1 The primary plastics market

The mood in German boardrooms is euphoric. The ifo Business Climate Index rose from 115.2 (seasonally adjusted) in June to 116.0 points in July, cf. www.cesifo-group.de. This is the third record high in succession. Never before since reunification have companies been more satisfied with their current business situation. The outlook for the next few months has improved, too. The German economy is in high gear. In the processing industry the index has attained a new record high. The indicator of business activity has reached new levels. The six-month outlook once again shows increased optimism. Capacity utilisation has risen markedly by 0.7 percentage points, reaching 86.7 percent.

Standard plastics: In July standard plastics were quoted at lower average prices for the fourth time in succession. A comparison of the July prices (1274 €/t) with those of the preceding month (1315 €/t) shows the current listings to be 41 €/t lower, cf. Table 1. The marked price fall is explained by the low precursor prices. As a result of the summer break demand for standard plastics is slightly declining. Overall, however, supply and demand are balanced. Plastics manufacturers are satisfied with current demand.

With the exception of PS, all standard plastics are listed at lower prices. After having incurred a considerable loss from April to May, amounting to $210 \in /t$, PS has made up a total of $50 \in /t$ over the past two months. The average listings in July 2017, amounting to $1274 \in /t$, equalled those in July 2016. Plastics processors for their part, who were speculating on prices falling further in July, were in a more favourable position. Packaging PET was listed at an average $1188 \in /t$ in July and thus, $18 \in /t$ higher than in the previous month, when it was quoted at $1170 \in /t$.

Prices in €/t	July 2017	June 2017	May 2017	April 2017	March 2017
LDPE film grade	1270- 1380	1350- 1460	1420- 1530	1440- 1550	1440- 1550
LLDPE film grade	1250- 1350	1300- 1400	1380- 1480	1420- 1520	1420- 1520
HDPE injection moulding	1240- 1290	1320- 1370	1380- 1430	1400- 1450	1400- 1450
HDPE blow moulding	1260- 1310	1340- 1390	1400- 1450	1420- 1470	1420- 1470
PS crystal clear	1480- 1550	1460- 1530	1430- 1500	1630- 1720	1860- 1950
PS high impact	1580- 1650	1560- 1630	1530- 1600	1730- 1820	1960- 2050
PP homopolymer	1250- 1310	1300- 1360	1350- 1410	1370- 1430	1350- 1410
PP copolymer	1300- 1360	1360- 1420	1410- 1470	1430- 1490	1410- 1470
PVC tube grade	860- 920	890- 940	900- 950	900- 950	890- 940
PVC film/cables	910- 960	940- 980	950- 990	950- 990	940- 980
Average Price	1274 ± 219	1315 ± 212	1348 ± 214	1404 ± 264	1444 ± 334

Table 1: EUWID listings for standard plastics over the past five months; prices in €/t.

2 The secondary plastics markets

2.1 The Plasticker Price Index

The plasticker internet platform, cf. http://plasticker.de, 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 August 2017. These listings thus merely reflect an interim situation that will not become definitive until the beginning of September 2017.

2.1.1 Standard plastics: In July 2017 the average price in plasticker remained almost unchanged compared to the previous month, cf. Table 2. Or to put it another way, plastics markets proved to be constant for the fifth month in succession. The listings for July 2017, amounting to 556 €/t, equalled those for the preceding year, which were at 557 €/t. Demand for plastics was amazingly high during the summer month of July. In July, the following prices

rose markedly, i.e. by more than +/- 40 €/t: LDPE regrind by +140 €/t, PVC_P by +50 €/t and PET regrind by +50 €/t.

The first preview of the August listings, which cannot be definitively reported until the beginning of September 2017, shows the average price to be 19 €/t lower. As per 21 July 2017, demand for plastics was satisfactory to good on the plastics markets. The prices of HDPE regranulates, LDPE regrind, PS regranulates, PVC_P and PET regrind are likely to change more considerably.

	Aug. 2017 ⁶	July 2017	June 17	May 17	Apr. 2017	March 17	Juli 2016
HDPE regrind ¹	560	570	580	590	590	620	610
HDPE	870	920	880	930	950	930	910
regranulates5							
LDPE bale goods ²	270	270	250	290	270	270	180
LDPE regrind ¹	560	630	490*	490	480*	460*	670
LDPE	760	800	780	800	840	740	840
regranulates5							
PP bale goods ³	270	230	260	220	240	320	230
PP regrind ¹	570	560	530	520	520	550	570
PP regranulates ⁵	820	830	860	800	780	770	840
PS regrind ⁴	600	610	600	620	610	620	640
PS regranulates ⁵	820	940	980	960	860	940	880
PVC_P regrind ¹	500	400	450*	490	460	450	420
PVC_U regrind ¹	430	460	500	480	470	460	430
PET bale goods	170	180	180	180	190	200*	180
PET regrind	320	390	340	320	360	350	400

Table 2: Listings for standard plastics in plasticker; prices in €/t.

(537)

coloured
Average Price

549

549

544

549

557

2.2.2 Technical plastics: Technical plastics have passed their peak. In July 2017, the average technical plastics price in plasticker almost held its own, cf. Table 3. A comparison of the average prices for June 2017 (1304 €/t) with those of the preceding year (1156 €/t) shows the current price to be 148 €/t higher. There is considerable demand for technical plastics. In July 2017, the following prices changed markedly, i.e. by more than +/- 70 €/t: PC regranulates +100 €/t, PA 6 regrind -120 €/t and POM regrind -80 €/t. The development in POM regranulates shows that prices have been fluctuating wildly since February 2017.

The first preview of the August listings, which cannot be definitively reported until the beginning of September 2017, shows the average price to be markedly lower, reaching 1238 €/t. Up until 21 July 2017, the plasticker internet platform indicated satisfactory demand for technical plastics. ABS regranulates were quoted at comparatively high prices in August, while the listings for PC regrind were relatively low.

556

	Aug. 2017 ⁶	July 2017	June 17	May 17	Apr. 17	March 17	July
							2016
ABS regrind	650	670	680	680	700	640	660
ABS	1520	1370	1370	1370	1370	1540	1270
regranulates5							
PC regrind	840	880	930	920	960	890	810
PC regranulates ⁵	2150	2270	2170	2400	2160	1960	1800
PBT regrind	460	470	490	480	470	480	500

^{*:} 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

PBT regranulates	1630	1810	1790	1690	1580	1600	1600
PA 6 regrind	880	850	970	860	790	880	920
PA 6	1760	1890	1840	1820	1760	1660	1590
regranulates5							
PA 6.6 regrind	870	820	890	870	900	940	920
PA 6.6	1720	1750	1750	1760	1750	1670	1730
regranulates5							
POM regrind	690	670	750	750	650	680	590
POM	1680	2200	2130	2400	2250	2060	1490
regranulates5							
Average Price	(1238)	1304	1305	1333	1278	1250	1156

⁵: equivalent to the quality grade 'regranulates, black; ⁶: preview that may be amended by additional quotes.

2.3 Evaluation of the secondary plastics markets

A comparison of the information given by EUWID and plasticker for July 2017 shows that the average price falls listed by EUWID for select quality grades amount to between 5 €/t and 40 €/t for PE and PP. In plasticker, average standard plastics prices were listed 7 €/t higher. While plasticker shows demand for plastics to be comparatively high, the market situation described by EUWID is relatively difficult. It should be noted that the prices listed by EUWID and plasticker for waste plastics only apply where the agreed quality specifications are met.

Just to elucidate the difference between EUWID and plasticker, it should also be pointed out clearly that EUWID describes the waste plastics market for post-industrial waste in particular and also, in the case of PE, the post-user market. The plasticker price index represents the developments in bale goods, i.e. waste plastics, as well as grind and granulates. Regrind and regranulates may originate from both the primary sector and the secondary sector.

2.3.1 Waste plastics - a difficult situation:

Surprisingly, market participants have not yet come to understand that there is excess supply of used plastics in Germany. The well-trodden paths by which waste plastics are shifted to the export trade are no longer working. It is necessary to really understand plastics recycling, i.e. its requirements regarding quality, recyclates and products, in order to be able to survive in the demanding plastics markets. Or to put it another way, what counts for plastics recyclers, who are now the only ones to determine demand, is quality, quality and once again quality. Plastics recyclers have now come to accept only high-quality grades. The waste plastics markets have been shifting from supply markets to demand markets for some time. However, up to now some market participants have been denying this.

The tactics by which collecting companies store large amounts of used plastics in order to relieve the markets of excess supply, is also no longer working. Long-term storage binds capital, causes ongoing costs and increased fire hazards, as well as resulting in unhygienic conditions. In addition, the market trend is unlikely to change.

Imports and exports: The markets for used plastics continue to be in tumoil globally. The People's Republic of China is only accepting a very limited amount of used plastics. Exports are faltering. The impact of the envisaged ban on imports is hard to predict. 24 types of waste, including used plastics from PET, PVC, PE and PS, are affected by the ban on exports.

In Germany a large supply of used plastics is accompanied by a low outflow into the processing and recycling industries. Recyclers are only accepting highest-quality waste plastics. Thin film can be sold neither on a national nor on a European nor on a global scale. Depending on its quality, film is often only accepted for an additional charge. The prices of used film grade have been reduced to the largest extent. Extremely contaminated and mixed waste plastics are hardly being accepted. Post-user waste finds its way into the processing

industry only when the agreed quality specifications are really met. There is still considerable demand for post-industrial waste. Recyclers are looking for high-quality waste plastics from HDPE, PP and PS. Transparent PET bottles are also finding their way into the processing industry; PET coloured is hardly being accepted.

2.3.2 Recyclates:

There is sufficient demand for regrind and regranulates from HDPE, PP and PS in the plastics processing industry when their quality specifications are met. Above and beyond this, Germany is benefiting from the booming economy, which is having a direct impact on demand for plastics, too. However, the price fall in primary plastics is also leading to continual demand for price reductions in recyclates.

The summer season should actually cause PET bottle supplies to rise. However, this time the development of the summer break has only had a slight impact on the amount of bottles freely available. There is considerable demand for transparent PET bottles. Transparent PET recyclates are selling well in the markets. In July transparent PET (95/5 to 100) was listed 10 €/t higher; mixed PET (70/30 to 90/10) was quoted an average 7.50 €/t higher and coloured PET (< 70/30) held its own.

2.3.3 Products:

While waste plastics and plastic recyclates markets are partially being restructured, plastics markets have remained stable. Plastics products are benefiting from considerable domestic and foreign demand. However, in other countries specific markets, including those for tubes, have come under pressure. Plastics recyclers are trying to manufacture products that are able to survive long-term on the global markets. Overall, two trends are discernible among plastics recyclers who manufacture products: on the one hand, plastics products competing with products from wood, concrete or steel are benefiting from an increased range of input available at more favourable prices. On the other hand, plastics products that supplement the primary market - those mixed with virgin materials in particular - are faced with stringent requirements concerning quality. In this case, only the highest-quality products can succeed in the markets.

3 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. www.euwid.de, or EUWID Plastics, www.euwid-kunststoff.de. 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 tonnes.

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.