

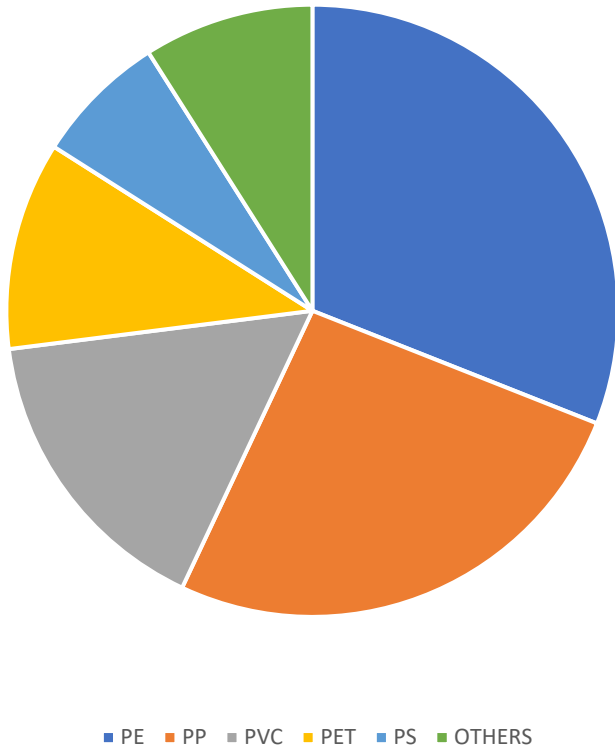
SUSTAINABILITY AND SOCIAL RESPONSIBILITY IN PLASTICS INDUSTRY



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Global Commodity Plastic Market Share (%), By Type
(2015)
(Market Research Future, 2017)



PLASTICS CONSUMPTION AND SUSTAINABILITY PROBLEM

The most commonly used plastics today are; Polyethylene (PE), Polypropylene (PP), Polyvinyl chloride (PVC), Polyethylene terephthalate (PET), Polystyrene (PS). According to the market data of 2015, the yearly consumption shares of plastics are as in table 1.1.

Roughly a third of plastic is used in packaging applications in industrialized economies and about the same for buildings in applications such as piping, plumbing, or vinyl siding. Further applications include cars, furniture, and household items.

About 50 kg of plastic is produced globally per person every year, and every ten years, the amount is doubled.

Today it seems impossible to have a world without plastic or synthetic organic polymers since most materials were replaced by plastics today despite the environmental problems caused by them.

PLASTICS CONSUMPTION AND SUSTAINABILITY PROBLEM

To date, 8300 million tons of prime plastics have been produced. Only around 9% of them were recycled, 12% were burned, and 79% accumulated in landfill and oceans, which caused environmental and ecological problems, threatening wildlife and contributing to climate change.

The overwhelming majority of the monomers, including ethylene and polypropylene, are used to make plastics. These compounds come from fossil hydrocarbons. The plastics used in common applications such as packaging are not biodegradable. So, instead of dissolving, they accumulate in deposits or nature. Only destructive thermal treatment, including combustion or pyrolysis, will permanently remove plastic waste.

In order to protect our environment and maintain economic development and the industry, it is mandatory to find sustainable solutions for plastic usage and consumption



SUSTAINABLE SOLUTIONS FOR PLASTICS

Currently, the main solutions regarding plastics consumption in the industry are using more sustainable materials in the production process, such as;

- Biodegradable Plastic Compounds
- Recycled Plastics
- Filler Masterbatch Compounds

Biodegradable plastics can be decomposed (breaking down its structure) by microorganisms in the environment and significantly decreasing products' dissolve period in nature.

Meanwhile, recycled plastics and filler masterbatch compounds replace some petroleum resources and reduce energy consumption in the production phase; therefore, they are environmentally friendly.

In our initiative Mescody, we are advancing plastic raw material supply through more environmentally sustainable solutions such as recycled plastics and filler masterbatch compounds for manufacturers worldwide.



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PLASTICS RECYCLING AND APPLICATIONS IN THE INDUSTRY

In a wide range of applications, recycled polymers can be used. Some plastics, especially those consisting of mixed plastics, are mainly used for relatively low-value end applications where wood or concrete are substituted, mainly outdoor applications. However, the recycling application is significantly downgrading the quality of the products, reflecting the recycled material's relatively low resin properties.

The packaging industry (Plastic bags, films, bottles) has the most significant share of plastic production. The manufacturers of packaging materials should avoid mixing packaging materials with additives to increase the amount of plastic that can be fully recycled. Recycling companies such as ELM Kimya in Turkey are buying packaging wastes to reprocess them to industrially usable granules.

The reprocessed granules are being sold to the manufacturers again to be used in the packaging applications. Therefore it is essential to keep manufacturing as pure as possible to maximize the recyclability of the wastes.





CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL SUSTAINABILITY

Sustainability in the plastic industry should be considered in many aspects. Recycling plastic materials, energy preservation in production using achievements of new industrial technologies, environmental protection, and, of course, maintenance of labor protection and human rights.

The recycling cycle tendencies in developing countries have a close connection with social responsibility development in society. Social responsibility in society will raise the development of the sustainable plastics industry.

The majority of the developing countries are buying scraps to produce secondary granules from developed states. The consumption of plastic production in the daily life of developing countries' societies is not less than in developed countries. However, the disorder of waste collection is creating a problem in the recycling cycle in these economies.

To create an effective corporate social responsibility scheme in the plastics industry, companies should consider all these aspects and consider the connection between the developed economies and the economies under development and their relationship in the industry.

SUPPLY CHAIN PROBLEMS IN SUSTAINABLE PLASTICS PRODUCTION



There is disproportionality in the supply of scrap materials between countries because the plastic collection system adopted to society allows developed states to collect and reproduce the plastic effectively. This organized chain of supply for plastic wastes allows the recycling industry to reduce the costs and makes plastic waste supplies effective from the side of the collection and delivery and the side of the preselection for different types of plastic.

The lack of an effective collection system leads to the situation when plastic wastes stay unrecycled in enormous amounts in developing states. This leads us to the general problem of global environmental protection, which doesn't choose between developed and developing states

Many recyclers in developing countries such as Turkey, Vietnam, and Pakistan do not receive their material input from a collection service but instead through an informal waste collection or traders supplying from developed countries.

RAISING AWARENESS FOR SUSTAINABILITY AND SOCIAL RESPONSIBILITY



Social responsibility is an essential factor that goes with the technical and material factors of sustainable plastic recycling systems' success.

Promotion through educative and legislative measures increase responsible social consciousness of the waste selection. The environment and circular economy need to create a social mindset. States, international organizations, and NGO's have to play their roles in ensuring the appropriate industrial approach.

In developing countries, which are different in their level of ongoing development, the social conditions, the level of legislative measures, the technical state leads to the situation where the question of social responsibility of waste management is not raised. Many developing countries have no political state of questioning the social responsibility on waste management because they have other economic priorities.

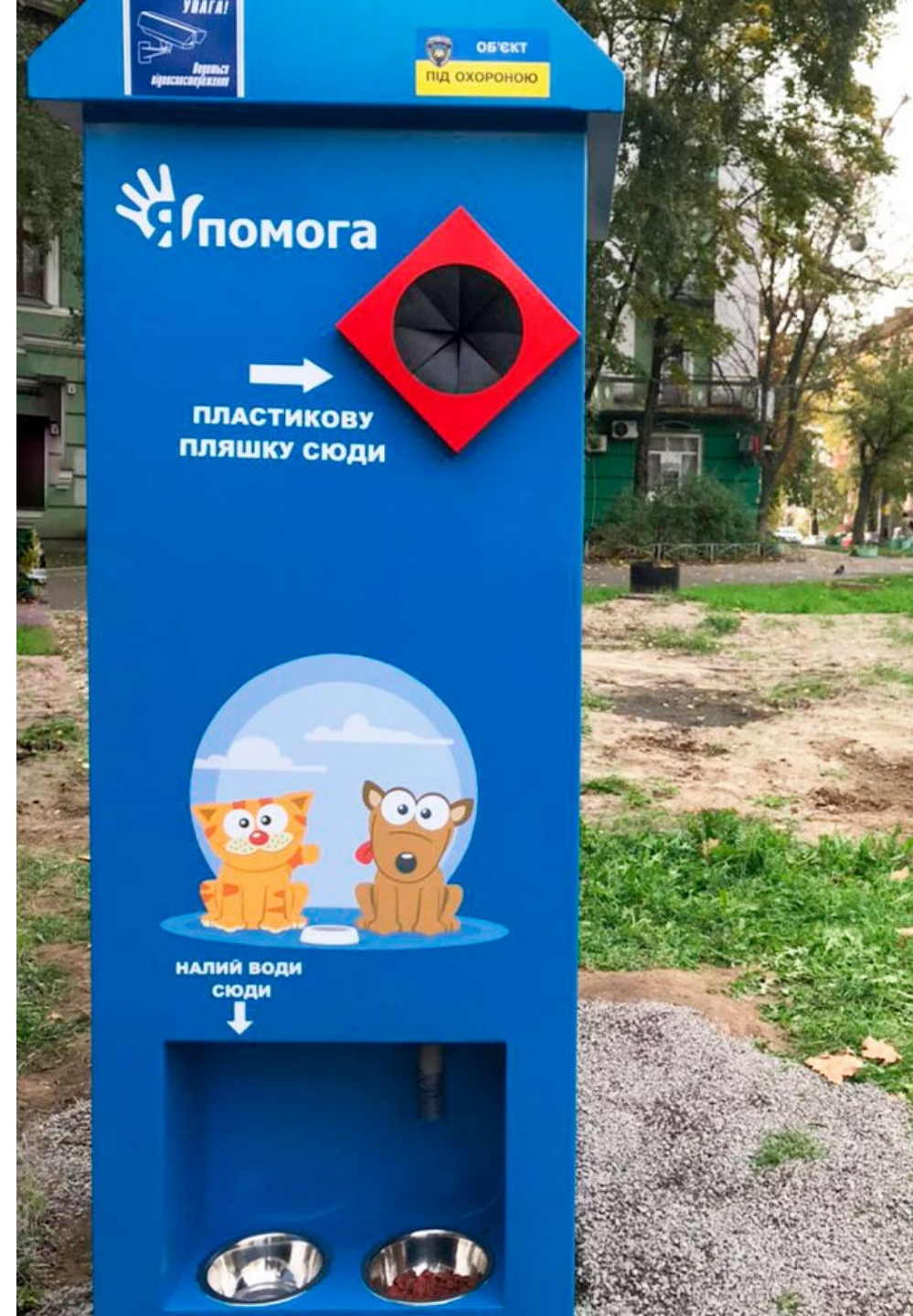
Therefore, non-governmental organizations have a critical role in promoting social responsibility among the population voluntarily. This raises the importance of the plastic industry's cooperation with non-governmental organizations, especially of developing states. From this side, we can talk about corporate social responsibility, which is directed not only on profit accumulation but also on environmental and social initiatives. The synergy of industry and non-governmental organizations promotes sustainability values and educates communities for socially responsible approaches towards waste management with economic and social pluses.

From one side, these non-governmental organizations construct a stable and economically reasonable supply of plastic wastes, even if on the initial state on a trim level. From the other side, the plastic companies are being involved in social developing activities, necessary general humanistic activities as real participants of the sustainable economy.

RAISING AWARENESS FOR SUSTAINABILITY AND SOCIAL RESPONSIBILITY

Ukrainian non-governmental organization Yapomoga can be a good example for raising awareness for sustainability. This organization is implementing an initiative that helps social needs and raises social responsibility. This initiative is based on installing plastic accepting boxes (mostly pet bottles) which for each bottle provide food to the homeless animals. From one side, people are helping homeless animals; from the other side, they are involved in the conscious process of collecting plastics.

We think that supporting such non-governmental organizations allows us to be a real part of the sustainable economy and promote society's values. In order to create an effective circular economy system, we need cooperation in all actors in the economy, from corporations to NGO's to public institutions.



MESCODY PROJECT: A GLOBAL CENTER FOR SUSTAINABLE PLASTICS TRADE

We have created Mescody Sàrl (Merchants of Sustainable Commodities) as a business hub focusing on plastic recycling and compounding to trade environmentally sustainable plastic raw materials.

We are working together with the leaders of the industry to recycle more than 25.000 tons of plastic wastes of HDPE, LDPE, LLDPE, PPC, and PET raw materials.

Our goal is to create a sustainable plastics trading initiative in Switzerland to finance and operate plastic raw material supply for companies looking for environmentally friendly manufacturing options.



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Working Group of Sustainability Reports;
info@mescody.com

Mescody Sàrl - Route du Jura 49, 1700 Fribourg - Switzerland