1 The primary plastics market

The ifo business climate index, cf. www.cesifo-group.de, has deteriorated. Having reached 102.3 points in May (seasonally adjusted), the index fell to 101.8 points in June. Business entrepreneurs were less satisfied with their current business situation. However, expectations have not changed: they remain slightly optimistic. The tail wind for the German economy is subsiding. The index fell once again in the processing industry. This was due to the situation being assessed as worse. Business expectations, however, have remained unchanged and are slightly optimistic. Production is to be expanded in the next few months.

The European Commission is focusing on voluntary commitments in its plastics strategy in order to boost demand for plastic recyclates and thus, to support waste plastic recycling. A European initiative under the leadership of EuRIC and FEAD required that EU legislation provides binding regulations which force manufacturers to use a proportion of 30 % of recycling material for certain products by 2025 at the latest. From their point of view, the required investments of up to € 10 billion, aimed at expanding the separate collection, sorting and recycling of used plastics within the EU, can only be provided if legislative measures ensure that large quantities of plastic recyclates are used (https://www.euric-aisbl.eu/position-papers).

1.1 Standard plastics

Standard plastics prices rose markedly in the price index for June 2018. These were listed at 1357 €/t and thus, 47 €/t higher than in the previous month, when they had reached 1310 €/t, cf. Table 1. PE grade prices increased by 55 €/t, PS by 60 €/t, PP by 60 €/t and PVC by 20 €/t. The average listing for June 2018 (1357 €/t) exceeds that for June 2017 (1315 €/t) by 42 €/t. In June 2018, packaging PET was listed at an average 1450 €/t and thus, 150 €/t higher than in the previous month (1300 €/t). Due to shortages in PET supply, experts are expecting prices to rise further. The price rise is explained by the markedly increased costs of precursors. In June, supply and demand for standard plastics were largely balanced. Demand is restrained so as to avoid pushing market prices up further. However, processing companies only have limited stocks available in their warehouses.

Table 1:	FUWID listings	for standard plastics	over the past five	months: prices in €/t.
Table I.		ioi stariuaru biastios	Over the bast live	IIIOIIIII3. DIICES III C/I.

Prices in €/t	June 2018	May 2018	April 2018	March 2018	Feb. 2018
LDPE film grade	1310- 1460	1260- 1400	1260- 1400	1300- 1400	1320- 1430
LLDPE film grade	1290- 1440	1240- 1380	1240- 1380	1280- 1380	1300- 1410
HDPE injection moulding	1330- 1380	1270- 1320	1260- 1310	1260- 1310	1280- 1330
HDPE blow moulding	1350- 1400	1290- 1340	1280- 1330	1280- 1330	1300- 1350
PS crystal clear	1550- 1610	1490- 1550	1540- 1600	1660- 1720	1630- 1690
PS high impact	1650- 1710	1590- 1650	1640- 1700	1760- 1820	1730- 1790
PP homopolymer	1420- 1470	1360- 1410	1350- 1400	1350- 1400	1370- 1420
PP copolymer	1470- 1520	1410- 1460	1400- 1450	1400- 1450	1420- 1470
PVC tube grade	910- 970	890- 950	880- 950	880- 950	890- 950
PVC film/cables	960- 1010	940- 990	930- 990	930- 990	940- 990
Average Price	1357 ± 232	1310 ± 217	1314 ± 256	1343 ± 266	1351 ± 256

1.2 Technical plastics:

In June 2018, technical plastics were listed at an average 3023 €/t and thus, 64 €/t higher than in April (2959 €/t), cf. Table 2. And thus, average prices in June 2018 (3023 €/t) were higher by as much as 341 €/t than those in June 2017, which reached 2682 €/t. The price rise is thus due to the PA 66 prices only, which were 350 €/t higher. And thus, an absolute peak level – the highest level in ten years – was reached. Demand for technical plastics is very high during the summer months, too.

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

Prices in €/t	June 2018	April 2018	February 2018	December 2017
PMMA crystal clear	3450 – 3650	3450 - 3650	3450 - 3650	3400 – 3600
ABS natural	1950 – 2000	1950 – 2000	1950 – 2000	1800 – 1850
ABS white/black	2050 – 2100	2050 – 2100	2050 – 2100	1900 – 1950
ABS mixed colours	2650 – 2800	2650 – 2800	2650 – 2800	2500 – 2650
PC crystal clear	3650 - 3850	3650 - 3850	3650 - 3850	3500 – 3650
PC GF reinforced	3850 – 4050	3850 – 4050	3850 – 4050	3700 – 3850
POM natural	2100 – 2200	2100 – 2200	2000 – 2100	1900 – 2000
PA 6 natural/black	2500 – 2700	2500 – 2700	2500 – 2700	2400 – 2650
PA 6 GF reinforced	2600 – 2650	2600 – 2650	2600 – 2650	2500 – 2600
PA 66 natural	3800 – 4000	3450 - 3650	3300 – 3500	3100 – 3300
PA 66 GF reinforced	3850 – 4050	3500 – 3700	3350 – 3550	3150 – 3350
Average Price	3023	2959	2923	2786

2 The secondary plastics markets according to 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 July 2018. These listings thus merely reflect an interim situation that will not become definitive until the beginning of August, cf. Tables 3 and 4.

2.1 Standard plastics:

The moderate price rise that took place in May continued in June. Since March standard plastics prices have been climbing by small gradations. Thus, the June prices (552 €/t) were $4 \in /t$ higher than in the preceding month, when they had reached 548 €/t, cf. Table 3. A comparison of the average prices for June 2018 (552 €/t) with those for the previous year (549 €/t) shows that the price has remained almost unchanged. The following price changes exceed \pm 40 €/t: LDPE bale goods -90 €/t, PP regrind -90 €/t, PS regranulates + 50 and PET bale goods - 60 €/t. The June price index shows weak demand for plastics compared to the previous month. The summer break seems to be imminent here.

A preview of the July listings shows that the average price has once again increased slightly, reaching 561 €/t. Regranulate prices rose markedly. The June price index, as per 10 July 2018, shows demand for plastics to be considerable for the summer time.

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

	July ⁶ 18	June 18	May 18	April 18	March 18	June 17
HDPE regrind ¹	580	560	580	590	590	580
HDPE regranulates ⁵	960	880	840	840	930	880
LDPE bale goods ²	220	180*	270	270	240	250
LDPE regrind ¹	550	640	610	580	660	490*
LDPE regranulates ⁵	810	770	740	760	780	780
PP bale goods ³	140*	180	210	250	200	260
PP regrind ¹	650	640	530	530	550	530
PP regranulates ⁵	900	850	860	900	800	860
PS regrind⁴	650	640	600	540	580	600
PS regranulates ⁵	1040	950	900	990	960	980
PVC_P regrind ¹	390*	470*	450	300*	270	450*
PVC_U regrind ¹	460	490*	520*	490*	470*	500
PET bale goods	160*	160*	220*	200	170	180
PET regrind coloured	350	320	340	330	320	340
Average Price	(561)	552	548	541	537	549

^{*:} Supply figure too low to attain statistical significance; 1: equivalent to the grade 'post-industrial, mixed colours';

2.2 Technical plastics:

In June 2018 (1293 €/t) the average technical plastics price in plasticker was listed 29 €/t higher than in the previous month, when it had reached 1264 €/t, cf. Table 4. A comparison of the average prices for June (1293 €/t) with those for the preceding year (1305 €/t) shows the current price to be 12 €/t lower. The June price index shows demand for technical plastics to be satisfactory. In June 2018, the following prices changed markedly, i.e. by more than \pm 70 €/t: ABS regranulates -80€/t, PC regranulates +120 €/t, PBT regranulates + 120 €/t and PA 6.6 regranulates + 280 €/t. PA 6.6 regranulates reached a record high in June. PC regranulates, which are only listed at 1950 €/t, have been subject to an upward trend since March 2018.

A preview of the June listings of 10 July 2018 shows the average price, reaching 1219 €/t, to be markedly lower than in the previous month, namely by 74 €/t. The June price index shows that there is good demand, considering the holiday season.

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

	July ⁶	June 18	May 18	April 18	March 18	June 17
	18			_		
ABS regrind	720	710	710	680	650	680
ABS regranulates ⁵	1340	1390	1470	1400	1240	1370
PC regrind	910	980	860	800	870	930
PC regranulates ⁵	1890	1950	2010	2060	2130	2170
PBT regrind	480	490	430	480	440	490
PBT regranulates	1570	1750	1630	1590	1530	1790
PA 6 regrind	860	890	890	820	780	870
PA 6 regranulates ⁵	1830	1880	1860	1790	1750	1840
PA 6.6 regrind	890	910	940	900	820	890
PA 6.6 regranulates ⁵	1990	2320	2040	1810	1920	1750
POM regrind	590*	610	680	620	650	750
POM regranulates ⁵	1560	1630	1650	1800	1440	2130
Average Price	(1219)	1293	1264	1229	1185	1305

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

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

3 Evaluation of the secondary plastics markets

A comparison of the information provided by EUWID and plasticker for June 2018 shows that the film grade prices listed in the EUWID Price Watch have fallen by an average 7 €/t. All other prices remained stable in EUWID. In plasticker, bale good prices were listed lower than in the preceding month; however, regrind and regranulates were listed higher. In June, demand for waste plastics was restrained according to both plasticker and EUWID. In both publications, demand for recyclates is assessed as good, considering the summer break.

3.1 Waste plastics:

Plastic recyclers determine plastics markets based on their demand. In Germany, a sufficient supply of used plastics is available at sufficient quality - and that not least because plastics are being imported to Germany from other countries. High-quality grades from foreign markets often push aside the lower grades caused by sorting lightweight plastics packaging on the domestic markets. Plastics recyclers are only accepting materials of the very best quality.

The EUWID price listings for June show that film grade is losing in value again. Only very good film grade is selling in Germany. As a rule, thin film grade and farm film require supplementary payment of up to 40 €/t. In June, post-user PE bale goods were thus listed on average 7 €/t lower than in the previous month. All other listings remained unchanged.

It is still interesting to observe the developments in the shipment of used plastics to the Far East. As an alternative to shipping used plastics to China, an increasing amount of these materials can be taken to Vietnam, Indonesia, Malaysia, India and Taiwan. There, the used plastics are processed into regranulates, which are then shipped to China as products. Some of the import requirements imposed by these countries change very rapidly. For example, Vietnam, Thailand and Malaysia have blocked certain ports for the import of used plastics. On 24 June 2018 Thailand put a ban on the import of used plastics with immediate effect.

Several recent reports confirm that the People's Republic of China has come to accept high-quality PET flakes. However, in this sector it is important to meet the tight requirement that the goods may contain a maximum proportion of 0.5 % of non-plastic materials. Furthermore, according to publications from various sources, regranulates can be shipped to China as products. At the same time, however, there are reports according to which regranulates imported to China as products are increasingly being rejected. When being imported to the People's Republic, the regranulates are more frequently checked with respect to their customs declaration. It is only possible to import goods that have been declared correctly and whose quality meets the requirements set forth in the documents. If the checks reveal that goods do not meet the requirements, they will be returned to Europe. These returns cost time and money.

3.2 Recyclates:

The plastics-manufacturing and plastics-processing industries are increasingly investing the plastics recycling industry. Plastics recycling is gaining momentum. The trend to manufacturing recyclates that supplement virgin materials continues. In this sector, recyclates compensate for temporary deficits in virgin materials. Above and beyond this, recycling of mixed plastics is being restructured by the plastics industry. Mixed plastic recycling, which does not have a direct counterpart in the virgin material sector, is being checked for its market relevance.

Plastic recyclers are only accepting used plastics of the very best quality. The prices listed in indices for used plastics only apply so long as a sufficient supply of material is available at a sufficient quality. Plastics recyclers are rejecting poor-quality goods.

The continuing hot summer is ensuring large quantities of beverage bottles. A large amount of beverage bottles ensures that recyclers have sufficient input. Above and beyond this, the prices of used beverage bottles remain stable. Recyclers are able to fill their incoming goods warehouses. And thus, the June listings for used PET beverage bottles, including transparent PET (95/5 to 100) and coloured PET (< 70/30), remained unchanged. The prices of mixed PET (70/30 to 90/10) fell by 8 €/t compared to the previous month.

The price leap of 150 €/t in PET virgin materials is giving an additional boost to PET recycling. Thus, there is considerable demand for regrind and regranulates. Experts are expecting PET recyclate prices to rise further.

4 Explanatory information on the 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.

Bonn, Wednesday 25 July 2018

Dr Thomas Probst, byse