

benefits of
plastics in our daily lives



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how plastics play an important part in our daily life

From the moment you wake up till the time you go to bed, we are surrounded by materials made of plastics. We use plastic products to help make our lives cleaner, easier, safer and more enjoyable. You will find plastics in the clothes we wear, the houses we live in, and the cars we travel in. Even the toys we play with, the televisions we use to watch our favourite shows, the computers we use and even our MP3 players contain plastics. Simple everyday items we use such as a toothbrush contains plastics!





Plastics are organic, just like wood, paper or wool. The raw materials for plastics production are natural products like cellulose, coal, natural gas, salt and of course, crude oil. Plastics are today's and tomorrow's material of choice because they make it possible to balance modern day needs, such as packaging for daily essential items with environmental concerns (cutting wastage, etc).¹

¹ Plastics Europe – Types of Plastics: <http://www.plasticseurope.org/what-is-plastic/types-of-plastics.aspx>



benefits of plastics

- Plastics are durable, shatter-resistant and safe to use.
- When used, plastics provide a barrier to moisture, gases, chemicals and tainting while maintaining lightweight.
- Plastics are versatile in design, and can be easily customised in terms of printing for decoration and colouring purposes.
- Plastics are flexible and different formulations can be tailored for different functions.
- Plastics usage is also environmentally-sound with low impacts from start to finish with good recyclability options.
- Plastics are also the most cost-effective against all other packaging options available out there.

Did you know
that the RM5
note is made from
plastics!



multiple usage options for plastics

1. Packaging

- Packaging serves many purposes, such as storing everyday household items such as shampoo, etc.

2. Building and Construction

- Yes, even the building we live in contains plastics!

3. Transportation

- Did you know plastic parts are essential to cars performing at their best?

4. Electrical and Electronics

- Do you have an MP3 player? Can you guess one of the main component of your MP3 player?

5. Medical and Health

- Plastics being light-weight, low-cost and durable ensure that important medicare items are kept affordable yet effective.

6. Agriculture

- Plastics play an important part in irrigating farms for bountiful crops.

7. Sport, Leisure and Design

- From shoes to running tracks; modern sports rely on plastics daily.



1. Packaging²

Packaging is the largest consumer of plastics as it can be used by various industries for packing consumer goods to sustain the durability. Around one-third of plastics go into protective packaging to ensure the safety or freshness of everyday products we frequently use. The roles of packaging include:

Food conservation and preservation

Plastics packaging protect food from climatic conditions and preserves perishable food to last longer, which reduces waste and the use of preservatives while maintaining the taste and nutritional value of food. This way, we get to enjoy our favourite food a little longer.

Convenient and innovative

Plastics are so versatile that whatever the demands of the people are, be it wanting packaging with clear identification and labeling or one that is very easy to open and use, plastics is able to meet the needs and demands of modern society. As our needs evolve, plastics packaging evolves as well.

Safe and hygienic

Plastics packaging plays an important role in ensuring hygienic conditions. Plastics protect food and medicine from being contaminated and helps prevent the spread of germs during the process of manufacturing, distribution and display. Plastics packaging can also be designed to create tamper-proof closures to provide added protection and security. Transparent packaging allows people to look at food without having to touch it and this helps to cut down on bruising and other damage. Hurray for plastics keeping out the nasty germs!



² Packaging: <http://www.plasticseurope.org/use-of-plastics/packaging.aspx>





2. Building and Construction³

Look around you, can you name the parts of the building materials that involve plastics? From plastic pipes to roofing systems and even insulation in the walls, plastics make living a little easier. Architects and designers rely on plastics to help maximise energy efficiency, durability and performance in designing buildings, ranging from residential homes, commercial buildings, hospitals, schools, and more. In addition to potentially reducing a structure's environmental footprint, properly installed plastic building products can help reduce energy and maintenance costs over many years. See some examples below:

All new buildings benefit from plastics damp-proof membrane.

- Cabling, piping and plastics insulation.
- Fire-resistant doors, windows, cladding and drainage.
- Main water supply pipes.

³ Plastics Division: Building & Construction http://www.americanchemistry.com/s_plastics/sec_content.asp?CID=1079&DID=4233





3. Transportation

Even when we are on the road, plastics are at work around us. Plastics have contributed to a multitude of innovations in safety, performance and fuel efficiency in automotive design, making them an essential part of automotive design.⁴

In the last 15 years, lightweight plastic components in cars have increased from 3% to 11%.

This has helped led to a 14% decrease in petrol consumption.

⁴ Plastics Division: Automotive: http://www.americanchemistry.com/Plastics/sec_content.asp?CID=1080&DID=4234&dowhat=&css=print





4. Electrical and Electronics⁵

From computers and mobile phones to television sets and microwaves, durable, lightweight and affordable plastics have helped revolutionise the electronics we rely on every day. Plastics deliver an incredible range of performance benefits for electrical equipment and electronics. Their unique combination of performance properties inspires innovation on two fronts: the development of new and better products and the more efficient use of resources.



⁵ Plastics Division: Electrical and Electronics: http://www.americanchemistry.com/plastics/sec_content.asp?CID=1081&DID=4235





5. Medical and Health⁶

Modern healthcare would be impossible without many plastics medical products that we take for granted such as disposable syringes, intravenous blood bags and heart valves, etc. Plastics packaging is particularly suitable for medical applications, thanks to their exceptional barrier properties (great for keeping medical equipment and medication airtight), light weight, low cost, durability, transparency and compatibility with other materials.

⁶ Plastics Europe; Medical & Health: <http://www.plasticseurope.org/use-of-plastics/medical-health.aspx>





6. Agriculture⁷

Using plastics in farming is not new. Plastics have been used in agriculture and horticulture since the middle of the last century. Agricultural tools made of plastics have enabled farmers to increase their crop production whilst reducing the pressure on our environment and improve the quality of our food. Today's use of plastics in agriculture results in increased yields, earlier harvests, less reliance on herbicides and pesticides, better protection of our food products and more efficient water conservation. Agricultural plastics have a vital role to play. Plastics-based agricultural systems provide effective solutions to crop growing in many ways: In arid regions, for example, plastics piping/drainage systems reduce irrigation costs by one to two-thirds and enables doubling crop yield. Other types of plastics also benefit the agricultural sector in many ways.

⁷ Plastics Europe – Agriculture: <http://www.plasticseurope.org/use-of-plastics/agriculture.aspx>



7. Sport, Leisure and Design⁸

Plastics have revolutionised sports in recent years. From tracks on which Olympic athletes pursue new records, to shoes, clothing, safety equipments (helmets, kneepads) and stadium constructions (water and drainage pipes, seats, roofing), modern sportsmen rely on plastics to excel.

⁸ Plastics Europe: Sport, Leisure, Design: <http://www.plasticseurope.org/use-of-plastics/sport-leisure-design.aspx>







plastics and sustainability

So, we have learned about how useful plastics can be for us in our lives daily, let us look at three great ways that you can eliminate waste and protect the environment.

1. REDUCE

- Plastics reduces waste by extending shelf life of perishable items.
- Research shows that shrink wrap extends the life of a cucumber on the shelf from around three days to more than ten days (isn't that incredible?).
- Extended shelf life means fewer preservatives plus extended life in the home – fewer preservatives mean healthier food for everyone!
 - Food packaging: about 40% of plastics produced are used in food packaging. Help preserve food, reduce food waste and reduce weight of packaging. Energy efficiency of plastics packaging is unrivalled compared to other materials. 1% increase in packaging efficiency reduces food waste by about 1.6%.
 - 50% of all of Europe's food are packed in plastics, accounting for only 17% by weight for all packaging. Food waste is only 2 to 3% compared to 50% in developing countries (Tampere University, Finland).
 - Without plastics packaging:
 - Overall packaging by weight would increase by 291%.
 - Increase in manufacturing energy by 108%.
 - Waste volume increased by 158%.
 - Western Europe – the use of plastic packaging reduces greenhouse gases by 43 million MT of CO₂, equivalent to 12 million cars per year.





2. REUSE

- Whenever we can, we should aim to reuse products to cut down on wastage.
- Reusing plastic bottles and containers are safe. Bring your own bottles and food containers when you take away food and drinks. This helps eliminate the need for new containers.

Returnable plastic crates substantially reduce one trip packaging. Returnable crates have a life of 25 years or more.⁹

⁹ Reuse - <http://plastics2020challenge.com/reuse/>





3. RECYCLE

Plastics wastes should either be recycled or be converted to clean waste by incineration. For example, a single plastic bottle will provide enough power to light a 60 watt bulb for 1.5 hours. A used plastic bag has the energy potential to light up a room with a 60 watt bulb for 10 minutes.

It is not technically possible nor economically feasible to recycle everything. For non-recyclable wastes, clean incineration is environment-friendly solution.

Plastics helps waste recovery: recycled plastic bags are widely used for the separate collection of household waste.

When recycled, waste plastics become damp proof membrane, dustbin bags and long-life products including litter bins and fashion clothing.

In summary, Plastics are part of our daily lives! They are from natural resources, which help reduce environmental impacts.





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Malaysian Plastics Forum

The Malaysian Plastics Forum (MPF) was established in May 2005, and is a joint collaboration between three industry organisations, namely, the Malaysian Petrochemicals Association (MPA), the Plastic Resins Producers Group (PRPG) and the Malaysian Plastics Manufacturers Association (MPMA).

Prior to the formation of MPF, the three industry groups had collaborated on waste management projects with the view that a more effective approach to promote environmental values would require all three groups to be established as a single entity to work together with the Government, the public as well as other interest groups with a common concern for the environment.

MPF's objectives are to create awareness and education on plastics, disseminate factual information on safety and trends on the use of plastics as well as to drive the 3Rs concept for plastics which is to Reduce, Re-use and Recycle.



Malaysian Plastics Manufacturers Association

The Malaysian Plastics Manufacturers Association (MPMA), established in 1967, is a progressive trade association providing leadership and quality service to its members and the plastics industry. MPMA is the official voice of the Malaysian plastics industry, representing its members and the industry in Government interaction, spearheading the plastics industry's growth and providing the platform to assist members to be globally competitive, taking into cognisance its social responsibility towards the environment and community.

MPMA currently has more than 800 members which represent about 60 percent of plastics manufacturers in the country and account for 80 percent of the country's total production of plastic products.



ExxonMobil Chemical

Headquartered in Kuala Lumpur City Center (KLCC), ExxonMobil is the largest US investor and an active participant in Malaysia's business sector and the local communities in which it operates.

As part of its corporate social responsibility, ExxonMobil is committed to maintaining the highest standards of safety, health and environmental care as it believes that a company's commitment and performance in the area of safety, health and environment is indicative of outstanding performance in other aspects of its operations.

ExxonMobil works collaboratively with government and nongovernment bodies and community leaders to identify areas of need and how best to meet them. Whilst education has been the main focus, ExxonMobil also supports projects in the areas of welfare, environment and the arts.

ExxonMobil's goal is to achieve excellent environmental performance in each of its businesses to Protect Tomorrow. Today, ExxonMobil further seeks to reach its objective to operate responsibly everywhere it does business by implementing scientifically sound and practical solutions that consider the social needs of the communities in which it operates. Accordingly, ExxonMobil seeks to communicate with the public on environmental matters and share its experience with others to facilitate improvements in industry performance.

On the aspects of safety and health, ExxonMobil's policy is to, amongst others, include identification and control of potentially adverse health and safety effects as priority considerations in the planning and development of products and identify and evaluate health risks related to its operations that potentially affect its employees, contractors or the public.

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