### 1 The primary plastics market

In May PlasticsEurope Deutschland e. V., cf. <a href="http://www.plasticseurope.de/">http://www.plasticseurope.de/</a>, submitted the German plastic industry's report for the first quarter of 2017. In the report, you will find up-to-the-minute figures and data on Germany's plastics industry and a comparison with the corresponding developments in Europe (EU 28).

In the first quarter, primary plastics production rose by 1.9 % compared to the previous quarter. The previous year's level was also exceeded by 1.2 %. Primary plastics turnover increased by 2.4 % in the first quarter compared to the preceding three months. A comparison with the same period in the preceding year even shows turnover to be 6.6 % higher. Plastics production rose by 0.3 % compared to the previous quarter and thus, by 2.8 % relative to last year. Primary plastics exports increased by 19.3 % in the first quarter of 2017 compared to the fourth quarter of 2016. Within the same period, imports rose by 14.4%. Both exports and imports were above the previous year's level. Plastics exports went up by 10.0 % in the first quarter.

The plastics industry, consisting of plastics manufacturers, plastics processors and plastics machine manufacturers, is a key industry in Germany. It supplies important industrial sectors such as the building and construction sector, the food industry, the automobile manufacturing and electronics industries as well as the mechanical engineering and chemical industries with innovative products and solutions. In economic respects, too, the German plastics industry, with its approximately 6 % share in German industrial production, is a key industrial sector. In 2016, 3,350 companies with a turnover of around 92 billion euros provided future-proof jobs to approximately 396,000 people.

**1.1** Standard plastics: Average standard plastics prices fell by 40 €/t and 56 €/t respectively in April and May (cf. Table 1), when they were listed at 1404 €/t (in April) and 1348 €/t (in May). In May, only the PVC price remained unchanged, while PE, PP and PS prices fell by an average 25 €/t, 20 €/t and even 210 €/t. Average prices in May 2017, which were listed at 1348 €/t, were 35 €/t higher than those in May 2016, which reached 1313 €/t. Demand for plastics tended to be lower in May. Plastics processors are speculating on prices falling further. Packaging PET was listed at an average 1195 €/t in April and at 1173 €/t in May and thus, 85 €/t and 22 €/t lower than in the respective previous month.

Table 1:	FUWID listings t	for standard plastics	over the past five	months: prices in €/t.
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Prices in €/t	May 2017	April 2017	March 2017	Feb. 2017	Jan. 2017	
LDPE film grade	1420- 1530	1440- 1550	1440- 1550	1390- 1500	1350- 1440	
LLDPE film grade	1380- 1480	1420- 1520	1420- 1520	1360- 1460	1320- 1400	
HDPE injection moulding	1380- 1430	1400- 1450	1400- 1450	1360- 1400	1320- 1360	
HDPE blow	1400- 1450	1420- 1470	1420- 1470	1380- 1420	1340- 1380	
moulding	1400- 1450	1420- 1470	1420- 1470	1300- 1420	1340- 1360	
PS crystal clear	1430- 1500	1630- 1720	1860- 1950	1780- 1860	1570- 1620	
PS high impact	1530- 1600	1730- 1820	1960- 2050	1870- 1960	1660- 1720	
PP homopolymer	1350- 1410	1370- 1430	1350- 1410	1290- 1350	1230- 1290	
PP copolymer	1410- 1470	1430- 1490	1410- 1470	1340- 1400	1280- 1340	
PVC tube grade	900- 950	900- 950	890- 940	840- 890	820- 870	
PVC film/cables	950- 990	950- 990	940- 980	890- 930	870- 910	
Average Price	1348 ± 214	1404 ± 264	1444 ± 334	1384 ± 322	1305 ± 260	

**1.2 Technical plastics**: In April 2017 technical plastics prices continued to rise. Technical plastics were quoted at the highest level in many years. In April 2017 technical plastics were listed at 2657 €/t and thus, an average 189 €/t higher than in February 2017, when they reached 2459 €/t, cf. Table 2. A comparison of the average listings for April 2017

(2657 €/t) with those for April 2016 (2360 €/t) shows the price rise to be 297 €/t! The marked price rises in April 2017 are explained by high demand, which is, in part, accompanied by scarce supply. Prices are expected to fall in the next few months; for example, precursor prices are declining.

Table 2:	EUWID listings for technical plastics, which are published every two months, over the past
	six months; prices in €/t.

Prices in €/t	April 2017	February 2017	December 2016	October 2016
PMMA crystal clear	2800 – 3000	2600 – 2800	2500 – 2600	2500 – 2600
ABS natural	2000 – 2100	1800 – 1900	1600 – 1750	1550 – 1720
ABS w/b	2100 – 2150	1900 – 1950	1700 – 1800	1650 – 1770
ABS mixed colours	2700 – 2900	2500 – 2700	2300 – 2550	2250 – 2520
PC crystal clear	3200 - 3350	3000 – 3100	2750 – 2850	2650 – 2800
PC GF reinforced	3400 – 3500	3200 - 3300	2950 - 3050	2950 - 3050
POM natural	1900 – 2000	1850 – 1950	1850 – 1950	1890 – 1990
PA 6 natural/black	2350 - 2600	2150 – 2400	1950 – 2170	2020 – 2170
PA 6 GF reinforced	2450 – 2550	2250 - 2350	2250 - 2350	2320 – 2420
PA 66 natural	2750 – 2900	2550 – 2700	2450 - 2600	2450 - 2600
PA 66 GF reinforced	2800 – 3000	2600 – 2800	2500 – 2700	2500 – 2700
Average Price	2657	2459	2326	2329

#### 2 The Plasticker Price Index

The plasticker internet platform, cf. <a href="http://plasticker.de">http://plasticker.de</a>, publishes quotes on an hourly basis. The present market report indicates the final monthly prices. It is only possible to represent the preliminary prices for June 2017. These listings thus merely reflect an interim situation that will not become definitive until the beginning of July 2017.

**2.1 Standard plastics:** From May 2017 onwards, the average price in plasticker has remained almost unchanged, cf. Table 3. Or to put it another way, plastics markets have proved to be static from March 2017. The listings for May 2017, which reached 549 €/t, almost equalled those for May 2016, which attained 554 €/t. Demand for plastics was higher in May. Only the PS regranulates price, which rose by 100 €/t, changed markedly, i.e. by more than +/- 40 €/t.

A preview of the June listings, which cannot be definitively reported until the beginning of July 2017, shows the average price to be more or less unchanged. In mid-June, as per 13th June 2017, demand for plastics was restrained on the plastics markets.

Table 3: Listings for standard plastics in plasticker; prices in €/t.

	June 2017 <sup>6</sup>	May	April 2017	March	February	Jan. 17	May 2016
		2017		2017	17		
HDPE regrind <sup>1</sup>	580	590	590	620	610	620	620
HDPE regranulats <sup>5</sup>	880	930	950	930	950	920	920
LDPE bale goods <sup>2</sup>	240	290	270	270	250	200*	220
LDPE regrind <sup>1</sup>	490*	490	480*	460*	510	550	720
LDPE	780	800	840	740	730	720	800
regranulates <sup>5</sup>							
PP bale goods <sup>3</sup>	240*	220	240	320	330	290*	150
PP regrind <sup>1</sup>	530	520	520	550	530	530	550
PP regranulates <sup>5</sup>	890	800	780	770	740	730	830
PS regrind⁴	590	620	610	620	600	630	620
PS regranulates <sup>5</sup>	1010	960	860	940	880	880	950
PVC_P regrind <sup>1</sup>	540*	490	460	450	400	440	380

PVC_U regrind <sup>1</sup>	460	480	470	460	450	440	420
PET bale goods	190	180	190	200*	160	130*	130
PET regrind	310	320	360	350	360	300	440
coloured							
Average Price	(552)	549	544	549	536	527	554

<sup>\*:</sup> Supply figure too low to attain statistical significance; 1: equivalent to the grade 'post-industrial, mixed colours'; 2: equivalent to K49; 3: equivalent to K59; 4: equivalent to 'standard, mixed colours'; 5: equivalent to the grade 'regranulates, black'; 6: preview that may be amended by additional quotes

**2.2 Technical plastics**: Technical plastics are booming. In May 2017 the average technical plastics price in plasticker was 55 €/t higher than in the previous month, cf. Table 4. This is, once again, a marked price rise. A comparison of the average prices for May 2017 (1333 €/t) with those for May 2016 (1184 €/t) shows the current price to be 149 €/t higher. Demand, which was considerable in April, fell in May, probably because it was hoped that prices would fall in the subsequent months. The listings for the following products changed by more than 70 €/t: PC regranulates, which rose by 240 €/t, PBT regranulates, which increased by 110 €/t, POM regrind, which reached a 100 €/t increase, and POM regranulates, which were listed 150 €/t higher.

The first preview of the June quotes, which will not be definitively reported until the beginning of July 2017, shows the average price to be 31 €/t lower than in the previous month. Up until 13 June 2017, the plasticker internet platform showed demand for technical plastics to be falling further. In June ABS regranulates, PBT regranulates, PA 6 regrind and POM regranulate prices were seen to be changing considerably.

Table 4: Listings for technical plastics in plasticker; prices in €/t.

	June 2017 <sup>6</sup>	May 2017	Apr. 2017	March 2017	Feb. 17	Jan. 17	May 2016
ABS regrind	680	680	700	640	650	640	700
ABS	1440	1370	1370	1540	1340	1290	1250
regranulates <sup>5</sup>							
PC regrind	930	920	960	890	830	860	900
PC regranulates <sup>5</sup>	2360	2400	2160	1960	2020	1990	1750
PBT regrind	510	480	470	480	530	480	470
PBT regranulates	1810	1690	1580	1600	1540	1620	1710
PA 6 regrind	590	860	790	880	850	870	970
PA 6	1840	1820	1760	1660	1600	1680	1610
regranulates <sup>5</sup>							
PA 6.6 regrind	910	870	900	940	940	880	920
PA 6.6	1790	1760	1750	1670	1690	1730	1800
regranulates <sup>5</sup>							
POM regrind	780*	750	650	680	620	620	600
POM	1680	2400	2250	2060	1610	1540	1530
regranulates5							
Average Price	(1302)	1333	1278	1250	1185	1183	1184

<sup>&</sup>lt;sup>5</sup>: equivalent to the quality grade 'regranulates, black; <sup>6</sup>: preview that may be amended by additional quotes.

### 3 The secondary plastics markets

Virgin materials: In the case of virgin materials, cf. Table 1, standard plastics have exceeded the annual high reached in March; their development is following that of precursors, whose prices are falling. Demand is matched by sufficient supply. The situation is completely different for technical plastics, cf. Table 2: prices are reaching record highs in this respect. In

addition, considerable demand, which is, in part, accompanied by supply shortages, is fuelling the markets further. It will be exciting to observe the impact made by the summer break on the developments in demand for plastics.

Secondary markets: The report published by EUWID for May 2017 reveals considerable supply of waste plastics, which is accompanied by low outflow into the processing industry. This is why waste plastics prices were tending to be lower in April and May. Recyclate prices are following the listings for virgin materials. The plasticker price index, too, showed demand for plastics to be restrained in May 2017. Plasticker prices remained unchanged in April and May. Demand for technical plastics, cf. plasticker and Kunststoffinformation (information on plastics), is very high for both waste and recyclates. The listings for recyclates from technical plastics have reached record highs.

#### 3.1 Waste plastics:

The secondary markets for standard plastics are being determined by considerable excess supply of waste plastics, and this is pushing prices down. Poor-quality waste plastics are hardly selling in Europe. Some market participants are, once again, trying to release pressure from the market by storing waste plastics. Only high-quality plastics that really meet the sorting regulations are being processed. There is no sign of this trend changing. German sorting companies are still generating quality grades that do not meet the market requirements. These quality grades are hardly selling because they do not meet the plastics recyclers' demands. In Germany, this situation of excess supply is being exacerbated by high-quality waste plastics from Europe being launched onto the market - in particular in Germany.

As far as a the quality grades listed by EUWID in April in May are concerned, it is noticeable that post-industrial PE materials have fallen by 20 €/t respectively in the upper price segment. Post-user PE prices were adjusted by an average 15 €/t in May. The price falls in plastics film prices in particular were markedly higher. The price listed for post-industrial PP was an average 5 €/t higher. Post-industrial PVC prices held their own, while PVC window frame regrind was rose by an average 7 €/t. The considerable fluctuations in waste plastics quantities, which have been observed for quite a while, are surprising. For example, there is a repeated shortage of HDPE, PP or PS, each of which is acute for two to four months.

The outflow of used plastics to the Far East, including China and India in particular, is faltering. The Tiger states, too, are accepting only very limited quantities of used plastics. Import checks to China have been tightened, as can be seen from what is commonly termed "Chinese National Sword 2017". Traders and brokers are increasingly coming under pressure, which is leading to companies merging, being taken over or being terminated.

#### 3.2 Recyclates:

There is considerable demand for recyclates from the plastics processing industry. Recyclates made from HDPE, PP and PS in particular are being sought. Plastics processors are increasingly demanding that recyclates should be used as supplements to virgin materials. New applications for recyclate use are being tested. The changes in virgin material prices are having an impact on recyclate prices, too. The developments in recyclate prices are following those in primary goods with a certain time lag. Plastics recyclers are still complaining that the quality of the waste plastics being supplied by the upstream chain is insufficient. This is true for sorting materials from Germany in particular. Above and beyond this, plastics recyclers are having problems offsetting the volatilities in HDPE, PP and PS supply, which are discernible time and again.

Transparent PET recyclates are selling well in the markets. PET recyclers have been able to raise recyclate prices. At present there is considerable demand for PET bottles. PET recyclers are looking forward to the summer season, in which bottle quantities are likely to rise. PET bottles are being sold at higher prices. PET transparent was listed 23 €/t higher in April and 10 €/t higher in May, while the price of coloured PET rose by 5 €/t in April and held its own in May.

### 4 Explanatory information on price listings

For a detailed analysis including information on price indices for virgin materials, used plastics and precursors, please go to EUWID Recycling und Entsorgung (Recycling and Waste Management), cf. <a href="www.euwid.de">www.euwid.de</a>, or EUWID Plastics, <a href="www.euwid-kunststoff.de">www.euwid-kunststoff.de</a>. EUWID: No guarantee for any of the prices. All EUWID prices are quoted ex works. As a rule, the prices quoted refer to quantities in excess of 20 tons.

The monthly quotes for **secondary plastics**, which are updated on an hourly basis, can be calculated using the price lists derived from the quotations published in the raw material exchange **plasticker** (<u>www.plasticker.de</u>). The prices listed in this index are quoted with reservation - as the majority of the quotes submitted are not necessarily equivalent to the sales prices. Plasticker offers the quality grades 'regrind' and 'regranulates' both as virgin materials and as secondary materials. The term 'bale goods' refers to waste plastics only. Furthermore, plasticker does not distinguish between the following grades: transparent, mixed colours or colour-separated. Therefore, the information provided by plasticker may indicate different market behaviour than the prices quoted by EUWID.

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