastic packaging ensures safety and hygiene and assists in reducing food losses and waste, and thus effectively reduces greenhouse gas emissions. It is worth noting that food losses account for 6% of global GHG emissions. However, due to environmental risks caused by littering and the lack of effective plastic waste management systems, it is necessary to change a paradigm for plastics in the economy so that their potential can be fully exploited for the benefit of society and economy, without damaging the environment. Such a transition towards a more sustainable role of plastics in the environment (sustainable plastics), apart from the obvious transition from single use to multiple use solutions, must take into account several key factors.



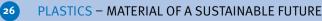
LOW-EMISSION TECHNOLOGIES AND ALTERNATIVE RAW MATERIALS

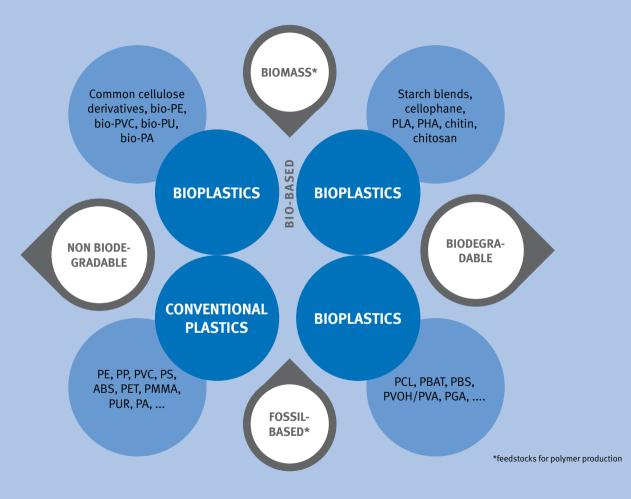
The plastics industry, which is constantly working towards maximizing resource efficiency and energy efficiency of production processes, faces additional challenges related to the search for low-emission or even zero-emission technologies and alternative sources of raw materials replacing oil and gas. Our industry and other energy-intensive sectors with high energy consumption must switch from the use of non-renewable energy to renewable energy sources. In the field of alternative raw materials that can replace oil and gas, high hopes are being placed on technologies using "green" hydrogen, which can then be used for the syntheses of many different chemical raw materials, including ethylene or propylene – starting materials for the synthesis of many polymers, including commodities such as polyethylene, polyvinyl chloride or polypropylene. The industry is already using innovative technologies for which renewable and/or waste raw materials as well as carbon monoxide and carbon dioxide, are the sources of carbon in the production of polymers. In any case, it is necessary to properly document the positive environmental impact of a given technology.



BIOMATERIALS AND BIOPLASTICS

The interest in bioplastics has not diminished for many years, especially from consumers and ecologists, who have very high hopes for bioplastics in the context of fulfilling the targets of a circular economy. However, the experts point out that when using the term "bioplastic", we have to know exactly what material we are talking about. Bio-based plastics, i.e. materials produced from renewable raw materials, cannot be confused with biodegradable plastics, i.e. materials that decompose under specific conditions under the influence of microorganisms. Both groups of materials are referred to as a "bioplastic", which gives rise to a number of misunderstandings in the public debate. This has been noted by the EU legislator, which, in its new Circular Economy Action Plan, indicated the need to organize these issues, including appropriate labeling. The incorporation of bio-based materials into plastic production has a huge added value in terms of reducing their environmental footprint (plant carbon content, fossil resource conservation). Biomaterials are obtained both from typically agricultural products (such as sugar cane or starch) and from waste biomass which can be transformed in enzymatic processes or used as a feedstock material for a cracker in the refinery processes. However, in most cases, biobased polymers have the same properties and applications as polymers produced from conventional materials but are not biodegradable (Fig.). Biodegradable plastics, which can be obtained from both renewable and conventional materials, can be used wherever biodegradability is desirable: due to short-term use (e.g. in some medical applications) or suitability of the product for composting (e.g. agricultural mulch films). However, contrary to the opinions expressed during the discussion on the Single Use Plastics Directive, the use of biodegradable plastics for the production of various products (e.g. packaging and consumer single-use plastic products) will not solve the problem of environmental littering. The decomposition of biodegradable materials takes time and must be carried out in special composting plants (at an increased temperature and humidity). Moreover, biodegradable plastic waste must be separated from the plastic waste stream in order to maintain recyclability of classic (non-biodegradable) plastics.







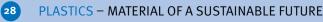
CHEMICAL RECYCLING

The processing of plastic waste into other materials in various chemical processes has been developing for many years. It has become increasingly more important with the evolution of concepts of a resource-efficient and low-carbon economy. Chemical recycling, previously treated as a method of managing difficult-to-recycle waste fractions is today perceived as a technology that perfectly responds to the need to obtain new raw materials for the production of polymers and to increase the level of recycling of plastic waste. It enables the management of those waste fractions which until now have been used in energy recovery processes or which have been discharged to landfills. In chemical recycling, the processes of polymer decomposition into simpler substances (e.g. liquid or gaseous hydrocarbons) are carried out using different methods and technologies based on gasification, pyrolysis and depolymerization (the latter converts waste polymers into monomers). Out of those raw materials one may produce in conventional plants, polymers of identical quality to that of the polymers derived from classic monomers (from crude oil or gas), including polymers for the use for food contact (e.g. food packaging). Chemical recycling is therefore an excellent complement to mechanical recycling.

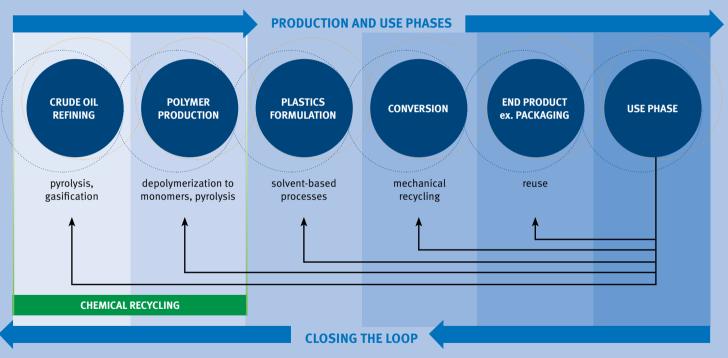
It is estimated that by 2050 up to 60% of plastic production can be based on raw materials obtained (in) from different recycling processes . The companies associated in PlasticsEurope already invest billions of euros, cooperating with value chain partners to develop chemical recycling and other innovative technologies, with a view to increasing these investments to achieve 1.2 million tonnes of "chemical recyclates" by 2025 and 3.4 million tonnes by 2030.

The issue of chemical recycling and its importance for the effective implementation of the climate neutral and competitive circular economy in Europe is communicated on an ongoing basis by PlasticsEurope Polska, both during technical conferences and during webinars organized for various participants from the value chain of the plastics industry.

*McKinsey - How plastics waste recycling could transform the chemical industry



ROLE OF CHEMICAL RECYCLING IN CLOSING THE PLASTIC CYCLE IN THE ECONOMY



Source: In-house study by PlasticsEurope Polska



SUSTAINABLE-BY-DESIGN

Plastics are present almost everywhere in today's life: they are crucial for strategic sectors such as packaging, building & construction, mobility, renewable energy production, medical equipment, or sport. We need them to face a number of global challenges, such as ensuring food supply to the growing world population, developing residentfriendly cities or developing new forms of mobility. Being aware of the value of plastics in improving social well-being and meeting basic needs, such as access to clean water or hygienic safety, which has proved to be so important during the pandemic, it is difficult to reconcile with the idea that this value is wasted - in a situation where we are not able to deal with the problem of plastic waste or the consequences, also for health, of improper handling of plastics or their waste. However, it should be remembered that the problem is not plastic in itself,

Sustainable-by-Design concept aims to integrate safety, circularity and functionality of materials and products throughout the full life cycle, from design to end of life.

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but its improper use and mismanaged waste, as emphasized by the participants of two debates organized by Euractiv.pl in cooperation with PlasticsEurope Polska in February 2020 and March 2021. The role of plastics in the context of the European Green Deal, as well as the strategy to be adopted by the legislators when introducing new environmental regulations, were discussed by the participants of the roundtable entitled "European Green Deal: What will the EU Strategy for Plastics change?" A meeting organized at the beginning of 2020 gathered the representatives of European, governmental, business and civil institutions. Participants emphasized the role of Europe as a leader



in setting high environmental targets in line with the UN strategy. Representatives of the Polish government pointed however to difficulties in controlling and enforcing certain provisions, and indicated that EU environmental policies could collide with each other, e.g. in the case of a transition towards a circular economy and climate policy. The representatives of the industry, on the other hand, pointed out that the lack of clarification of key definitions and delays in the adopted regulations put the industry in a difficult situation and may mean the need to make business decisions "on a day-to-day basis", which has a negative impact on the industry's activity and performance. The European debate, organized one year later, entitled "A new paradiam for plastics and their role in the EU's zero-emission economy plans", which was attended by, inter alia, Virginijus Sinkevičius (Commissioner for Environment, Oceans and Fisheries), Paulo da Silva Lemos (DG Environment at the European Commission), Adam Jarubas (EU deputy), Marlena Tryka (Department of Innovation and Industrial Policy of the Ministry of Development, Labor and Technology), Virginia Janssens (Managing Director of PlasticsEurope) and Joan Marc Simon (Director of Zero Waste Europe). It was an occasion to summarize the current status of actions for the circular economy and the European Green Deal. The debaters emphasized the need for close cooperation between the legislator and the industry and for intensive research and investment in modern technologies (e.g. eco-design and chemical recycling), which will make it possible to fully exploit the potential and close the cycle of plastics. Therefore, this new approach to plastics, promoted in European and global strategies, combines the functionality, safety and circularity of plastics perceived as a material for sustainable applications. At the same time, it embraces all socio-economic and environmental benefits, while maximizing the opportunities offered by innovative industries. This approach must be based on the entire life cycle of products made of plastics - starting from the raw materials through design, use phase and return to circulation. The development of high-quality and efficient products and solutions that meet the objectives of sustainable development is a very complex process.



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It requires innovative technologies, an enormous research effort and the cooperation of all stakeholders.

The key components to be considered for Sustainable-by-Design plastics embrace safe design concepts (e.g. on microand nanoplastics, plastics free from hazardous additives), resource-efficient materials (i.e. durable, reusable and recyclable; easily dismantled and manufactured with the use of alternative resources including plastic waste and biomass). Sustainable-by-Design plastics need to offer adequate performance and functionalities (i.e. lightweight, mechanical strength), drive the opening of new markets and business models, and their production at industrial scale should have the least impact on the environment. All this must be supported by appropriate investments and requires increased public awareness and consumer education.

The plastics industry has a key role to play in developing more sustainable plastics. To achieve this, it engages in cooperation with all participants of the value chain and decision-makers, e.g. it is one of the leading members of the Circular Plastics Alliance (CPA) initiative, a cooperation platform set up by the European Commission, aimed at finding solutions for a substantial increase in the use of recyclates in the European economy. The CPA signatories (over 290 companies and associations representing the entire value chain) committed to a joint effort to achieve the application of at least 10 million tonnes of plastic recyclates in the manufacture of products by 2025. The works are carried out in 5 thematic areas: improvement of selective collection and sorting systems, eco-design, recyclate content in products, development of new technologies (including chemical recycling), monitoring of progress and harmonization of reporting. The plastics industry also monitors and consults, on an ongoing basis, all aspects related to the safety of the use of plastic products, providing transparent information and sharingxpert knowledge on the safety of the use of products, including those concerning chemical substances used in products, nano- and microplastics or products intended for contact with potable water.

OPERATION CLEAN SWEEP® voluntary commitment of the plastics industry

The fight against littering the marine environment with plastic waste, including microplastics, included in the European Strategy for Plastics in a Circular Economy is one of the priorities of the plastics industry. One specific area of these activities is to prevent losses of plastic granules and their release into the environment. The plastics industry is pursuing this objective through voluntary programs, the most important of which is the Operation Clean Sweep[®] (OCS) program. as part of the Global Declaration for Solutions on Marine Litter. In Europe, the OCS[®] program is coordinated by the PlasticsEurope Association – since 2019 all members of the association are signatories to the OCS[®]. The objective of the program is to support companies across the value chain in implementing good practices towards zero leakage of plastic pellets in any process related to the production and processing of plastics. The development of the program and the progress made in reducing pellets leakage into the environment are documented in the form of annual reports, including an overview of practical solutions to prevent pellet losses used by the companies implementing the program. Currently, the program is moving on to the next phase – external audit of the $OCS^{(8)}$ signatories, which will take place until the end of 2024. As part of this process,

Program Operation Clean Sweep[®] – Stop dla granulek w środowisku



Problem zaśmiecenia środowiska wodnego odpadami tworzyw to zjawisko głobalne. Jakiekowiek śmieci w środowisku, również granulki tworzyw, są nieakceptowalne. Priorytetem przemysłu tworzyw sztucznych jest zatrzymanie przedostawania się granulatu do środowiska.

Zachęcamy wszystkich, którzy mają do czynienia z granulatem tworzyw:

producentów i przetwórców granulatu • stowarzyszenia branżowe

 firmy logistyczne i transportowe • pozostałych uczestników łańcucha wartości branży tworzyw do przyłączenia się do programu Operation Clean Sweep[®], który pomoże i ułatwi odpowiednie zarządzanie granulatem.

Zapoznaj się z materiałami pomocnymi przy wdrażaniu Operation Clean Sweep[®] (dostępne w kilku językach, w tym w polskim) i zgłoś swoją firmę do programu – deklaracja przystąpienia do programu i pozostałe szczegóły na www.opcleansweep.eu

W Europie program koordynuje Stowarzyszenie Producentów Tworzyw Sztucznych PlasticsEurope – wszyscy członkowie stowarzyszenia są sygnatariuszami Operation Clean Sweep®.

Informacji w Polsce udziela Fundacja PlasticsEurope Polska: info.pl@plasticseurope.org



Operation Clean Sweep

www.opcleansweep.eu

PlasticsEurope, in cooperation with the European Plastics Converters (EuPC) association and industry value chain participants, develops a certification procedure integrated with the ISO 14001 environmental management systems. To obtain an OCS[®] certificate during an audit conducted by external accredited quality and safety control bodies, the companies will need to demonstrate compliance with the Essential Requirements of the OCS[®] program, including but not limited to pellets management procedures in accordance with the requirements of the European Commission.

The PlasticsEurope Polska Foundation draws on the best experience of implementing the OCS[®] program in various countries and member companies of PlasticsEurope and offers its assistance to Polish plastics companies that have decided to join this program. The Foundation provides training for member companies (management and technical staff) and their partners. The first Polish signatories to the OCS[®] program were plastics manufacturers in our country (BOP; Synthos). In 2020, at the invitation of the Unipetrol group – the Czech petrochemical company belonging to Polish PKN Orlen Group (PlasticsEurope member company since 2019) a training was held with the participation of the Foundation's representative, aimed at practical kick-off of implementation of the OCS[®] program in all organizational units of the group.

The Foundation is responsible for preparing and updating Polish language versions of materials assisting the implementation of the program: OCS[®] manual, management and employee checklists; movies and posters to promote OCS[®]. The latest include infographics and posters with loading and unloading instructions for truck drivers for transport companies. All language versions of the OCS[®] auxiliary materials are available on the website: www.opcleansweep.eu. The representative of PlasticsEurope Polska has been participating (since 2021) in meetings of the OCS[®] Regional Coordination Team operating in PlasticsEurope, informing member companies on the development of the program on a regular basis, while promoting the OCS[®] program across the plastic value chain, e.g. through information, articles and advertisements of the OCS[®] in industry magazines, as well as contact with industry associations and companies that directly contact the Foundation regarding the OCS[®] program.



Piotr Tomalski Board Member of PlasticsEurope Polska (Borealis Polska Sp. z o.o.)

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There is still too much plastic waste discharged to landfills where its value is lost. Accelerating the process of implementing the circular economy objectives and achieving high levels of recycling of plastic packaging waste requires determination and cooperation of all stakeholders. It is important that the plastic cycle is actually closed using eco-design principles and innovative recycling technologies.

CIRCULAR ECONOMY FOR PLASTICS

REBOTL MADE WITH

> PLASTIC BOTTLES Made of 50% recreted PET. The ReBOTL fabric in this the ReBOTL fabric in the product contains the equivalent of 6 plastic bottles.

CIRCULAR ECONOMY FOR PLASTICS

The idea of a Circular Economy, one of the most important strategies of the European Union, is based on the longest possible use of available resources through reusing, remanufacturing, refurbishing or recycling of the material of which the products are made. Another important assumption of such an approach is to minimize the environmental impact, including the lowest possible consumption of energy, water and other resources. The Plastics Strategy, announced by the European Commission in 2018, which defines the new role of the plastics industry and plastic itself, indicates, among others, that "the plastics industry brings growth and jobs to Europe and helps cut EU greenhouse gas emissions and dependence on imported fossil fuels". The plastics industry has strongly committed itself to accelerating the transformation towards a resource-efficient economy, announcing in 2018 "Plastics 2030 - Voluntary Commitment" which includes ambitious targets and initiatives aimed, among others, at reducing granule losses by preventing its release into the environment (Operation Clean Sweep[®] program – see page 34), increasing the degree of re-use and recycling of plastic packaging waste and increasing the efficiency of plastics in various applications through an approach covering the entire product life cycle.



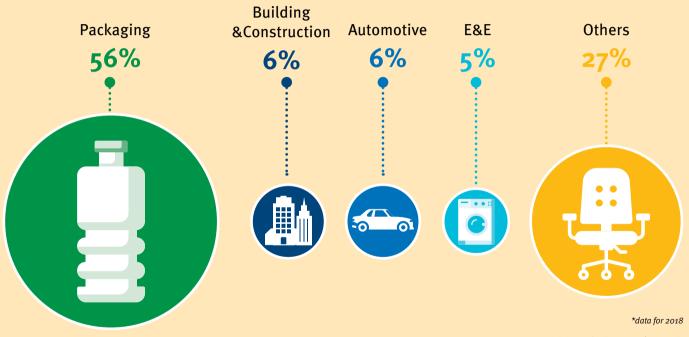
PLASTIC WASTE MANAGEMENT IN POLAND

According to the latest official data of the Central Statistical Office (GUS) (for 2019), 12.8 million tonnes of municipal waste were generated in Poland. However in the opinion of some experts this data is underestimated by approx. 20%, as such amount of waste is estimated (not collected waste – incinerated in household furnaces or abandoned in the environment). The estimates of prof. G. Wielgosiński* indicate that municipal waste collected in Poland contains on average 12.6% of plastic waste, which, taking into account the above-mentioned 20% adjustment, yields a total quantity of approx. 1.9 million tonnes of plastic waste contained in municipal waste. This estimation is consistent with the data on plastic waste generated in 2018 (1.92 million tonnes), as published by PlasticsEurope. More than half of this amount constitutes plastic packaging waste.

Unfortunately, only a small portion of plastic waste is collected selectively – according to the data of the Central Statistical Office for the last years, less than 390 thousand tonnes per year, i.e. approx. 1/5 of plastic waste generated, are collected in this way. The remaining 4/5 of waste lands in mixed (residual) waste containers together with other material fractions. This has a negative impact on the plastic recycling levels achieved in Poland, due to the fact that the recycling efficiency is many times lower for mixed waste than for waste collected selectively. In 2018, only approx. 0.52 million tonnes of plastic waste (27.4% of the total amount of plastic waste generated) were recycled. Approx. 350 thousand tonnes of recyclates, which together with recyclates generated from industrial waste (approx. 280 thousand tonnes) were placed on the market (not only in Poland) and were reused for the production of plastic products.

*Source: G. Wielgosiński, W pętli GOZ, Seminarium "Eksploatacja zakładów TPOK" [In the loop of circular economy, Seminar "Operation of MSWI plants"], Bydgoszcz 2020



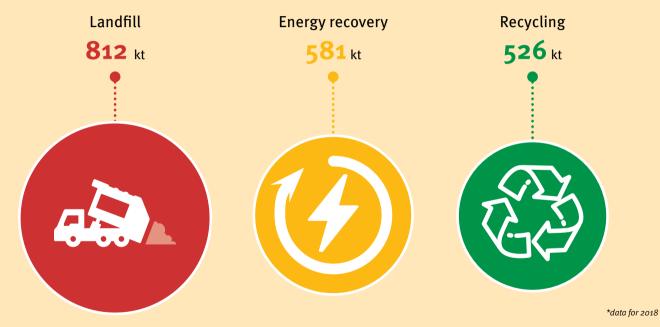


Source: PlasticsEurope / Conversio





Management of post-consumer plastic waste in Poland*



Source: PlasticsEurope / Conversio





Approx. 30% of plastics waste is used in energy recovery processes – in municipal solid waste waste incineration plants (MSWI), RDF incineration plants or in the cement industry for the production of clinker. Unfortunately, as much as 42% (over 800 thousand tonnes) of plastic waste is landfilled where the value of plastics is lost.

Poland is severely delayed in the implementation of the circular economy measures and the achievement of high targets of plastic packaging waste recycling – 50% by 2025 and 55% by 2030 does not seem to be realistic at present. At the request of the state administration, the Institute of Environmental Protection assessed the necessary investments (in selective collection systems, preparation for recycling and recycling itself), which would significantly improve waste management in Poland. Estimates of the Institute experts indicate the necessity to invest at least PLN 18.5 billion in the improvement of waste management by 2030, of which approx. PLN 4 billion only for the investments in plastic waste recycling.

PRACTICAL CLOSING OF THE PLASTICS CYCLE

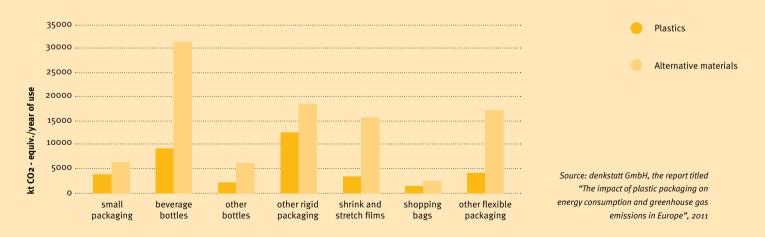
For some time, plastics have been playing the role of an anti-hero and a main contributor to environmental pollution, especially the marine environment. The plastics industry unequivocally condemns the littering of the environment with waste, indicating that waste management systems should be immediately improved at global scale and circular economy rules should be introduced. As the inhabitants of our planet, we cannot afford to waste the potential of plastics and products made of them. It is clear from the environmental impact assessment that plastics and products made of plastics, due to their lightweight, strength and resistance to external factors, have better parameters compared to alternative materials (cf. fig. on page 43).



Everywhere we hear opinions that recycling is to be a panaceum for closing the circulation of materials in the economy, and that EU and national authorities set high recycling targets that Member States must subsequently achieve over a few years. Setting very ambitious recycling targets can be seen as an important stimulus for analyzing existing management systems and introducing legislative changes that will stimulate an increase in recycling and recovery levels. However, it should be remembered that returning materials to circulation by recycling is not and should not be a priority in the hierarchy of implementation of the circular economy.



Comparison of environmental impact of plastic packaging with alternative materials



From the point of view of achieving the long-term targets of the circular economy, it is much more important, among others, to extend the useful lifetime by increasing the durability of products, where possible – switching from single-use to multi-use products, increasing and facilitating repairability of products, increasing the share of new business models, such as shared use, offering services instead of goods (e.g. instead of selling light sources, the supplier will provide lighting with the required parameters). This direction is taken by some legislative ideas, e.g. the Single-Use Plastics Directive (SUP), which set the primary objective to reduce pollution of the marine environment with the waste of single-use items found on beaches. This has boosted the adoption of a law restricting the use of certain plastic products. Unfortunately, during the preparatory works on the directive and its derived documents (e.g. Implementation Guidelines on the SUP Directive), this primary objective was merely part of the name, and the directive itself also covered the products indicated quite arbitrarily. In the opinion of the business, the aspect of changes in the consumption patterns and the transition from single-use products to multi-use products was not sufficiently used, or no less important aspect of increasing consumer awareness and involvement, which is a direct driver of changes in their attitudes. In Poland the SUP Directive has not yet been implemented into national law despite the fact that the statutory implementation deadline expired at the beginning of July this year.

Legislative works continue to draw out and the proposals for solutions suggested so far have been widely criticized by business. According to the announcement of the Ministry of Climate and Environment, the legislative process is to be completed by the end of 2021. One of the tools that should facilitate the proper management of post-consumer packaging waste is an effective system of Extended Producer Responsibility (EPR), supporting the selective collection and recycling of waste. In Poland, although the EPR system has existed for almost two decades, it does not properly perform its function, therefore the need to change it has been the subject of interdisciplinary discussions for many years. With the development of the circular economy concept and the necessity to increase the levels of packaging waste recycling, the need to quickly put the system in order and launch mechanisms that will force a rapid increase in recycling has become more and more urgent. Works on the new EPR solutions have been carried out by the Ministry of Climate and Environment for an extensive time, but, unfortunately, subsequent legislative proposals do not meet the recommendations set out in the EU legislation, including the need to properly finance waste management (net costs) or to properly define the role and responsibility of each system participant. The industry has repeatedly pointed out that only such a system of Extended Producer Responsibility, which will include appropriate mechanisms that effectively enforce the increase in collection and recycling levels, will enable the improvement of waste management in our country and meet the targets in the approaching 2025 perspective. In the context of recycling of plastic packaging waste, a Plastics Levy should be mentioned here – the fee constituting a part of the contribution of the EU Member States introduced by the European Commission as of January 1, 2021. The fee is calculated based on the amount of packaging waste not recycled (€800 per tonne) and paid annually to the EU budget (for Poland this means an annual fee of approx. PLN 1.7 billion in 2021).

The above issues were discussed as part of the Plastics Recycling Coalition, which was launched on the initiative of the PlasticsEurope Polska Foundation and the Waste Management and Recycling Cluster. The Coalition brings together organizations and companies interested in the development of plastic recycling: manufacturers, processors, users of plastic packaging (food and cosmetics industry), as well as recycling companies, and, on an ongoing basis works on various issues concerning the implementation of the circular economy strategy in Poland (such as eco-modulation or recyclate content in products), as well as elaborates common industry positions on proposed legislative solutions, including on the Plastics Levy. The legislators, both European and global ones, are trying to adopt a law which will compel both packaging producers and consumers to apply the solutions fostering the return of waste to circulation. This includes, for example, a circular economy in Europe, various UNEP initiatives (UN Environment Program) or making the regulations governing foreign waste trade stricter (by amending the Basel Convention). Unfortunately, the introduction of these regulations at the level of national legislation, including Poland, often results in inconsistent provisions (e.g. Plastics Levy and circular economy principles), which can impair implementation of new regulations.



Piotr Kwiecień Chairman of PlasticsEurope Polska (SABIC Poland Sp. z o.o.)

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Although plastics played such an important role during the pandemic, they are underestimated by the public. The innovation of our industry is crucial in addressing global challenges, so the industry voice and factual, evidence-based information should reach as large group as possible. This is particularly important in the context of developing wise legislation and consumer opinions.



DIALOG AND COOPERATION IN A NEW REALITY

For several years, we have seen a strong public debate on plastic waste, which has become even stronger in the context of the transfer of social life to the Internet. Discussions on plastic waste take place in wide forums, and due to the fact that these are not only expert forums, unfortunately, the exchange of arguments rather than facts is guite frequently based on myths or even conscious distortions. Therefore, it is of such importance that the Foundation actively participates in the ongoing debate, both through educational activities and numerous conferences as a place of exchange of knowledge, on a daily basis, with the topic of plastics and their safety, waste management and environmental protection. In 2020, there was a breakthrough in the area of communication with stakeholders. On-line events, which were previously used mainly for internal meetings of dispersed teams and large international organizations, became the only form of industry meetings and all conferences. During such meetings, the PlasticsEurope Polska Foundation continued its activities aimed at promoting energy savings, responsible management of plastic waste, protection of the natural environment against littering with plastic waste, with particular emphasis on the water environment. The Foundation was one of the official partners of the Envicon Congress 2020 (October 2020). During the on-line session on waste management, a Foundation's representative delivered a speech and participated in the discussion panel on the challenges posed to the plastics industry by the European Green Deal. Moreover, in the session concerning water management, the Foundation's representative delivered a speech entitled "Microplastics – an element of water environment pollution". The issue of microplastics was also discussed during the TECHCO – an ecological forum of the chemical industry organized on-line in December 2020 by the Polish Chamber of Chemical Industry.



The annual Plastics Industry Meeting "Plastics industry facing current challenges", organized jointly with the Polish Union of Plastics Converters, is an opportunity to exchange information on the topics most important for the industry. The last two editions, due to the limitations associated with the pandemic, took place on a hybrid basis – the speakers and panelists were present in the TV studio, from where the event was transmitted on-line in real time to the registered participants. In 2020, the topics discussed during the meeting were dominated by the topics related to the situation of the industry during the pandemic and the challenges related to the legislation planned under the European Green Deal. Apart from the current doubts related to legislative pressure on the industry, the topic of the Plastics Industry Meeting 2021, which took place in May, focused on the impact of plastics on the consumer and the environment.



As every year, the Foundation's representatives participated in the International Fair of Plastics and Rubber Processing PLASTPOL in Kielce. Due to the pandemic, the fairs in 2020 were postponed from their planned May date to October and their range (number of exhibitors, participants, visitors) was clearly limited compared to previous years.



The PlasticsEurope Polska Foundation maintained its activity, also as the honorary patron of the fairs, and organized a thematic exhibition on the plastics industry on the fairgrounds, as well as live webinar at Plastics Industry Meeting 2020.

In January 2020, we actively participated in the International Conference RECPLAST organized in Litvínov (Czech Republic) by UNICRE (Unipetrol Centre for Research and Education). At the conference, the Foundation's representative delivered a speech on the current progress of works of the European chemical and plastic industry on chemical recycling technologies. We pointed out on the one hand, the need to further intensify R&D works on industrial

implementation of technologies and, on the other hand, the necessary involvement of

industry in the dialog with European and national legislators in order to ensure an important role of recycling in the implementation of the circular economy.

During the Mazovia Circular Congress, which took place in October 2020, representatives of the PlasticsEurope Polska Foundation participated in two expert panels, where they expressed their opinion on the role of plastics as a key element for the success of the circular economy and discussed the importance of eco-designing of plastic packaging as one of the ways towards closing the material circulation in the economy. The latter topic was also extensively discussed during the webinar "Let's talk about plastic" organized as part of the partnership with Polish Circular Hotspot.





CAMPAIGNS AND PROJECTS

New conditions and pandemic restrictions have forced many changes to occur, but have also stimulated innovation in every field, often influencing the shape of long-term projects. An example is the Recykling Reis [Recycling Rally] – a proecological initiative carried out for years together with environmentalist and traveler, Dominik Dobrowolski, aimed at combating the littering of the natural environment and paying attention to the necessity of returning plastic waste to the cycle. At the beginning of 2020, the initiative Recykling Reis was engaged in the campaign of cleaning up the Baltic Sea involving several dozen volunteers. The lack of possibility to organize further meetings for larger groups inspired the RECYXIINGINI RAZEM DLA ŚRODOWISI introduction of new forms of communication regarding the issue of littering of the water environment. As of the first day of spring, Dominik Dobrowolski started a kayaking ultramarathon down the Oder

river – he canoed the distance of 221 kilometers



in 2 days, promoting the need to maintain cleanliness on the banks of the rivers.

On that occasion, four clean-up events were organized in Wrocław and the surrounding areas, as well as in Oława under the slogan "Clean-Up the Oder River", with the involvement of local communities. In addition, in 2020, on the occasion of the 10th anniversary of the Recykling Rejs initiative, a short film was produced showing the objective of the project, i.e. raising awareness of residents about the need to eliminate littering to maintain a clean environment. The film promoted through the Foundation's own channels, including www.recykling-rejs.pl, is popular and has been recognized as the best film on the festival Kajak Jamboree 2021. The anniversary of the initiative Recykling Rejs in 2021, apart from a dozen clean-up events, which in spring and summer took place all over Poland from Gołdap to Bystrzyca, had its culmination during the international kayaking tour from Wrocław to Berlin. In 11 days, 22 kayakers traveled the distance of nearly 500 km down the Oder and Spree rivers, cleaning up the banks of rivers and educating the local communities on individual landings. This exceptional action coincided with the 30th anniversary of signing the Treaty of Good Neighbourship between Poland and Germany, and emphasizing the fact that rivers and waste do not consider borders. Therefore, it is of such importance that actions aimed at cleaning up water and banks are implemented jointly, and environmental challenges are considered in a broader scope – both temporarily and geographically. 500 km to celebrate the 10th anniversary of Recykling Rejs.

500 km to celebrate the 10th anniversary of Recykling Rejs

RECYKLING REJS

Relating to the mission to stop the littering of the natural environment with waste, the "Recykling górom" project was continued in 2020. The PlasticsEurope Polska Foundation is one of its initiators and, as in previous years, actively supports its implementation. The campaign encourages litter collection - your own litter and the one that you found - and bringing it down from mountain trails to selective collection facilities, where it can be segregated, and thus promote correct habits and guides on responsible management of plastic waste. In cooperation with its partners, the Foundation has also continued a project carried out for several years throughout Poland, where cyclical workshops are held for the children in schools, public libraries and environmental education centers, under the slogan "Packaging waste – Not Litter! From Selective Collection through Recycling to New Products", aimed at promoting proper waste management and encouraging children not to litter and to collect waste in a selective way. In 2020, 10 meetings were held during which a mobile narrative poster exhibition was presented, combined with lectures and competitions on ecology.



Although it appeared that in the face of the pandemic nothing was the same as before, unfortunately the problem of incinerating plastic waste in household furnaces remained. In order to raise awareness about the harmfulness of this phenomenon and to form correct habits, the PlasticsEurope Polska Foundation once again conducted an educational and social campaign against burning plastics in households. In order to reach a wider target group, the campaign was carried out in two stages: November 2020 and January 2021. In selected regions of Poland (in Wrocław, Łódź, Białystok, Poznań and in the Upper Silesia agglomeration), an animated spot was displayed on LCD screens in urban transport (trams, buses), illustrating the problem and calling for the termination of incinerating waste in domestic stoves. The message of the campaign was transferred not only to direct recipients of the information spot – residents using urban and suburban transportation. The Foundation, in cooperation with the partner, Ekorum, widely informed about the assumptions of the campaign and about the harmful effects of waste incineration in a home. The information campaign on the harmful effects of plastic incineration. Information materials to be downloaded from

plastik nie do pieca, piec nie do plastików!

Nie spalaj PLASTiKOW!

Powstajace pyły

i szkodliwe

substancje

to zagrożenie

dla ludzi

i środowiska



55

Zamiast spalać – zbieraj plastikowe odpady selektywnie! <u>To cenny surowiec</u> do recyklingu

Kampania informacyjna o szkodliwości spalania plastików. Materiały informacyjne do pobrania ze strony www.plasticseurope.org Information on the campaign was sent to all municipalities in Poland. Hundreds of municipalities benefited from the information materials for residents, by publishing them on their official websites and/or on social media sites. Press materials were distributed to local and nationwide media, informing them of the ways to properly manage plastic waste (through recycling and industrial energy recovery) and about the harmful effects on our health from incinerating plastic waste in household furnaces. An animated movie spot, posters, and additional information are available for download free of charge at www.plasticseurope.org.

KNOWLEDGE AND INFORMATION

The PlasticsEurope Polska Foundation is sharing its expert knowledge also through its own thematic publications – including the Foundation's Annual Report and the Polish version of the most important annual publication of PlasticsEurope titled "Plastics – the Facts", containing an analysis of plastics production, demand and waste data in Europe. In addition, the Foundation prepared and published the Polish version of the four-page brochure on food packaging: "Inside Food Contact Materials. What you need to know!" and the study "The Circular Economy for Plastics",





which is a comprehensive analysis of the role and importance of plastics in the circular economy in Europe. The publication contains a number of data and thematic infographics concerning, among others, selective waste collection and management, or issues related to the production of recyclates and their various applications. In May 2021, an account @PlasticsEuropeP was created on Twitter, which supports ongoing communication between the Foundation and stakeholders. Through this new channel we share knowledge and provide key information about PlasticsEurope's activity, maintaining ongoing contact with our surroundings, under difficult conditions due to the pandemic.



EDUCATION PROGRAMS OF THE FOUNDATION

A key element of the Foundation's educational activities are school programs. "Plastek and his magic box" is a European project of PlasticsEurope targeted at young primary school pupils, which promotes the knowledge of plastics through easy experiments designed for self-testing by pupils. The program, developed and supplemented by the Foundation, also promotes pro-ecological attitudes among the youngest students, related, among other things , to correct handling of plastic waste. Schools participating in the "Plastek" program receive free educational packages consisting of an experiment kit and a set of books for pupils and support materials, and teachers have the opportunity to familiarize themselves with the program and expand their knowledge of plastics during the workshops conducted by the Foundation's representative, organized in cooperation with centers for methodological consulting. As part of the project, an art competition is held twice



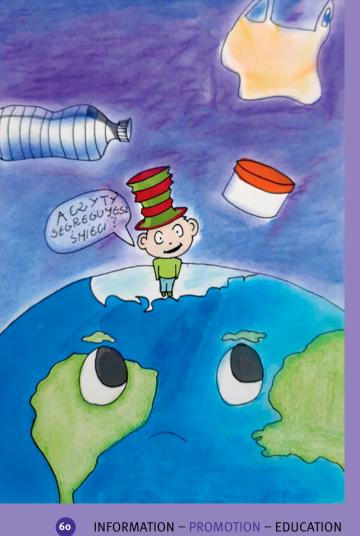
a school year, and additionally, the Foundation runs the website www.eksperymentyplastka.pl, devoted to the "Plastek" program and other educational projects.

The pandemic situation, where schools were in session mainly remotely and by canceling most educational fairs and teacher meetings, imposed a different way of running the "Plastek and his magic box" program. The Foundation prepared an online version of teacher workshops, containing instructional films showing the program experiments, which was used, among others, during a series of online meetings for early school education teachers organized in cooperation with the Łódź Centre of Teacher Training



and Vocational Education (ŁCDNiKP) and the Teacher Training Centre in Zielona Góra. During the pandemic, several live meetings were held, including 2 meetings for schools from the Podkarpackie Voivodeship in cooperation with the Podkarpackie Center for Teachers' Education (in Gorlice and Biecz), and workshops for teachers from primary schools in Zarzecze and the surrounding areas as part of the educational project "Recycling + Education" carried out by Replas Recykling Plastics. In total, more than 100 teachers participated in the Foundation's workshops, and they received the Plastek kits free of charge. The Plastek experiments were also presented at the Science and Technology Festival "Magic of Science", organized in June by ŁCDNiKP in one of the schools in Łódź. The Foundation's representative held workshops for children aged 9-10, and more than 65 pupils attended.

The educational project "Plastics – Modern Materials" complements and develops the knowledge of older students on polymer materials. As part of this project, the Foundation organizes free webinars and workshops for teachers devoted to plastics and their role in the modern world, and schools are provided with a free set of "Plastics – Modern Materials" textbooks and experiment kits containing samples of plastics enabling simple experiments to test the properties of polymers.















In 2020, the project "Plastics – Modern Materials" was promoted during the Educational Day at Innoform Fair organized by Bydgoszcz Industrial Cluster. The Foundation also organized two interactive webinars for teachers, which discussed the issues covered by the textbook, related to the chemistry, processing and use of plastics and ecological aspects of the use of plastics, as well as the problems related to waste management and marine environment littering, and presented the role of plastics in the circular economy. In total, more than 400 textbooks with experiment kits were distributed.

The reality of online communication gave the Foundation the opportunity to promote educational programs – and more broadly - the value of plastics for a wider audience. In 2021, PlasticsEurope Polska was a partner of two educational events. In April, a scientific session for young people (aged 14-18) was held under the slogan "Protect our environment", co-organized by ŁCDNiKP as part of the competition "Ecological Education for Schools" of the Voivodship Fund for Environmental Protection and Water Management (WFOŚiGW) in Łódź, at which the Foundation's representative delivered an interactive speech titled "Plastics – facts and myths". Also in April, PlasticsEurope Polska was a partner of EKOfeston – Online Ecological Festival held on the occasion of the Earth Day organized by Abrys. The Foundation's representatives participated in three thematic sessions: "An Hour for Water" where they were promoting this year's "Recykling Rejs", "An Hour for Air", dedicated, among others, to talks about the campaign "Plastic not for furnace, furnace not for plastic", and "An Hour for Waste" which was an opportunity to reach the youngest participants with a message on the value of plastics and plastic waste, as well as to show them the Plastek experiments. The event was transmitted on a dedicated website and on Facebook Live and reached an audience of almost 12.5 thousand from all age groups. PlasticsEurope Polska, using its expert knowledge of plastics, supports the educational projects of member companies, including, among others, the competition for schools in the Płock region organized by Basell Orlen Polyolefins. In the 10th edition of the competition completed in March 2020, photographs taken by young people, with plastics in the main role, competed for the title of the most popular photograph on Instagram.

ABOUT PLASTICSEUROPE POLSKA

PlasticsEurope Polska – a foundation representing manufacturers of plastics in Poland – associates national manufacturers of plastics, foreign corporations operating in Poland through local companies, as well as other companies of similar business profile operating in Poland:

ALBIS Polska Sp. z o.o. ARKEMA Sp. z o.o. Basell Orlen Polyolefins Sp. z o.o. BASF Polska Sp. z o.o. Borealis Polska Sp. z o.o. Celanese Engineered Materials Covestro Sp. z o.o. Dow Polska Sp. z o.o. Evonik Resource Efficiency GmbH Sp. z o.o. Oddział w Polsce Exxonmobil Poland Sp. z o.o. Ineos Styrolution Poland Sp. z o.o. SABIC Poland Sp. z o.o. Synthos S.A. Total Petrochemicals&Refining SA/NV (Spółka Akcyjna) Oddział w Polsce Trinseo Europe GmbH Przedstawicielstwo w Polsce Versalis International SA Oddział w Polsce VYNOVA International nv

The authorities of the Foundation are the Management Board and the Foundation Council, consisting of representatives of the associated companies.





Piotr Kwiecień Chairman (SABIC Poland Sp. z o.o.)



Maciej Dobrzyński Vice Chairman (Covestro Sp. z o.o.)





Umberto Credali President (Basell Orlen Polyolefins Sp. z o.o.)



Marcin Bereza Board Member (Dow Polska Sp. z o.o.)



Sławomir Górski Board Member (BASF Polska Sp. z o.o.)



Piotr Tomalski Board Member (Borealis Polska Sp. z o.o.)





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