The Future of Global Plastic Films to 2021

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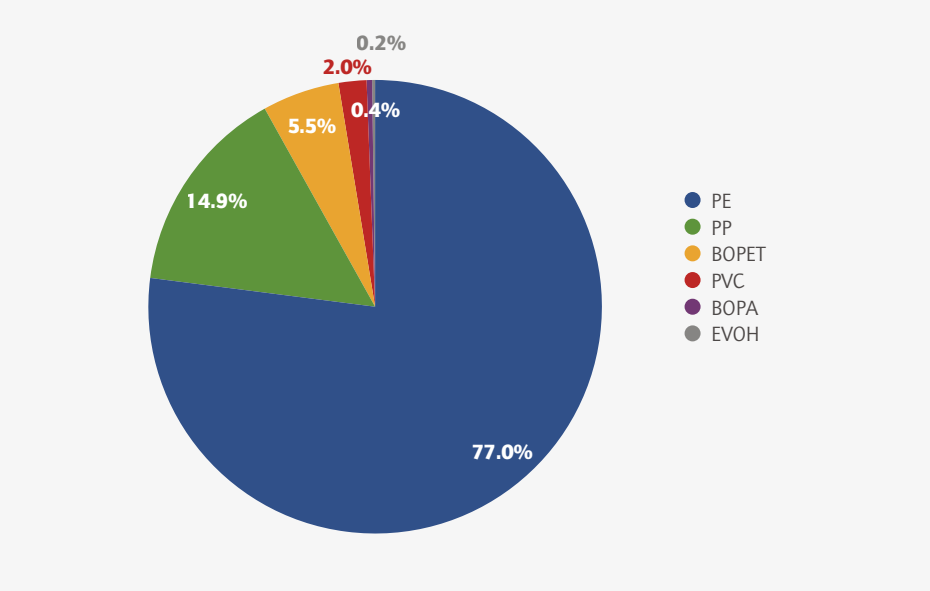
Global demand for plastic films is predicted to reach 61.3 million tonnes for the calendar year 2016, and forecast to grow at an average annual rate of 4% during the forecast period 2016–21 reaching 73.3 million tonnes. BOPP films have one of the highest growth rates of films during the period 2016–21, which is a significant volume increase from its starting point in 2011. PVC is forecast to show no growth due to competition from other plastic films.

FIGURE E.1 Global plastic film consumption by material, 2015 (% share by volume)



Source: Smithers Rapra

The development of the global plastic films market is dependent upon a number of socio-economic trends, ranging from economic influences, lifestyle and demographics changes to the development of new materials and packaging technologies and emerging trends in end-use markets. These have enhanced the value of plastic films and made them even more attractive to brand owners, converters and consumers around the world.

Lifestyle changes are driving consumer demand for novel packaged products. As the middle class as grown and disposable incomes have risen, so consumers have become increasingly time-constrained, especially in the developed markets over the review period. This has forced them to choose processed and prepared goods that are packaged using lightweight plastic films, which offer greater convenience and portability. Innovative packaging solutions, such as microwaveable packaging, single-serve packs, stand-up pouches and blister packaging have become commonplace and have contributed to the development of plastic films in Western Europe, North America and Australasia.

As a consequence of world population growth, urbanisation has been rising – especially in the regions with faster growing populations of Asia, South and Central America, the Middle East and North Africa, as well as in Eastern Europe – and is

generating additional demand for packaged products. In addition, plastic film packaging is benefiting from domestic supermarkets and hypermarkets, as well as international retail chains which have been spreading in many of the major cities in these regions, and capturing a growing share of food and drink consumption from small local stores. This emerging and growing retail sector has become favoured by consumers since it brings them into contact with Westernised shopping and packaging patterns, with their expansive range of products and a diverse selection of private and premium brand labels, boxed into value added packaging with prolonged shelf lives.

The trends of sustainability and lightweighting continue to account for the downgauging of plastic films to accommodate both suppliers suffering from reduced margins as a result of low polymer prices, and consumer demands for reduced packaging due to environmental issues and lifestyle changes. Many traditional plastic films however have reached the limits of this trend, and will begin to be promoted in terms of the precycling benefits of these films versus rigid films and packaging, since once they are produced, they generate little or no waste and can therefore reduce waste at source, so that it is eliminated before it is even created.

There is a rapidly increasing demand for packaging materials to provide greater protection to their contents, especially for the food, beverage and pharmaceutical industries. As the use of plastic films has become more common, concerns have arisen about their ability to allow the exchange of gases and vapours that can compromise the quality and safety of packaged products, and this is being addressed by the introduction of safe, novel barrier films and coatings. Smart materials are also increasingly playing a role in active and intelligent packaging to enhance product shelf life and to provide a visual indication of product status and condition.

TABLE E.1 Global plastic films market by material, 2011–21 ('000 tonnes)

Substrate	2011	2012	% 2011/12	2013	% 2012/13	2014	% 2013/14
PE	40,419.8	41,583.4	2.9	42,925.2	3.2	44,356.7	3.3
LLDPE	15,689.2	16,144.6	2.9	16,865.4	4.5	17,425.9	3.3
LDPE	12,595.5	12,888.9	2.3	13,220.6	2.6	13,687.2	3.5
HDPE	12,135.1	12,550.0	3.4	12,839.2	2.3	13,243.6	3.2
PP	7,647.4	8,085.5	5.7	8,318.3	2.9	8,561.9	2.9
CPP	1,415.0	1,446.9	2.3	1,482.9	2.5	1,531.5	3.3
BOPP	6,232.4	6,638.7	6.5	6,835.4	3.0	7,030.4	2.9
BOPET	2,697.0	2,912.2	8.0	3,044.4	4.5	3,187.9	4.7
PVC	1,226.5	1,199.0	-2.3	1,198.4	-0.1	1,206.4	0.7
BOPA	190.7	202.0	5.9	211.5	4.7	223.9	5.8
EVOH	103.0	107.3	4.2	112.6	4.9	118.0	4.8
Total	**52,284.3**	**54,089.4**	**3.5**	**55,810.5**	**3.2**	**57,654.8**	**3.3**

	2015	% 2014/15	2016(p)	% 2015/16	2021(f)	CAGR 2016–21
PE	45,727.1	3.1	47,175.3	3.2	55,401.7	3.3
LLDPE	18,134.7	4.1	18,841.4	3.9	22,674.7	3.8
LDPE	14,014.7	2.4	14,458.2	3.2	17,071.7	3.4
HDPE	13,577.7	2.5	13,875.6	2.2	15,655.3	2.4
PP	8,833.5	3.2	9,142.6	3.5	11,915.0	5.4
CPP	1,599.1	4.4	1,634.6	2.2	1,942.3	3.5
BOPP	7,234.5	2.9	7,508.0	3.8	9,972.7	5.8
BOPET	3,265.6	2.4	3,411.1	4.5	4,341.6	4.9
PVC	1,181.4	-2.1	1,155.7	-2.2	1,117.6	-0.7
BOPA	232.8	4.0	244.9	5.2	331.6	6.3
EVOH	125.1	6.0	133.3	6.6	192.3	7.6
Total	**59,365.6**	**3.0**	**61,262.8**	**3.20**	**73,299.8**	**3.7**

Note: p=projected; f=forecast; totals may not add up due to rounding
Source: Smithers Rapra

With regard to the global plastic film market spilt by material substrate, polyethylene (PE) is the most widely used substrate for plastic films, with global sales of 45.7 million tonnes in 2015. PE continues to replace other flexible packaging materials, including paper, cellulose and glass due to its versatility, easy processability, low cost price and recyclability. The second most widely used substrate is polypropylene (PP). Packaging accounts for around 90% of PP film consumption, as it continues to be used in an extensive range of food packaging applications. The third largest segment is biaxially oriented polyethylene terephthalate (BOPET) film. With its high tensile strength, stability, and barrier properties when enhanced by further processing, such as metallisation, PVdC, AlOx, or SiOx, it is ideal for many industrial packaging applications.

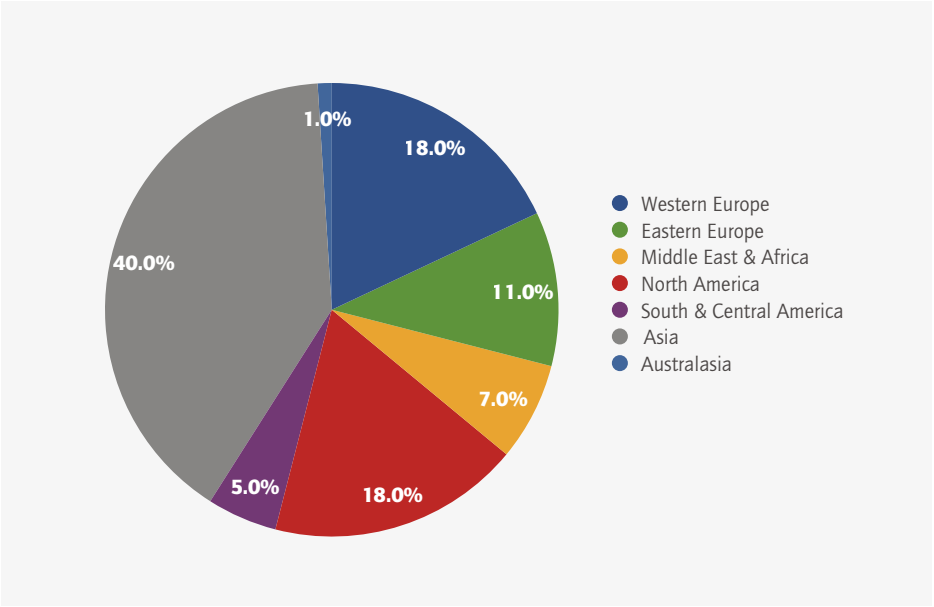
Since 2011, global sales of BOPET film have grown at an average rate of 3% to reach 3.27 million tonnes in 2015.

PVdC and biodegradable film technologies have been treated separately in this report. Global data for PVdC and biodegradable films can be found in Tables 4.13 and 4.14 respectively. These films have not been included in the global plastic film data tables (Tables 4.1, 5.1 and 6.1), since they are distinct from the primary plastic films covered in this report. Biodegradable films have the highest forecast growth rate of 9%, starting from a low basepoint in 2011.

In 2015 the largest segment of the plastic film market was automated packaging film, with sales reaching 20 million tonnes. The second largest plastic film market segment was plastic bags and sacks with total sales reaching 19.7 million tonnes, but this is forecast to maintain the lowest growth rate over the next five years because of an ever-increasing environmental lobby regarding the use of self-service shopping bags – many areas around the world have imposed bag bans or charged a levy whenever such bags are used. Agricultural plastic films have experienced the highest growth rate compared to other plastic film applications, which, combined with advances in film technology especially for agricultural usage, is expected to lead to an accelerated growth rate of 6.4% during the forecast period 2016–21.

By geographical region, Asia has the largest and most attractive regional market for plastic films, accounting for 40% of global market volume due to the great number of manufacturers in the region, followed by North America and Western Europe. China serves as the largest national market for plastic films in the world, accounting for about 25% of global film consumption in 2015. North America continues to experience a decline in local manufacturing. Western Europe has an uncertain outlook owing to security threats and economic uncertainty, whereas demand for plastic films in Eastern Europe continues to outpace that observed in Western Europe. Asia, the Middle East and Africa and South and Central America are forecast to be the fastest growing plastic film markets with average annual growth rates in excess of 4% during the forecast period 2016–21.

FIGURE E.2 Global plastic film volume shares by geographic region, 2015



Source: Smithers Rapra

