1 General economy and reference to the plastics industry

ifo business climate index: The ifo business climate index rose in October 2023, see <u>https://www.ifo.de/fakten/2023-10-25/ifo-geschaeftsklimaindex-gestiegen-oktober-2023</u>. The mood in German board rooms has improved. The ifo business climate index rose to 86.9 points in October, following on from 85.8 points in September. Companies were slightly more satisfied with current business. Furthermore, managers were less pessimistic about the months ahead. German industry can see some light at the end of the tunnel.

The business climate index has risen slightly in the manufacturing sector. This is due to less sceptical expectations in companies. By contrast, companies evaluate the current situation as worse again. The orders situation remains difficult.

GKV – Gesamtverband Kunststoffverarbeitende Industrie e.V.: On 25 August 2023, the GKV published a press release "Economic Downturn in the Plastics Processing: What to Do Now", see <u>https://www.gkv.de/de/service/presse/</u>.

Lower turnover in retail and major branches of industry caused the turnover in the plastics processing industry to fall by 4.6 % in comparison to the previous year in January to June 2023 according to data from the Federal Statistical Office. The number of employees is roughly at the same level as the previous year. However, companies in the sector are increasingly availing themselves of the instrument of short-time working. The business climate for the manufacturers of plastics goods continues to be markedly negative according to the ifo Institut's business climate index.

Even though part of the fall in turnover may be due to lower raw materials prices in comparison to the previous year, the fall in turnover in many important customer industries is also having a noticeable effect on the plastics processing industry. Manufacturers of semi-finished products (sheets and foils made of plastic), whose turnover fell by 10.8 %, are particularly affected by the economic downturn. The turnover of manufacturers of plastic packagings also fell by 6 %. The low turnover in retail and the falling turnover in major customer industries, for example the chemicals industry, are reflected here. Manufacturers or plastic building materials also recorded a sharp fall in turnover of 8 %. Higher interest rates have recently noticeably suppressed demand in the building industry. However, the manufacturers of other plastic goods, in particular technical plastic products, grew with an increase in turnover of 4.7 %. After a crisis-hit previous year, the automotive industry has now reported clear rises in turnover. However, experts are sceptical as to whether the upturn will continue into the second half of the year.

2 Primary markets - standard plastics

Supply shortages and higher monomer prices explain the price rises. In October, too, there is only subdued demand for standard plastics. Some processors are buying to top up their stocks. And some processors are buying to get ahead of further price rises.

In October 2023 the EUWID average price of $1,462 \in /t$ was therefore $48 \in /t$ higher than in the previous month $(1,414 \in /t)$. 1. In a year-on-year comparison, it can be seen that the average quotes from October 2023 $(1,462 \in /t)$ were $65 \in /t$ higher than those of the previous year $(1,397 \in /t)$.

The quotes for plastics rose on average by 70 \in /t for LDPE, 70 \in /t for LLDPE, 60 \in /t for HDPE, 30 \in /t for PP, 60 \in /t for PS and 20 \in /t for PVC. The situation for standard plastics is portrayed well in EUWID, see <u>www.euwid-recycling.de</u>, and PIE – Plastic Information Europe, see <u>https://pieweb.plasteurope.com/</u>.

Prices in €/t	Oct. 2023	Sept. 2023	Aug. 2023	July 2023	June 2023
LDPE film grade	1280- 1310	1200- 1250	1160- 1210	1160- 1210	1230- 1310
LLDPE film grade	1280- 1320	1200- 1260	1130- 1230	1130- 1230	1200- 1310
HDPE injection moulding	1280- 1330	1220- 1270	1170- 1220	1170- 1220	1210- 1290
HDPE blow mould- ing	1260- 1340	1200- 1280	1150- 1230	1150- 1230	1190- 1300
PS crystal clear	1870- 1950	1810- 1890	1640- 1720	1560- 1640	1640- 1720
PS high impact	2000- 2050	1940- 1990	1770- 1820	1690- 1740	1770- 1820
PP homopolymer	1420- 1480	1390- 1450	1330- 1420	1330- 1420	1360- 1520
PP copolymer	1470- 1530	1440- 1500	1380- 1470	1380- 1470	1430- 1570
PVC tube grade	1150- 1250	1130- 1230	1100- 1200	1110- 1210	1150- 1250
PVC film/cables	1280- 1380	1260- 1360	1230- 1330	1240- 1340	1280- 1380
Average Price	1462 ± 276	1414 ± 272	1345 ± 225	1337 ± 193	1397 ± 206

Table 1:	Standard plastics prices according to EUWID over the past five months, listed in €/t.
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PET: The demand for PET is subdued. Commercial and private consumers are ordering only small quantities of PET. There are hopes for increased demand for PET drinks bottles because of Christmas. The supply of PET virgin grade is balanced out in comparison to demand by shutting down more production lines. However, imported goods from Asia are surging into European markets. The main reason for the higher PET prices is the increased paraxylol prices. In October 2023, packaging PET was quoted on average at 1,230 \in /t and thus 35 \in /t higher than in the previous month, see PIE – Plastic Information Europe<u>https://pieweb.plasteurope.com/</u>. However, virgin grade (A-PET and C-PET) is also traded in the region of 1,050 \in /t to 1,150 \in /t, s. www.euwid-recycling.de.

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 November 2023; they will not become definitive until early December 2023. The two quotes stated for November 2023 below therefore indicate only an interim situation, see the left-hand column in Table 2 and Table 3.

3.1 plasticker: Standard plastics

The standard plastics were quoted at an average 615 €/t in October 2023 and were thus 38 €/t higher than the average quote for September 2023 of 577 €/t, see Tab. 2. The average price for October 2023 (615 €/t) was 168 €/t below that of the previous year (783 €/t).

There were significant price changes of greater than $\pm 40 \notin /t$ for: HDPE regranulates $+60 \notin /t$, LDPE regranulates $+140 \notin /t$, PP regranulates $+80 \notin /t$, PS regrind $+50 \notin /t$, PET baled goods $+70 \notin 7t$ and PET regrind mixed colours $-50 \notin /t$. Considerations of price changes with supply figures that are too low are not included here. The October price index is characterised by improved purchase demand in comparison to the previous month. Demand has risen.

The probable average price in November 2023 (577 \in /t) is thus 38 \in /t lower than in the previous month, see Tab. 2. The price index of 10.11.2023, shows continued subdued demand for plastic.

	November ⁶ 23	Oct. 23	Sept. 23	Aug. 23	July 23	Oct. 22
HDPE regrind ¹	590	640	610	610	630	760
HDPE regranu- lates⁵	880	920	860	870	940	1060
LDPE bale goods ²	260*	300*	170*	300	320	150*
LDPE regrind ¹	280*	290*	180*	180	290*	600*
LDPE regranu- lates ⁵	810	840	700	760	890	990
PP bale goods ³	240*	220	250*	290	280	400*
PP regrind ¹	630	640	640	650	700	900
PP regranulates ⁵	860	940	860	960	1060	1130
PS regrind ⁴	700	710	760	960	790	1030*
PS regranulates ⁵	970	980	1020	1070	1070	1230
PVC_P regrind ¹	680*	700*	720*	530	500*	1010*
PVC_U regrind ¹	570*	630*	630*	670	660*	810*
PET bale goods	170*	320	250*	300	310	400*
PET regrind mixed colours	440	480	430	460	440	490
Average Price	(577)	615	577	615	635	783

Table 2: 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"; ⁶: preview (may be amended by additional quotes)

At the start of the coronavirus pandemic in March 2020 ($473 \notin t$), the average quotes for standard plastics fell slightly in plasticker until December 2020 ($456 \notin t$), to then reach the peak of the quotes in July 2022 ($894 \notin t$) after a rollercoaster ride, see Fig. 1. We are currently in a downwards trend, which continued in October 2023 ($615 \notin t$). The course of the quotes in Fig. 1 leads to the suspicion that the downwards trend for quotes has not yet come to an end. The course of the quotes to date gives rise to the view that the new price level will settle somewhere between $550 \notin t$ and $600 \notin t$.



Fig. 1: Average quotes for standard plastics, 06/2019 to 10/2023.

3.2 plasticker: Technical plastics

For October 2023, there was an average price of $1,728 \notin t$, which was $147 \notin t$ lower than that of the previous month $(1,875 \notin t)$, see Table 3. The average price for October $(1,728 \notin t)$ was $176 \notin t$ below that of the previous year $(1,904 \notin t)$. A local minimum in the price level was reached with the June 2023 quotes $(1,761 \notin t)$ – an interim low. After a recovery phase of 3 months, this interim low has been beaten again with the October quotes $(1,728 \notin t)$, see Fig. 2.

What price falls! Clear price declines have been seen for some commodities. Granulates are affected by the large price falls. There were significant price changes of greater than $\pm 70 \notin /t$ for: ABS regranulates $\pm 80 \notin /t$, PC regranulates $-220 \notin /t$, PBT regranulates $-710 \notin /t$, PA 6 regrind $-80 \notin /t$, PA 6.6 regranulates $-500 \notin /t$ and POM regranulates $-220 \notin /t$. The price index for October is characterised by adequate demand for plastic.

The probable average price in November 2023 $(1,711 \notin t)$ is thus $17 \notin t$ lower than in the previous month $(1,728 \notin t)$. This indicates price stability at a low level. The price index of 10.11.2023 shows subdued demand for plastic.

	November ⁶ 23	Oct. 23	Sept. 23	Aug. 23	July 23	Oct. 22
ABS regrind	720	700	750	850	820	1010
ABS Granulat5	1360	1400	1320	1360	1510	1810
PC regrind	1310	1270	1260	1290	1260	1340
PC Granulat5	2240	2080	2300	2520	2480	2670
PBT regrind	770*	670	680*	740	770*	720*
PBT regranulates	2630	2520	3230	3260	2540	2040
PA 6 regrind	1010	1050	1130	1190	1180	1130
PA 6 regranu- lates ⁵	2540	2610	2610	2570	2410	3050
PA 6.6 regrind	1130	1190	1240	1280	1330	1290
PA 6.6 regranu- lates ⁵	3320	3480	3980	4070	3600	3500
POM regrind	720*	740	750	760	730	900*
POM regranu- lates ⁵	2780	3030	3250	3100	3110	3390
Average Price	(1711)	1728	1875	1916	1812	1904

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

*: Supply figure too low to attain statistical significance; ^{5.} equivalent to the grade "regranulates, black"; ^{6.} preview (may be amended by additional quotes)

The average quotes in plasticker for technical plastics have been rising markedly since January 2021(1,193 \in /t), see Fig. 2. The highest point of the quotes was reached in February 2023 (2,158 \in /t). We are currently in a downwards trend, which continued in October 2023 (1,728 \in /t). The course of the quotes in Fig. 2 leads to the suspicion that the downwards trend for quotes has not yet come to an end. The quotes for technical plastics will probably not fall back to the pre-coronavirus levels, because the costs for plastic manufacture have also risen in the Far East. But the level at which stable prices for technical plastics will establish themselves is not yet clear.



Fig. 2: Average quotes for technical plastics, 06/2019 to 10/2023.

4 Secondary plastics markets

4.1 Recycling standard plastics

The situations is desolate for plastics recyclers. No improvement to the current situation is in sight. The hopes for a turnaround are based on mid-2024. There is still only extremely low demand for plastic wastes from recyclers. The recyclers' warehouses are full, both in terms of processing input (plastic wastes) and output (recyclates). There is hardly any demand for recyclates from plastics processors. The prices for plastic wastes, see the quotes for PE post user, were largely stable in October. The recyclate prices, in this case for regrinds, fell by an average $20 \notin t$, see <u>www.euwid-recycling.de</u>.

Quotes for regranulates are uneven, see <u>https://pieweb.plasteurope.com/</u>. Low rises of 10 €/t can be seen for LDPE and HDPE. On average, PP is quoted 38 €/t lower across all types. And PS remains unchanged. One small exception to this desolate situation in plastic recycling is the increased production of EBS/SBS, for which there is sufficient demand with the high energy prices.

4.2 Recycling technical plastics

In plasticker, the October quotes are clearly negative, by an average of $147 \notin /t$. In October, technical plastics were quoted on average at $1,728 \notin /t$. Another price drop in November is probable. In technical plastics, we are probably still far from a normalisation of the markets.

In PIE – Plastic Information Europe, the regranulates prices fell sharply in October 2023, see <u>https://pieweb.plasteurope.com/</u>. The price falls are between 25 €/t and 140 €/t, depending on the compound. The demand for recyclates had not yet stabilised in October. Recyclate imports are still flooding the markets. In spite of the sometimes substantial falls, the low point has probably not been reached. Further price falls are expected in November.

4.3 PET recycling

Some experts are assuming that the trough in the price falls for PET recyclates was reached in October. Or to put it another way, we are seeing a market stabilisation at a low level. Used PET single-use bottled are being bought again - albeit extremely reticently. And recyclates are also being ordered again - albeit reticently. And the processors' warehouses are still well filled with input. Due to the incipient demand, PET recyclers are manufacturing again. Hopes for increased demand are based on Christmas. However, turnover weakens in the month afterwards.

In September and October, the prices for used PET single-use bottles were unchanged in comparison to the previous month. The difference between clear recycled flakes and virgin grade is 200 €/t to 300 €/t. Detailed monthly reports on the PET prices for virgin grade and used beverage bottles can be found in EUWID and PIE - 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 <u>www.euwid.de</u>. EUWID: No guarantee for any of the prices here; 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

A detailed discussion with information of price indices for virgin grades and waste plastics as well as precursor products can be found in PIE – Plastics Information Europe, see <u>www.kiweb.de</u>. For virgin grades, the indices for standard plastics (Plastixx ST) and technical plastics (Plastixx TT) provide a good overview of the price trends. Pieweb quotes the monthly regranulates prices for standard plastics and technical plastics in the secondary markets. For secondary plastics, there are also details on PET, in this case flakes (flakes transparent, flakes mixed colours) as well as transparent regranulates.

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