1 General economy with reference to the plastics industry

The ifo business climate index has fallen to its lowest level since November 2012, see. <u>www.ifo.de/ifo-geschaeftsklimaindexhaeftsklimaindex</u>. The worry lines on the foreheads of German bosses are getting ever deeper. In August 2019, the ifo business climate index fell from 95.8 to 94.3 points. The companies again assessed their current situation as much worse. And pessimism also increased with regard to the months ahead. The signs of a recession in Germany are increasing.

The fall in the business climate indicator cannot be stopped in the manufacturing sector. Satisfaction with the current situation has dropped again. Expectations are slipping into the negative range. A similar pessimism among industrial companies was last seen in the crisis year of 2009. There are no rays of hope in any of the key German industries.

2 The primary plastics market

2.1 Standard plastics

In August, the EUWID standard plastics price index had average quotes of $1170 \notin t$, which had hardly changed in comparison to the previous month $(1172 \notin t)$, see Table 1. In a year-on-year comparison of the EUWID standard plastics price index, it can be seen that the average quotes from August 2019 $(1170 \notin t)$ were $171 \notin t$ lower than those of the previous year $(1341 \notin t)$ - that is an enormous depreciation! Since September 2018, the price for packaging PET, then at 1480 $\notin t$, has fallen continuously to the current $1145 \notin t$. And this means that within the period, packaging PET has fallen by a total of $335 \notin t$. In August 2019, packaging PET is quoted $15 \notin t$ lower than in the previous month. In spite of the summer break and falling demand for plastic specific to the sector, the prices of standard plastics have remained stable - still.

Prices in €/t	August 2019	July 2019	June 2019	May 2019	April 2019
LDPE film grade	1050- 1120	1050- 1120	1170- 1270	1170- 1270	1170- 1270
LLDPE film grade	1060- 1150	1060- 1150	1160- 1270	1160- 1270	1160- 1270
HDPE injection moulding	1180- 1240	1180- 1240	1260- 1320	1260- 1320	1260- 1320
HDPE blow mould- ing	1180- 1240	1180- 1240	1260- 1320	1260- 1320	1260- 1320
PS crystal clear	1250- 1310	1250- 1310	1340- 1400	1450- 1510	1450- 1510
PS high impact	1350- 1410	1350- 1410	1440- 1500	1550- 1610	1550- 1610
PP homopolymer	1290- 1340	1290- 1360	1370- 1440	1370- 1440	1370- 1440
PP copolymer	1340- 1390	1340- 1410	1420- 1490	1420- 1490	1420- 1490
PVC tube grade	830-880	830- 880	860- 920	860-920	860- 920
PVC film/cables	870- 920	870- 920	910- 960	910- 960	910- 960
Average Price	1170 ± 182	1172 ± 184	1254 ± 199	1276 ± 222	1276 ± 222

Table 1: Standard plastics prices according to EUWID over the past five months, listed in €/t.

2.2 Technical plastics

In August 2019 technical plastics $(2594 \notin t)$ were $129 \notin t$ lower than in June 2019 $(2723 \notin t)$, see. Table 2. The average price in August 2019 $(2594 \notin t)$ was as much as $450 \notin t$ lower than that of August in the previous year $(3044 \notin t)$ - that is a tremendous depreciation! Price falls were seen in August 2019 in: PMMA by $100 \notin t$, PC by $250 \notin t$, POM by $20 \notin t$, PA 6 by

200 €/t, PA 66 by 200 €/t and PBT by 250 €/t. The falling prices for technical plastics are explained by the summer break and the worsening economy, especially in the motor industry.

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

Prices in €/t	August 2019	June 2019	April 2019	February 2019
PMMA crystal clear	3100 – 3300	3200 - 3400	3200 – 3400	3330 – 3500
ABS natural	1610 – 1660	1610 – 1660	1670 – 1720	1650 – 1700
ABS w/b	1710 – 1760	1710 – 1760	1770 – 1820	1750 – 1800
ABS coloured	2310 – 2460	2310 – 2460	2370 – 2520	2350 – 2500
PC crystal clear	2650 – 2950	2950 – 3150	3000 – 3200	3150 – 3350
PC GF-reinforced	2850 – 3150	3150 – 3350	3200 – 3400	3350 - 3550
POM natural	1900 – 2000	1920 – 2020	2000 – 2100	2050 – 2100
PA 6 natural/black	2050 – 2250	2250 – 2450	2250 – 2450	2350 – 2550
PA 6 GF-reinforced	2150 – 2200	2350 – 2400	2350 – 2400	2450 – 2500
PA 66 natural	3750 – 3950	3950 – 4150	4050 – 4250	4200 - 4400
PA 66 GF-reinforced	3600 – 3700	3800 – 3900	3900 – 3950	4050 – 4100
Average Price	2594	2723	2736	2850

3 Secondary plastics markets in the plasticker price index

The plasticker internet platform, see <u>http://plasticker.de</u>, 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 the month of the report, in this case September 2019; they will not become definitive until early October. The two quotes stated for September 2019 below indicate only an interim situation, see the left-hand column in Table 3 and Table 4.

3.1 plasticker: Standard plastics

Continued very stable plastics prices from June to August: in August 2019 the standard plastics were quoted at 536 \in /t and thus almost the same as the previous month (537 \in /t), see Table 3. The average price for August 2019 (536 \in /t) was more or less the same as that of the previous year (529 \in /t). The following price changes were more than ± 40 \in /t: PP baled goods +130 \in /t, PS regranulates -150 \in /t and PVC_P +50 \in /t. The August price index records satisfactory demand for plastic in comparison with the previous month.

In the August prices, LDPE regrind (500 \in /t) approached its lowest level from June 2017 (490 \in /t). At 770 \in /t PS regranulates has reached an absolute low, but this will probably be corrected in the September prices. Since September 2018 there has been a continuous fall for PET regrind, from 400 \in /to 320 \in /t in August 2019. Never before has PP bale goods been quoted so high, at 370 \in /t - however, a marked drop in the price is imminent in September.

Overall, standard plastics tended to marked price falls in September. At 516 \in /t, the preview of the September quotes shows an average price that is 20 \in /t lower than in the previous month (536 \in /t). The September price index, 16.09.2019, shows satisfactory demand for plastic to date.

	Sept. ⁶ 19	Aug. 19	July 19	June 19	May 19	Aug. 18
HDPE regrind ¹	570	600	620	600	580	570

Table 3: Standard plastics price according to plasticker; listed in \notin /t.

HDPE regranu- lates⁵	790	870	850	860	890	850
LDPE bale goods ²	230*	240*	200	230	250	190
LDPE regrind ¹	480	500	540*	520	580	550*
LDPE regranu- lates ⁵	680	680	700	700	700	770
PP bale goods ³	290*	370	240*	280*	220	150*
PP regrind ¹	590	570	580	600	600	600
PP regranulates ⁵	830	880	870	830	800	840
PS regrind ⁴	610*	630	630	610	600	640
PS regranulates ⁵	860	760	910	930	1020	1110
PVC_P regrind ¹	370*	350*	390*	300	350*	280*
PVC_U regrind ¹	430*	530*	480*	430*	490	410*
PET bale goods	160*	200	180*	200*	200*	120
PET regrind mixed colours	330	320	330	350	360	330
Average Price	(516)	536	537	530	548	529

*: 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 (may be amended by additional quotes)

3.2 plasticker: Technical plastics

In August 2019 the average price for technical plastics in plasticker is $1253 \notin t$ and thus almost unchanged in comparison to the previous month ($1252 \notin t$), see. Table 4. A comparison of the average prices from August 2019 ($1253 \notin t$) with those of the previous year ($1243 \notin t$) shows a current price that has only changed slightly. The August price index shows a satisfactory demand for plastics. The following price changes were more than $\pm 70 \notin t$: PC regranulates $+110 \notin t$, PBT regranulates $-110 \notin t$ and POM regranulates $+80 \notin t$. And at 580 $\notin t$, POM regrind recorded its lowest quote since September 2016.

At 1249 €/t, the preview of the September quotes of 16.09.2019 shows an average price that is almost identical to the price of the previous month (1253). The September price index is showing subdued demand for plastic.

	Sept. ⁶ 19	Aug. 19	July 19	June 19	May 19	Aug. 18
ABS regrind	600	660	670	690	700	630
ABS regranu- lates ⁵	1290	1120	1070	1150	1150	1370
PC regrind	930	930	930	880	780	1000
PC regranulates ⁵	1770	2020	1890	1880	1870	1990
PBT regrind	520	540	500	490	490	450
PBT regranulates	1670	1710	1820	1710	1600	1640
PA 6 regrind	830	790	810	830	840	830
PA 6 regranu- lates⁵	1790	1760	1820	1990	1920	1780
PA 6.6 regrind	860	860	870	850	880	890
PA 6.6 regranu- lates⁵	2090	2200	2270	2260	2240	2010
POM regrind	600	580	590	600*	640	660
POM regranu- lates⁵	2040	1860	1780	1740	1650	1660
Average Price	(1249)	1253	1252	1256	1230	1243

Table 4: Technical plastics price according to plasticker; listed in €/t.

⁵: equivalent to the grade "regranulates, black"; ⁶: preview (may be amended by additional quotes)

4 Evaluation of the secondary plastic markets

4.1 Standard plastics

In August 2019, a comparison of the data for standard plastics from EUWID with plasticker shows that plasticker still showed price stability, whereas EUWID was already quoting marked price falls. Demand for plastic wastes was assessed as satisfactory in plasticker, whereas EUWID viewed demand as subdued.

EUWID reported price falls for all post-industrial waste. For post-industrial waste there is an average price fall for PE of $11 \notin t$, PP of $18 \notin t$, PVC of $36 \notin t$ and PS of $43 \notin t$. In the PE post user quotes, commercial mixed film is quoted an average $13 \notin t$. Blow-moulded bodies and regrinds from crates were quoted by an average $27 \notin t$ lower. The price of shrink hoods and thin film remained about the same. There is continuing strong demand for commodities, for regrinds and regranulates in particular. The average price of regranualtes fell by $5 \notin t$ to $25 \notin t$.

Exports of plastic wastes are falling heavily. And this is the case both for exports to the Far East, Turkey and the European markets. Only small quantities of plastic waste are still reaching Malaysia or Vietnam, for example. And India is imposing import restrictions. Exports to the eastern EU states are examined closely. And the possibility of exporting plastic recyclates as products is now limited. Customs authorities examine the import of recyclates to see whether the declared grades are actually being adhered to.

4.2 PET Recycling

The price falls for virgin grades are being felt in PET recycling. The demand for PET recyclates is good. In addition to the demand from the food sector, strips, film and fibre, use of non-food bottles is also gaining in importance. However, the basis for PET recycling as a whole is largely beverage bottles which can repeatedly be mixed with virgin grade for recycling. The share of products from the non-food sector that can be introduced to PET recycling is relatively low, however.

The supply of used beverage bottles continues to be pleasingly high in the autumn. More price falls for the beverage bottles have mainly been implemented. The August quotes for used PET returnable bottles were 20 €/t lower in comparison to the previous month for PET clear, for PET mixed 25 €/t lower and unchanged for PET coloured, see EUWID RE, 36. 2019, p. 16.

5 Explanation on the price quotes

A detailed discussion with information of price indices for virgin grades and waste plastics as well as precursor products can be found in EUWID Recycling and Disposal see <u>www.euwid.de</u>, or in EUWID Plastics <u>www.euwid-kunststoff.de</u>. EUWID: No guarantee for any of the prices.; prices ex station. As a rule, the prices quoted refer to quantities in excess of 20 tons.

The quotes for secondary prices, 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, see <u>www.plasticker.de</u>. 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. Plasticker offers the quality grades regrind and regranulates both as virgin materials and as secondary goods. 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, Friday, 25. October 2019

Dr Thomas Probst, bvse