1 General economy with reference to the plastics industry

ifo business climate index: The mood in German board rooms has been dampened further, see www.ifo.de/ifo-geschaeftsklimaindex. The ifo business climate index fell to 97.7 points in October, following on from 98.9 points in September. This is the fourth fall in a row. In particular, expectations are still shaped by scepticism. And companies estimate the current situation as less good. Supply chain problems are making life difficult for companies. Capacity utilisation in industry is falling.

The business climate index has fallen again in the manufacturing sector. The companies are slightly less satisfied with their business development. Furthermore, expectations are continuing to deteriorate. Following the supply problems, capacity utilisation has fallen by 2.1 % to 84.7 %.

2 Primary markets – standard plastics

The prices for standard plastics are quoted as stable. Plastics are still being traded at very high prices. The demand for standard plastics is high among processors. Freight capacities are still tight, so there is a shortage of containers for transport on water and land, resulting in high freight prices.

In September 2021 the average price of 1,822 €/t was an average 4 €/t lower than in the previous month (1,826 €/t), see Table 1. In a year-on-year comparison, it can be seen that the average quotes from September 2021 (1,822 €/t) were 844 €/t higher than those of the previous year (978 €/t), see EUWID, www.euwid-recycling.de. Plastics made of PS recorded prices falling by 50 €/t, whereas PVC was quoted 20 €/t higher; PE and PP remained unchanged.

PET: The PET boom is continuing. In packaging, the trend towards PET is unchanged. PET is widely used for flexibles and rigids. In the food sector in particular, PET is the absolute trend setter. In September 2021, packaging PET was quoted on average at 1,405 €/t and this 35 €/t higher than in the previous month, see https://www.kiweb.de/.

Prices in €/t	September 2021	August 2021	July 2021	June 2021	May 2021
LDPE film grade	1800- 1950	1800- 1950	1900- 2050	2000- 2150	2050- 2250
LLDPE film grade	1750- 1900	1750- 1900	1850- 2000	2000- 2150	2050- 2250
HDPE injection moulding	1600- 1800	1600- 1800	1700- 1900	1900- 2050	1950- 2100
HDPE blow moulding	1550- 1750	1550- 1750	1650- 1850	1900- 2050	1950- 2100
PS crystal clear	1700- 1800	1750- 1850	1750- 1850	1950- 2100	2250- 2350
PS high impact	1800- 1900	1850- 1950	1850- 1950	2050- 2200	2350- 2450
PP homopolymer	2050- 2250	2050- 2250	2050- 2250	2050- 2250	2000- 2200
PP copolymer	2100- 2300	2100- 2300	2100- 2300	2100- 2300	2050- 2250
PVC tube grade	1500- 1600	1480- 1580	1450- 1550	1400- 1500	1350- 1450
PVC film/cables	1600- 1700	1580- 1680	1550- 1650	1500- 1600	1450- 1550
Average Price	1822 ± 222	1826 ± 227	1860 ± 229	1960 ± 259	2020 ± 324

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

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 the month of the report, in this case October 2021; they will not

become definitive until early November. The two quotes stated for October 2021 below indicate only an interim situation, see the left-hand column in Table 2 and Table 3.

3.1 plasticker: Standard plastics

Since June 2021 (639 €/t), the prices for standard plastics have been falling gradually until September 2021 (491 €/t). The average price for September 2020 (491 €/t) was $40 \in \text{It lower}$ than that of the previous month (531 €/t). 2. The average price for September 2021 (491 €/t) was $26 \in \text{It below}$ that of the previous year (465 €/t). There were significant price changes of greater than $\pm 40 \in \text{It}$ for: HDPE regranulates $-90 \in \text{It}$, PP regrind $+50 \in \text{It}$, PP regranulates $+50 \in \text{It}$ and PS regrind $+50 \in \text{It}$. The changes to the quotes for PP, PVC_P and PVC_U are not taken into account due to the small number of reports. At $380 \in \text{It}$, LDPE regrind was now at a 5-year low. At $700 \in \text{It}$, PS regrind has once again reached its 5-year high. The price index is characterised by adequate demand for plastic.

The preview of the October quotes shows a much higher average price in the amount of 582 €/t than that of the previous month (491 €/t), see Table 2. The price index of 18.10.2021 shows just satisfactory demand for plastic to date.

	October ⁶ 21	Sept. 21	August 21	July 21	June 21	Sept. 20
HDPE regrind ¹	610	620	630	600	640	490
HDPE regranu- lates⁵	930	830	920	930	1040	700
LDPE bale goods ²	240*	290*	270*	240	270*	170
LDPE regrind ¹	340*	380	420	450	470	430
LDPE regranu- lates ⁵	780	690	700	720	980	590
PP bale goods ³	430*	0*	0*	200*	260*	450*
PP regrind ¹	720	620	570	560	620	490
PP regranulates ⁵	1230	930	880	910	1130	720
PS regrind ⁴	760*	700*	650*	600	700*	540
PS regranulates ⁵	970	890	850*	960	1470	790
PVC_P regrind ¹	310*	270*	400*	350*	290*	460*
PVC_U regrind ¹	0*	50*	540*	520*	570*	290*
PET bale goods	380*	180*	160*	200	70*	90*
PET regrind mixed colours	450	420	440	480	430	300
Average Price	(582)	491	531	551	639	465

Table 2: Standard plastics price according to plasticker; listed in €/t.

3.2 plasticker: Technical plastics

There have been large price rises for the individual quotes for technical plastics, whereas the average price has changed only moderately. There was an average price of 1,618 €/t, which was 49 €/t higher than that of the previous month (1,569 €/t), see Table 3. The average price for September 2021 (1,618 €/t) was 467 €/t higher than that of the previous year (1,151 €/t).

These plastics show price changes of more than ± 70 €/t: ABS regranulates -490 €/t, PC regranulates +280 €/t, PBT regrinds +150 €/t, PBT regranulates -240 €/t, PA 6 regrinds +90 €/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"; ⁶: preview (may be amended by additional quotes)

PA 6 regranulates +110 €/t, PA 6.6 regranulates +220 €/t and POM regranulates +620 €/t. Regranulates in particular have experienced large price rises. PC regranulates, POM regranulates, PBT regrind, PA 6 regrind and PA 6.6 regrind recorded a 5-year high. Overall, there is a great deal of movement in the individual quotes. The price index shows a subdued demand for plastic.

The probable average price in October 2021 (1,638 €/t) is quoted almost unchanged in comparison to the previous month (1,618 €/t). The boom in technical plastics is continuing. The October price index of 18.10.2021 shows only adequate demand for plastic.

	October ⁶ 21	Sept. 21	August 21	July 21	June 21	Sept. 20
ABS regrind	700	660	630	630	640	550
ABS regranu- lates ⁵	2030	1900	2390	2280	2410	1030
PC regrind	950	930	1000	860	1030	850
PC regranulates ⁵	2440	2410	2130	1980	1910	1700
PBT regrind	620	710	560	540	610	440
PBT regranulates	2080	2200	2440	2080	2140	1770
PA 6 regrind	1020	1060	970	900	950	810
PA 6 regranu- lates ⁵	2400	2420	2310	2420	2320	1810
PA 6.6 regrind	1040	1070	1040	930	1010	870
PA 6.6 regranu- lates ⁵	2880	2570	2550	2830	2910	2110
POM regrind	710	700	650	690	600*	560
POM regranu-	2790	2780	2160	2250	2480	1310

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

1569

1533

1584

1151

1618

4 Secondary Plastics Markets

lates⁵

Average Price

4.1 International plastics shipping

(1638)

As part of the reorganisation of plastic shipping, the EU-COM has drawn up the Correspondents' Guidelines No 12, see

https://www.proenvi.de/recht/EU/VVA/Anlaufstellen_Leitlinie/Entwurf_Anlaufstellen_Leitlinien_12_Englisch.pdf. Correspondents' Guidelines No. 12 explains the reorganisation of plastic shipping in detail. The Guidelines have not yet been adopted, just the draft has been presented.

Among other things, the Commission's proposals provides that the share of materials alien to plastics for shipping will be set at 6 % within the EU and 2 % outside the EU. Moreover, there are differences between the European entries EU3011, AC 300, EU48 and the international entries B3011, A3210 and Y48.

The export of plastic wastes to the EU and to states outside the EU is greatly restricted by the German authorities. The picture in Austria is similar, which is sometimes even more restrictive than Germany. By contrast, export from the Netherlands is booming and is resulting in marked distortions of competition in Europe. Although exports to Turkey are possible again, they are sluggish. And freight capacities are still tight, so there is a shortage of containers for transport on water and land, resulting in high freight prices.

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

4.2 Plastic wastes

In EUWID and KI – Plastics Information Europe stable prices are reported, which are supplemented by low price rises for certain commodities. In plasticker, standard plastics are quoted lower. However, the same picture can be seen in plasticker as in the other price indices if the quotes for PP bale goods and PVC are not taken into account.

There is particular demand for film wastes. In the film sector, the volume from pi - post industrial - and pc - post consumer - is still limited. The EUWID price index: for September shows slight recovery of individual quotes in comparison to the previous month, which range from an 5 €/t to 15 €/t. Only HDPE natural shows a much higher, one-sided price rise at the lower margin, by 100 €/t or in absolute terms from 660-700 €/t. Prices for production wastes made of PS were quoted unchanged. There was only one price rise each for PVC production wastes of an average 10 €/t for unplasticised_mixed colours (200-300 €/t) and PVC window frames by an average 5 €/t for window grade_white (720-900 €/t). In PP production wastes, films_mixed colours was quoted at an average 15 €/t (80-200 €/t) and film_natural an average 10 €/t (250-400 €/t) higher.

There were slight price changes in PE post user wastes, specifically for LDPE shrink hood natural by an average 5 €/t (450-530 €/t), film transparent coloured <70 μ m by an average 15 €/t (70-90 €/t), commercial mixed film (90/10) by an average 5 €/t (170-200 t), commercial mixed film (80/20) by an average 8 €/t (125-155 €/t) and HDPE blow-moulded bodies_coloured by an average 15 €/t (180-270 €/t).

4.3 Recyclates

Plastics recycling is booming. In particular, recyclates are in demand for packagings and in the construction sector. Other economic sectors, such as vehicle construction and electronic equipment, are manufacturing at moderate levels because they are being greatly hampered by shortages of raw materials and electronic chips.

The demand for plastics recyclates made of standard plastics and technical plastics continues to be high. In particular, regrinds and regranulates made of LDPE are finding a ready market. At times, recyclate prices still exceed the prices of virgin grades.

4.4 PET Recycling

The PET recyclers are still complaining about insufficient quantities of used beverage bottles. The fpurchase prices are also assessed as disadvantageous. Moreover, purchase from abroad has been made much more difficult. Nevertheless, individual recyclers report that the supply situation for used PET bottles improved somewhat in September and October. The EUWID quotes for used PET single-use bottles remained unchanged in September in comparison to the previous month.

There is excessive demand for PET recyclates, i.e. PET regrinds and PET regranulates, see https://www.kiweb.de/. In the packagings sector, the demand for PET flakes and PET regranulates is high. Even now, an excessive demand for PET recyclates can be seen, if the announcements from brands with respect to bottles, which are made of 100 % r-PET, are realised in 2022. The demand for recyclates from shell manufacturers has not even been taken into account.

KI – Plastics Information Europe has identified a marked price rise for clear r-PET regranulates of 120 €/t, whereas the flakes are quoted unchanged. The prices for r-PET_clear were quoted above those of the virgin grades, by around 15 €/t for flakes or around 445 €/t for regranulates. The PET virgin grade is not yet available without limitations, although the de-

mand for recyclates is still high. Detailed monthly reports on the PET prices for virgin grade and used bottles can be found in EUWID and Plastics Information Europe.

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, Friday, 5. November 2021

Dr. Thomas Probst, byse