#### 0 Review of 2021

KI - Plastics Information Europe has published its review of 2021, see

<u>www.kiweb.de/jahresrueckblick/2021/</u>. In fact, 2021 started full of hope for the German plastics industry: the economy was picking up speed and industry was recovering faster than the experts had dared to predict. An optimistic mood was also starting to spread in the plastics sector.

But then the mood changed: force majeure reports on unplanned plant closures and production stoppages mounted up, supply of precursor products and raw materials were increasingly held up, allocations everywhere, supply chains were out of step - and prices shot to astronomical heights.

The sector looked to the future anxiously. The economic research institutes were warning that the disastrous supply situations would greatly harm the post-pandemic economic recovery. Added to this is the poor image that plastic as such suffers from among the general public. It remains to be seen whether the industry's efforts to develop into a circular economy will result in changing this reputation. 2022 will be an exciting year.

### **1** General economy with reference to the plastics industry

The economic researchers from the ifo Institute have reduced their economic forecast for 2022, see <u>https://www.ifo.de/publikationen/ifo-konjunkturperspektiven</u>. The experts are now predicting growth of only 3.7 % - 1.4 percentage points fewer than in the last forecast. The reasons for this cited by ifo are the fourth wave of coronavirus and the continuing supply bottlenecks. In the view of the economic researchers, the expected strong recovery of the economy will not materialise until 2023.

The mood among company bosses deteriorated over Christmas. The exacerbated pandemic situation is hitting consumer-related service providers and retailers hard. The ifo business climate index fell to 94.7 points in December, after 96.6 points in November, see <u>www.ifo.de/ifo-geschaeftsklimaindex</u>. Companies assess their current business situation as less good. And pessimism also increased greatly with regard to the first half of 2022.

In the manufacturing sector, the index has risen again, after five falls in a row. This is due to companies' more optimistic expectations. Order volumes have increased markedly. However, the companies assessed their current situation as slightly worse. Supply bottlenecks for precursor products and raw materials have got worse.

#### 2 Primary markets:

#### 2.1 Standard plastics

The strong demand for standard plastics experienced a brief pause in December 2021. The quotes for plastics were therefore stable in December. In January, demand for standard plastics was once again much higher than supply; more price rises will result from this.

In December 2021 the EUWID average price of  $1,968 \notin t$  was an average of only  $2 \notin t$  higher than in the previous month  $(1,966 \notin t)$ , see Table 1. In a year-on-year comparison, it can be seen that the average quotes from December 2021  $(1,968 \notin t)$  were as much as  $893 \notin t$  higher than those of the previous year  $(1.075 \notin t)$ , see EUWID, <u>www.euwid-recycling.de</u>. Only PS crystal clear reported a lower price rise, by an average  $20 \notin t$ , whereas all other plastics were quoted unchanged in comparison to the previous month.

In 03/2021 the Plastix ST plastic quotes, at 2,888 points, exceeded the last high of 05/2015, which was approx. 2,560 points, see <u>www.kiweb.de/</u>. In 12/2021 the Plastixx TT index was quoted at 3,392 points.

PET: There was also a winter break in the PET markets, as a result of which the demand for PET was lower than in the previous months. However, supply of virgin grades is still sluggish; in October 2021, packaging PET was quoted on average at 1,640  $\in$ /t and thus 40  $\in$ /t higher than in the previous month, see <u>https://www.kiweb.de/</u>.

## 2.2 Technical plastics

The strong demand for technical plastics experienced a brief pause for recovery in December 2021. In December, too, the EUWID quotes once again reached new highs. Demand for technical plastics is still much higher than supply - the price rises observed result from this.

In December 2021, technical plastics were quoted in EUWID, see <u>www.euwid-recycling.de</u>, at 3,611  $\in$ /t and thus an average 53  $\in$ /t higher than in October 2021 (3,548  $\in$ /t), see Table 2. The average price in December 2021 (3,611  $\in$ /t) was as much as 1,346  $\in$ /t higher than that of December in the previous year (2,265  $\in$ /t). The above-mentioned price changes are due to an average increase for ABS of 70  $\in$ /t, POM of 100  $\in$ /t and PA 6 of 200  $\in$ /t.

In 03/2021 the Plastix TT plastic quotes, at 1,645 points, exceeded the last high of 06/2018, which was approx. 1,546 points, see <u>www.kiweb.de/</u>. In 12/2021 the Plastixx TT index was quoted at 1,862 points.

## 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 January 2022; they will not become definitive until early February 2022. The two quotes stated for January 2022 below therefore indicate only an interim situation, see the left-hand column in Table 3 and Tab 4.

## 3.1 plasticker: Standard plastics

The average price for December 2021 ( $636 \in /t$ ) was thus  $48 \in /t$  higher than that of the previous month ( $588 \in /t$ ), see Table 3. The average price for December ( $636 \in /t$ ) was  $180 \in /t$  above that of the previous year ( $456 \in /t$ ). There were significant price changes of greater than  $\pm 40 \in /t$  for: PP bales goods  $-70 \in /t$ , PP regrind  $-100 \in /t$ , PP regranulates  $-130 \in /t$ , PS regrind  $-60 \in /t$  and PS regranulates  $\pm 170 \in /t$ . The price index is characterised by subdued demand for plastic.

The preview of the December quotes shows a higher average price in the amount of  $683 \notin t$  than that of the previous month ( $636 \notin t$ ), see Table 3. The price index of 20.01.2022, shows subdued demand for plastic to date.

	January <sup>6</sup> 21	December 21	Nov. 21	Oct. 21	Sept. 21	Dec. 20
HDPE regrind <sup>1</sup>	750	600	580	570	620	490
HDPE regranu- lates <sup>5</sup>	1050	920	960	880	830	710
LDPE bale goods <sup>2</sup>	420*	350*	370*	170*	290*	160*
LDPE regrind <sup>1</sup>	480*	470*	430*	340*	380	450
LDPE regranu- lates⁵	970	850	890	740	690	590

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

PP bale goods <sup>3</sup>	140*	310*	380*	570*	0*	200*
PP regrind <sup>1</sup>	650*	630	730*	650	620	510
PP regranulates <sup>5</sup>	1700	1400	1530	970	930	720
PS regrind <sup>4</sup>	720*	700*	760*	700	700*	490
PS regranulates <sup>5</sup>	1310	1160	990	920	890	690
PVC_P regrind <sup>1</sup>	650*	490*	0*	360*	270*	440*
PVC_U regrind <sup>1</sup>	0*	480*	0*	0*	50*	300*
PET bale goods	0*	70*	90*	290*	180*	300*
PET regrind mixed colours	720	480	520	520	420	340
Average Price	(683)	636	588	549	491	456

\*: Supply figure too low to attain statistical significance; <sup>1</sup>: equivalent to the grade "post-industrial mixed colours"; <sup>2</sup>: equivalent to K49; <sup>3</sup>: equivalent to K59; <sup>4</sup>: equivalent to "standard, mixed colours"; <sup>5</sup>: equivalent to the grade "regranulates, black"; <sup>6</sup>: preview (may be amended by additional quotes)

### 3.2 plasticker: Technical plastics

For December 2021, there was an average price of  $1,807 \in t$ , which was  $90 \in t$  higher than that of the previous month  $(1,717 \in t)$ , see Table 4. The average price for December 2021  $(1,807 \in t)$  was as much as  $651 \in t$  higher than that of the previous year  $(1,156 \in t)$ .

These plastics show price changes of more than  $\pm$  70  $\in$ /t: ABS regranulates +260  $\in$ /t, PC regranulates +540  $\in$ /t and PA 6 regranulates -80  $\in$ /t. ABS regrind, PC regrind, PC regranulates, PBT regrind, PA 6.6 regrind, PA 6.6 regrind, PA 6.6 regranulates, POM regranulates all recorded a 5-year high. The price index shows a subdued demand for plastic.

The probable average price in January  $(1,961 \in t)$  is quoted higher than in the previous month  $(1,807 \in t)$ . The January price index of 20.01.2022 shows adequate demand for plastic.

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	January <sup>6</sup> 21	December 21	Nov. 21	Oct. 21	Sept. 21	Dec. 20
ABS regrind	1070	950	880	680	660	550
ABS regranu- lates⁵	2420	2160	1900	1810	1900	1240
PC regrind	1180*	1060	1010	950	930	760
PC regranulates <sup>5</sup>	3180	3100	2560	2230	2410	1480
PBT regrind	760*	750*	680*	540	710	420
PBT regranulates	2660	2170	2170	2210	2200	1750
PA 6 regrind	990*	1000	950*	890	1060	870
PA 6 regranu- lates <sup>5</sup>	2510	2400	2480	2360	2420	1860
PA 6.6 regrind	1120*	1200	1190	930	1070	860
PA 6.6 regranu- lates⁵	3340	3250	3190	2980	2570	2080
POM regrind	950*	800	800*	730	700	550
POM regranu- lates <sup>5</sup>	3290	2840	2790	2330	2780	1450
Average Price	(1961)	1807	1717	1553	1618	1156

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

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

#### 4 Secondary Plastics Markets

EUWID recorded price rises of up to 30 €/t for standard plastics, whereas plasticker reported price rises of an average 48 €/t. Demand for plastic wastes and recyclates is reported as good by EUWID, whereas plasticker assessed it as subdued.

Exports of plastic wastes are sluggish. Whereas shipments within the EU as still possible, the authorities are increasingly making export to non-EU states difficult. As well as the bureaucratic obstacles, exports are limited by the high prices for transport. Prices for containers are continuing to rise, for example the worldwide FBX freight index of 21.01.2022 quotes US\$ 9,526 for a 40-foot container. The prices for freight are continuing to rise because there is an increasing shortage of drivers, limiting the availability of HGVs.

## 4.1 Plastic wastes

The hopes that the tense situation for secondary plastics would calm down in the Christmas break were in vain. Even before Christmas, demand for plastic wastes was high. Demand is especially high for all PE grades and PP grades; the demand particularly focuses on films. Prices for plastic wastes made of PE, PP and PS are rising. The volumes of manufacturing and processing wastes are limited because they are mostly processed in-house. Processors only surrender plastic waste for contracting work so that it can be re-used in their own production after treatment.

The price of post-user film wastes made of PE rose by an average  $16 \notin t$ . The changed quotes for PE post-used wastes as bale goods for the December price index were: LDPE shrink hoods natural 500-570  $\notin t$ , LDPE shrink hoods mixed colours 170-250  $\notin t$ , film transparent natural <70 µm 400-450  $\notin t$ , film transparent coloured <70 µm 150-180  $\notin t$ , LDPE agricultural film b/w -40 to -20  $\notin t$ , commercial mixed film (90/10) 250-300  $\notin t$ , commercial mixed film (80/20) 190-230  $\notin t$ , HDPE blow-moulded bodies\_coloured 250-360  $\notin t$ .

For the two PE films from production, there was an average price rise of  $15 \notin t$  for bale goods. The two prices are as follows: LDPE film mixed colours  $130-200 \notin t$  and LDPE natural 460-570  $\notin t$ . And for the two PE films from production, there was an average price rise of 18  $\notin t$  for bale goods. The two prices are as follows: Film mixed colours  $130 - 250 \notin t$  and film natural  $320-470 \notin t$ .

## 4.2 Recyclates

The boom in the demand for recyclates continues unabated. Plastic recycling is determined by an extreme situation of a shortage of virgin grades and recyclates. Plastics recyclers report that their recyclates are sold out months in advance. And there are now no longer any complaints about the recyclate grades. Price negotiations about recyclates are only a minor point if the quantity is right. And finally, it remains to be said that the prices for recyclates sometimes surpass those of virgin grades.

The prices for regrinds from production wastes rose by up to  $30 \notin t$  for PE and PS  $30 \notin t$ , whereas those for PP and PVC were unchanged.

PE production wastes, in this case the regrinds, are quoted an average 18 €/t higher. These are HDPE mixed colours 530-660 €/t, HDPE natural 700-750 €/t, LDPE mixed colours 500-600 €/t and LDPE natural 600-750 €/t. And the regrinds from PE post-user were quoted an average 13 €/t higher. These are HDPE crates sorted according to colour 600-730 €/t and HDPE crates mixed colours 520-580 €/t.

The quotes for PP production wastes are unchanged in comparison to the previous month. The quotes here were: homopolymers mixed colours 500-620 €/t, homopolymers natural 620-780 €/t, copolymers mixed colours 500-620 €/t and copolymers natural 630-780 €/t.

For PS production wastes, regrinds, we see only one-sided price adjustments, by up to 20 €/t on the one side. The relevant quotes are: standard mixed colours 450-550 €/t, standard crystal clear 580-750 €/t, standard white 580-750 €/t, high-impact mixed colours 480-580 €/t, high-impact black 550-670 €/t, and high-impact white 580-670 €/t.

## 4.3 PET Recycling

PET is the absolute trendsetter in plastic recycling. Demand for recycled PET (r-PET) greatly exceeds supply. There is now strong demand for r-PET not only in all types of packagings and beverage bottles, but also in commercial film (agriculture, horticulture, landscaping) and in textiles. Every day, new inquiries are received for the use of recycled PET and the aim is almost always for a recycled content of 100 %.

The shortage of PET is continuing to drive the prices both for virgin grade and for recyclates. The virgin grade prices are being reached and surpassed by the prices for regranulates. At the peak, up to  $1,960 \notin t$  are charged for food-safe regranulates; regrinds are quoted at up to  $1,600 \notin t$ .

The PET recyclers are still complaining about the severely insufficient quantities of used beverage bottles. The prices for used PET single-use bottles changed in December as follows: PET transparent +30  $\in$ /t, PET mixed +30  $\in$ /t, and PET coloured +15  $\in$ /t. Detailed monthly reports on the PET prices for virgin grade and used bottles can be found in EUWID and KI 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>, 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

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