### 1 The primary plastics market

The ifo business climate index noticeably improved in September compared to the previous month, cf. www.cesifo-group.de. Thus the business climate index rose from 106.3 points in August to 109.5 points in September if the seasonal variation is not taken into account. This means it reached its highest level since May 2014. Entrepreneurs are taking a noticeably more optimistic view of the next few months. In addition, they have been more satisfied with their current business situation. The German economy is expecting a golden autumn. The index has risen in the processing industry – in this area, a 10.8 point increase in the expectation index has been observed. The business climate index has risen in almost all of the major industrial sectors.

In September 2016 Plastics Europe presented its figures for the first half of 2016 to the European plastics industry, consisting of plastics producers, plastics processors and plastics machinery manufacturers. The study very precisely reflects the business figures for the period from the first half of 2007 to the first half of 2016. Compared to the same period of the preceding year, the engineering sector boomed: it increased its own figures by 9 % and those of plastics production by 7%, while the figures for plastics processing more or less held their own. The increase in the figures for the plant and machinery manufacturing industry reached its peak in July, which clearly shows that this sector benefited from the forthcoming K trade fair.

**1.1 Standard plastics:** In September the average standard plastics price held its own, cf. Table 1. A comparison of the average listings for September 2016 (1263 €/t) with those for September 2015 (1345 €/t) shows that prices fell by 82 €/t. The price of PP changed slightly by + 20 €/t and that of PVC by – 10 €/t. Packaging PET was quoted at an average 1080 €/t.

In September markets were subject to only slight fluctuations because stocks were still high. Or to put it another way – the market was marked by restrained demand at stable prices. Due to isolated supply shortages and increased demand, experts are speculating on prices rising in October. Increased crude oil prices are likely to entail an increase in plastics prices.

For a detailed analysis including information on price indices for virgin materials, used plastics and precursors, please refer to EUWID Recycling und Entsorgung (EUWID Recycling and Waste Management), cf. www.euwid.de, or to EUWID Kunststoff (EUWID Plastics), cf. www.euwid-kunststoff.de, and KI-Kunststoffinformation (KI Information on Plastics), cf. <a href="https://www.kiweb.de">www.kiweb.de</a>

Tabla 1.		for stondord plactice		months: prices in €/t.
Tanie T	FLIVVIII JUSTINAS	ior grandard blagneg	OVER THE DAST TIVE	months, prices in #1

Prices in €/t	Sept. 2016	Aug. 2016	July 2016	June 2016	May 2016	
LDPE film grade	1340- 1440	1340- 1440	1360- 1480	1420- 1510	1420- 1530	
LLDPE film grade	1310- 1410	1310- 1410	1330- 1450	1390- 1480	1410- 1500	
HDPE injection moulding	1360- 1400	1360- 1400	1380- 1430	1410- 1470	1420- 1470	
HDPE blow	1360- 1400	1360- 1400	1380- 1430	1400- 1460	1400- 1460	
moulding	1300- 1400	1300- 1400	1300- 1430	1400- 1400	1400- 1400	
PS crystal clear	1340- 1430	1340- 1430	1340- 1430	1440- 1550	1440- 1510	
PS high impact	1430- 1530	1430- 1530	1430- 1530	1550- 1650	1530- 1610	
PP homopolymer	1200- 1270	1180- 1250	1180- 1250	1180- 1250	1180- 1250	
PP copolymer	1250- 1320	1230- 1300	1230- 1300	1230- 1300	1230- 1300	
PVC tube grade	830- 860	840- 870	850- 880	850- 880	840- 870	
PVC film/cables	870- 900	880- 910	890- 920	890- 920	880- 920	
Durchschnitt	1263 ± 217	1261 ± 213	1274 ± 217	1312 ± 246	1309 ± 246	

### 2 The secondary plastics market

Blunder in Germany! The German legislative authorities are scoring one own goal after another. The ban on HBCD stipulated by the POP Regulation No. 850/2004 (EC), which took effect on 1<sup>st</sup> October 2016, is now having an impact on all EPS material flows. EPS insulation panels are no longer selling at all in the market. However, all other EPS material flows are now also being affected by the turmoil. Even pure polystyrene packaging is hardly finding any buyers. The house-building sector is now also suffering massively from the distortions in the disposal of flame retardant EPS insulation panels. Thus building projects are coming to a halt because the insulation panels can no longer be removed. The legislative authorities have converted a type of non-hazardous waste into hazardous waste without good cause. For lack of approval, waste management companies are thus no longer allowed to either collect or carry and process these materials.

Waste incineration plants are demanding totally unrealistic prices, which have now reached up to 15,000 €/t, cf. <a href="http://www.br.de/nachrichten/styropor-entsorgung-richtlinie-100.html">http://www.br.de/nachrichten/styropor-entsorgung-richtlinie-100.html</a>. However, the funniest thing about it is that other countries, such as Austria, have no problems at all dealing with flame retardant EPS insulation panels, cf. <a href="https://www.ots.at/presseaussendung/OTS\_20161007\_OTS0078/umweltministerium-bestaetigt-hbcd-haltiges-alt-styropor-ist-kein-gefaehrlicher-abfall">https://www.ots.at/presseaussendung/OTS\_20161007\_OTS0078/umweltministerium-bestaetigt-hbcd-haltiges-alt-styropor-ist-kein-gefaehrlicher-abfall</a>!

In its September price index, plasticker reported that standard plastics prices had fallen markedly compared to the previous month. The purchase bids and offers in plasticker showed demand for standard plastics to be satisfactory in September. In the same month the EUWID Price Watch for used plastics indicated a price fall by an average 10 €/t in almost all of the PE quality grades. In August the secondary plastics markets were described as surprisingly calm.

#### 2.1 Waste plastics:

Demand is still very weak in the markets for used plastics. There is considerable supply of plastics scrap and prices are falling. In addition, plastics recyclers are enforcing their claims for high quality. The plastics processors' incoming goods warehouses are replete with stocks. Even now, after the summer break, this situation has not yet changed. The outflow of European waste plastics to India and China is now faltering.

The prices of used PE, including post-industrial and post-user waste, have been reduced by an average 10 €/t. The listings for PP, PVC and PS published by EUWID have remained unchanged.

The markets for PS and EPS have been subject to turmoil. And this not only applies to EPS, including insulation materials and packaging, but also to PS. Used EPS is increasingly being mixed with other materials. For example, flame retardant EPS is now finding its way into the collecting process of EPS packaging. EPS recyclers are putting a lot of effort into testing their incoming input and are filing complaints about anything they find fault with. While some recyclers are withdrawing from the post-consumer PS market, others are only accepting the highest-quality goods, which are now finally available in sufficient quantities and at low prices. However, PS is also suffering from PET increasingly penetrating its market segments.

Even though the building and construction sector is booming, the PVC markets are stagnating. High-quality PVC post-industrial waste is being processed and recycled by the plastics recyclers internally. Very few of these plastics are now reaching the markets. However, demand for post-consumer PVC is stagnating.

The PET markets are still subject to considerable changes. For example, the PET market has changed from a market with little supply to a buyers' market. Thus PET recyclers are provided with a sufficient supply of PET beverage bottles. Above and beyond this, the beverage bottle recyclers' warehouses are replete with processing goods. The purchase prices of PET beverage bottles once again fell markedly in August. Transparent PET was

listed 10 €/t lower and the prices of coloured PET have now reached values below zero. In this area, it has been possible to raise additional charges by 5 €/t.

#### 2.2 Recyclates:

In September demand for recyclates increased. However, PO recyclates are still under price pressure from the favourable virgin materials. The sale of PET flakes to beverage bottle, film, plastic straps and fibre manufacturers is still stable. Due to supply shortages and price rises, short-term market distortions still occur in processing plastic virgin materials, as was true for certain PP types this time. Or to put it another way, virgin material processors are becoming increasingly independent of these distortions by using plastic recyclates along with virgin materials. The recyclates are thus continuing to stabilise the virgin materials markets in respect of price and supply.

Plastics recylcers agree in their reports that there is a sufficient amount of used plastics in the markets. Above and beyond this, the plastics recyclers' incoming goods warehouses are replete with stocks and thus, their demand for new processing goods is restrained. The plastics recyclers are determining both quality and prices.

#### 3 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 October 2016. These listings thus merely reflect an interim situation that does not become definitive until the beginning of November 2016. 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.

**3.1 Standard plastics:** In September 2016 the average price listed in plasticker was 20 €/t lower than in the preceding month, cf. Table 2. The average listing for standard plastics, which was 544 €/t, reached the lowest level this year. The listings for September 2016 (544 €/t) were 60 €/t lower than those for September 2015 (604 €/t). The demand for standard plastics was satisfactory in September. Some listings rose by 10 €/t to 30 €/t, while others fell by 10 €/t to 80 €/t. Thus the prices of the following quality grades changed considerably: LDPE regrind – 80 €/t and PET regrind coloured – 70 €/t.

The first preview of the October listings, which cannot be definitively reported until the beginning of November, shows the average price to be considerably lower than in the previous month. At the beginning of October, i.e. on 10 October 2016, markets were assessed as restrained. Almost all types of standard plastics are likely to reach very low prices. Only LDPE regranulates are listed at an annual high.

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

	Okt. 16 <sup>6</sup>	Sept. 16	Aug. 16	Juli 16	Juni 16	Mai 16	Sept. 15
HDPE regrind <sup>1</sup>	600	600	600	610	610	620	630
HDPE	850	840	850	910	920	920	990
regranulates5							
LDPE bale goods <sup>2</sup>	180*	200	190	180	240	220	310
LDPE regrind <sup>1</sup>	570'	580	660*	670	730	720	600*
LDPE	870	850	820	840	820	800	820
regranulates <sup>5</sup>							
PP bale goods <sup>3</sup>	180*	230	240	230	160	150	280
PP regrind <sup>1</sup>	530	520	540	570	570	550	550
PP regranulates <sup>5</sup>	760	800	800	840	830	830	980
PS regrind⁴	620	640	670	640	630	620	730
PS regranulates <sup>5</sup>	940	980	990	880	880	950	1040
PVC_P regrind <sup>1</sup>	350	360	390	420	410	380	420
PVC_U regrind <sup>1</sup>	440	420	460	430	410	420	470
PET bale goods	100*	230	240	180	140	130	250
PET regrind mixed	350	370	440	400	340	440	380
colours							
Average Price	(524)	544	564	557	549	554	604

<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

**3.2 Technical plastics**: In September 2016 the average price of technical plastics in plasticker was listed at 1095 €/t and thus, 55 €€/t lower than in the previous month, cf. Table 3. A comparison of the average prices for September 2016 (1095 €/t) with those for September 2015 (1294 €/t) shows the current price to be 199 €/t lower. The prices of technical plastics have been falling continually since May 2016. The following prices changed considerably in September: ABS regranulates – 210 €/t, PC regranulates – 160 €/t, PA 6 regranulates – 90 €/t and POM regranulates – 120 €/t. In September there was slightly more demand on the technical plastics markets than in the previous month.

The first preview of the October quotes, which, however, cannot be definitively reported until the beginning of November, shows the average price to be 21 €/t higher. Up until 10 October 2016 the plasticker internet platform indicated satisfactory demand for technical plastics. Technical plastics can still be purchased at very favourable prices.

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

	Oct.	Sept. 16	Aug. 16	July 16	June 16	May 16	Sept. 15
	<b>16</b> <sup>6</sup>						
ABS regrind	660	680	670	660	670	700	790
ABS regranultes <sup>5</sup>	1170	1110	1320	1270	1290	1250	1390
PC regrind	860	890	830	810	830	900	910
PC regranulates <sup>5</sup>	1850	1770	1930	1800	1870	1750	1940
PBT regrind	480	470	470	500	490	470	550
PBT regranulates	1370	1450	1450	1600	1620	1710	1660
PA 6 regrind	880	890	950	920	930	970	1050
PA 6 regranulates <sup>5</sup>	1410	1410	1500	1590	1600	1610	1890
PA 6.6 regrind	920	890	900	920	870	920	1130
PA 6.6 regranulates <sup>5</sup>	1620	1550	1600	1730	1760	1800	1960
POM regrind	580	570	600	590	590	600	590
POM regranulates <sup>5</sup>	1590	1460	1580	1490	1430	1530	1670
Average Price	(1116)	1095	1150	1156	1163	1184	1294

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

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 that are derived from the quotations published in the raw material exchange **plasticker** (<a href="www.plasticker.de">www.plasticker.de</a>). The prices listed in this index are quoted without reservation - as the majority of the quotes submitted are not necessarily equivalent to the sales prices. 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 12 October 2016

Dr Thomas Probst, byse