1 General economy with reference to the plastics industry

The mood among company bosses has deteriorated. The ifo business climate index fell to 92.7 points in October, following on from 93.2 points (seasonally adjusted) in September, also see www.ifo.de/ifo-geschaeftsklimaindex. This is the first fall after five rises in succession. Companies are much more sceptical about development in the months ahead. However, they evaluate their current situation as slightly better than in the previous month. Concerns in the German business world are increasing in view of the rising numbers of infections.

The business climate indicator has been positive again for the first time since June 2019 in the manufacturing sector. Many more companies were satisfied with their current business situation. In the last quarter, the companies greatly increased their capacity utilisation from 75.3 % to 79.8 %. But the recent optimism has suffered a marked setback when looking to the months ahead.

We can see a current trend for the plastics sector in KI – the Plastics Information Europe journal, see https://www.kiweb.de. In a year-on-year comparison of October 2019 with October 2020, 79 % of those surveyed reported falls in capacity utilisation; 25 % by more than a quarter. Above-average capacity utilisation deficits of a quarter and more affect machine manufacturers (31 %), dealers (29 %) and recyclers (26 %).

IK – Industrievereinigung Kunststoffverpackungen e.V. has published its economic trend for Q4 2020, see https://kunststoffverpackungen.de/marktdaten/konjunkturtrend/. Although there is a clear recovery for the indices for turnover, export and economic situation, all of the index values are still negative. The current index value of around -4 points is still very far away from its long-standing average, which is around 20 points.

2 The primary plastics market

2.1 Standard plastics

This year, there has been strong demand from packaging plastics, e.g. in the foods sector. In this segment, the turnover figures for 2020 surpass those of the previous year. The offerings of virgin grades are met with stagnating demand in the last quarter. One of the reasons for stagnating demand is that the processors' warehouses are full.

Stagnation: In October, only PVC was quoted higher, by an average 78 €/t; all other commodities remained the same. The standard plastics were quoted in EUWID, see www.euwid-recycling.de, at 994 €/t and thus an average 16 €/t higher than in the previous month (978 €/t), see Table 1. The standard deviation of the average price of only 87 €/t shows that the quotes are close to each other. Or, put another way, it can be deduced that all quotes are subject to similar conditions in pricing. In a year-on-year comparison, it can be seen that the average quotes from October 2020 (994 €/t) were 146 €/t lower than those of the previous year (1,140 €/t).

Packaging PET was quoted at an average price of 930 €/t in October 2020, thus 10 €/t higher than in the previous month. Virgin grade PET is available on the spot markets for around 700 €/t. PET markets are still characterised by low demand in the beverages sector.

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

Prices in €/t	October 2020	Sept. 2020	August 2020	July 2020	June 2020	
LDPE film grade	930- 1040	930- 1040	880- 980	850- 950	810- 910	

0 LLDPE film grade 940-1040 940-1040 890-990 870-970 830-930 **HDPE** injection 930-1000 930-1000 890-970 860-940 820-900 moulding HDPE blow 930-1030 930-1030 900-1000 880-960 840-920 moulding PS crystal clear 1030- 1090 990- 1050 1000- 1060 1000-1060 1030-1090 1080- 1150 1110- 1180 1110- 1180 1070- 1140 PS high impact 1080-1150 1020- 1080 1000- 1060 970- 1030 PP homopolymer 1000- 1070 1000-1070 PP copolymer 1050- 1120 1050-1120 1060-1120 1050- 1110 1020- 1080 PVC tube grade 820-890 750-800 710- 760 700- 740 680-720 PVC film/cables 870-920 790- 840 750-800 740- 780 720- 760 **Average Price** 994 ± 87 978 ± 112 961 ± 134 944 ± 138 910 ± 134

2.2 **Technical plastics**

Table 1:

Overall, there is a tremendous need for catch-up in production. Since August 2020, a small market recovery has been seen for technical plastics. There was demand for technical plastics in October. However, before the second lockdown due to coronavirus, the extent to which this upturn is sustainable remains to be seen. The falls in car production over the whole year became clear in November, see https://www.acea.be/?/press-releases.

Price stability: Only the price of ABS has risen, by 30 €/t, all other quotes remain unchanged. In October 2020, the technical plastics were quoted in EUWID, see www.euwid-recycling.de, at 2,108 €/t and thus an average 14 €/t higher than in the previous month (2,099 €/t), see Table 2. The average price in October 2020 (2,108 €/t) was 415 €/t lower than that of October in the previous year (2,523 €/t). For technical plastics, the significance threshold for changes is around 70 €/t, meaning that a change of 14 €/t is considered to be price stability.

Warehouses can still be filled cheaply given the comparatively low prices for technical plastics. It is surprising that the increased demand for PMMA has to date hardly been reflected in the price. PMMA has been quoted without changes since June 2020. PMMA is the material of choice for partitions and sneeze guards.

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

Prices in €/t	October 2020	August 2020	June 2020	April 2020
PMMA crystal clear	2700 – 2900	2700 – 2900	2700 – 2900	2900 – 3100
ABS natural	1380 – 1430	1350 – 1400	1280 – 1330	1350 – 1400
ABS w/b	1450 – 1500	1450 – 1500	1380 – 1430	1450 – 1500
ABS coloured	2050 – 2070	2050 – 2070	1980 – 2130	2050 – 2200
PC crystal clear	1900 – 2000	1900 – 2000	2000 – 2100	2150 – 2250
PC GF-reinforced	2100 – 2200	2100 – 2200	2200 – 2300	2350 – 2450
POM natural	1750 – 1900	1750 – 1900	1750 – 1900	1800 – 1900
PA 6 natural/black	1800 – 1900	1800 – 1900	1800 – 1900	1800 – 1900
PA 6 GF-reinforced	1850 – 1900	1850 – 1900	1850 – 1900	1850 – 1900
PA 66 natural	2800 – 2900	2800 – 2900	2800 – 2900	3000 – 3100
PA 66 GF-reinforced	2800 – 2850	2800 – 2850	2800 – 2850	3000 – 3050
Average Price	2108	2094	2099	2173

3 Secondary plastics markets in the plasticker price index

The plasticker internet platform, see 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 November 2020; they will not become definitive until early July. The two quotes stated for November 2020 below therefore indicate only an interim situation, see the left-hand column in Table 3 and Table 4.

3.1 plasticker: Standard plastics

Price stability for secondary plastics: an average price of 470 €/t is calculated for October 2020¹. And this average price is thus only 5 €/t higher than that of the previous month (465 €/t), see Table 3. The average price for October 2020 (470 €/t) was 25 €/t below that of the previous year (495 €/t). The October price index shows subdued demand for plastic.

Only one significant price change can be seen, namely for PS regranulates at +140 €/t. The biggest prices changes for PP bale goods and PVC_U regrind are not of sufficient statistical significance for their contribution to be listed here. A 5-year low was reached for the prices for HDPE regrind at 490 €/t and PET regrind LDPE at 260 €/t.

The preview of the November quotes indicates an average price of 446 €/t, see Table 3. The price index of 18.11.2020, shows subdued demand for plastic.

	Nov. ⁶ 20	October 20	Sept. ⁶ 20	August 20	July 20	Oct. 19
HDPE regrind ¹	490	490	490	490	510	570
HDPE regranu- lates ⁵	670	690	700	690	720	810
LDPE bale goods ²	200*	170	170	170	200	180
LDPE regrind ¹	470	470	430	430	500	510
LDPE regranu- lates ⁵	540	590	590	580	580	670
PP bale goods ³	170*	270*	450*	240*	140*	140*
PP regrind ¹	490	480	490	450	460	550
PP regranulates⁵	710	710	720	670	730	820
PS regrind ⁴	550	550	540	570	570	620
PS regranulates⁵	700*	930	790	810	800	850
PVC_P regrind ¹	350*	480*	460*	250*	200*	320*
PVC_U regrind ¹	430	420	290*	230*	380*	360
PET bale goods	170*	70*	90*	160*	220*	190
PET regrind mixed colours	300	260	300	290	340	340
Average Price	(446)	470	465	431	454	495

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

^{*:} 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"; ⁵: preview (may be amended by additional quotes)

¹ It is difficult to determine the average price in October, since there is insufficient significance for three prices and thus the price change in comparison to the previous month not very reliable.

3.2 plasticker: Technical plastics

Only small movements in the average prices for technical plastics can be seen. Since August 2020 we have seen an increase in the average prices for technical plastics in small steps, see Table 4. In October 2020, the average price for technical plastics in plasticker is 1,173 \in /t and thus only 22 \in /t higher than in the previous month (1,151 \in /t). A comparison of the average prices from October 2020 (1,173 \in /t) with those of the previous year (1,132 \in /t) shows a difference of 41 \in /t.

These plastics show price changes of more than ± 70 €/t: PBT regranulates -170 €/t, PA 6 regranulates -140 €/t and POM regranulates +630 €/t. A 5-year-low was reached with ABS regrind at 550 €/t and POM regrind at 540 €/t. The October price index records slightly higher demand for plastic in comparison with the previous month.

The preview of the November quotes shows an average price for technical plastics that has changed only slightly. The average price in November $(1,164 \in /t)$ was quoted at $9 \in /t$ lower than in the previous month $(1,173 \in /t)$. The November price index of 18.11.2020 shows subdued demand for plastic.

	November ⁶ 20	Oct. 20	Sept. 20	Aug. 20	July 20	Oct. 19
ABS regrind	560	550	550	550	560	600
ABS regranu- lates ⁵	1000	1000	1030	1100	1030	1120
PC regrind	790	820	850	840	820	940
PC regranulates ⁵	1710	1730	1700	1560	1590	1470
PBT regrind	430	440	440	420	430	450
PBT regranulates	1650	1600	1770	1630	1610	1590
PA 6 regrind	880	820	810	830	840	830
PA 6 regranu- lates ⁵	1800	1670	1810	1820	1820	1700
PA 6.6 regrind	910	860	870	890	920	880
PA 6.6 regranu- lates ⁵	2220	2090	2110	2050	2060	2010
POM regrind	560	540	560	580	580	590
POM regranu- lates ⁵	1460	1960	1310	1440	1670	1400
Average Price	(1164)	1173	1151	1143	1161	1132

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

4 Evaluation of the secondary plastic markets

4.1 Plastic wastes and recyclates

The second wave of the coronavirus has materialised. As a consequence, the market parameters are moving again, in this case to the disadvantage of plastics recyclers. Although the demand for plastics is high in the packaging sector, the processors are mainly using low-cost virgin grades. Selected brand manufacturers have recognised the sustainability of recyclates and successfully advertise their use in lightweight packagings.

The virgin grades, see Table 2 and Table 3, are quoted at stable prices and the secondary plastics markets, see Table 3 and Table 4, are only moving slightly. Both price indices, i.e. EUWID and plasticker, report subdued demand for plastic waste in October. The EUWID price index for standard plastics reports only a few price changes for waste plastics, in par-

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

ticular for PE post user. And plasticker also has stable quotes in comparison to the previous month.

Good films have been sought after in the crisis because the amount of films from commerce and industry is relatively low. In the EUWID price index for waste plastics, production waste quotes for PE, PP, PS and PVC are unchanged. Only two price corrections can be seen for PVC grades. The PE post user films are quoted at an average 7 €/t higher. In October, the mean EUWID quotes for PE post user films are: LDPE shrink hoods natural 295 €/t, LDPE shrink hoods mixed colours 70 €/t, thin film transparent natural 175 €/t, thin film transparent coloured 28 €/t, LDPE agricultural film -50 €/t, commercial mixed film (90/10) 83 €/t and commercial mixed film (80/20) 50 €/t.

4.2 PET Recycling

PET recyclers between a rock and a hard place. On the one hand, plastics recyclers are beset by the still excessively high prices for used beverage bottles and, on the other hand, by the insurricient revenue for the recyclates. The cheap virgin grade is pushing recyclates out of their markets. PET virgin grades are sometimes available for 700 €/t. Sales of regrind and regranlates are stagnating. Whereas transparent recyclates are finding niches, there is hardly any demand for mixed colour grades. However, there is a ray of hope in the fact that the proportion of recyclates in PET beverage bottles is now an average 30 %, see the IK press release on this https://newsroom.kunststoffverpackungen.de/2020/10/30/studie-pet-wertstoffkreislauf-pet-flaschen-umweltschonender/?press=1.

In spite of the continuing falls in prices for manufacturing grades since April 2020, PET recyclers need even more marked price falls for used beverage bottles to be able to work adequately. For the seventh time in succession, the quotes for used PET returnable bottles have fallen. In October, the relative changes were: PET transparent 0 €/t, PET mixed -5 €/t, and PET coloured -10 €/t.

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 www.euwid.de, or in EUWID Plastics www.euwid-kunststoff.de. 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 www.plasticker.de. 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, Monday, 23. November 2020

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