1 General economy with reference to the plastics industry

In early March, PlasticsEurope, see www.plasticseurope.org/de, published the 4th Quarter Report for the plastics industry in Germany. In the 4th quarter of 2020, production of plastics in the primary form rose by 10.9 % in comparison to the previous quarter. And in comparison to the previous year, production rose by a healthy 7.2 %. Sales of plastics in the primary form rose by 4 % in the 4th quarter of 2020 in comparison to the previous quarter; sales were thus only 0.2 % below those of the previous year. Exports of plastics in the primary form rose by 5.6 % in the 4th quarter of 2020 in comparison to the previous quarter. Over the same period, imports rose by 4.6 %. Both exports (minus 0.4 %) and imports (minus 4.1 %) were below the levels of the previous year.

The manufacture of plastic goods recorded a clear increase of 8.7 %, also in comparison to the previous quarter. The previous year's level was surpassed by 2.7 %. Turnover for manufacturing plastic goods recovered by 1.6 % in comparison to the previous quarter. In comparison to the previous year, the turnover was 2.6 % higher. And exports of plastics goods also rose in the 4th quarter in comparison to the previous quarter, by 1.5 %. In the same period, imports grew by 0.3 %; exports (plus 4.6 %) and imports (5.7 %) were above the previous year's levels.

2 Primary Plastics

2.1 The standard plastics market

System failures, maintenance breaks, shifts in import and export, as well as considerable stock levels result in a lasting supply shortage of standard plastics in the face of strong demand. For this reason, some of the plastic quantities are allocated and then distributed to the processors. No change to the shortages is anticipated in the months ahead - the situation remains tense. Furthermore, the crude oil price remains high; the crude oil market price was 67.10 US\$ per barrel on 18 March 2021.

And all of this results in sharp price rises for standard plastics. In February 2021 the average price of 1,373 €/t was 159 €/t higher than in the previous month (1,075 €/t), see Table 1. In a year-on-year comparison, it can be seen that the average quotes from February 2021 (1,373 €/t) were 303 €/t higher than those of the previous year (1,070 €/t). The average price for standard plastics rose by as much as 491 €/t in the period from May 2020 (882 €/t) to February 2021 (1,373 €/t), see EUWID, www.euwid-recycling.de. Specifically, the price rises are as follows: LDPE to 255 €/t, LLDPE to 255 €/t, HDPE to 200 €/t, PS to 50 €/t, PP to 220 €/t and PVC to 68 €/t. And this means that all individual quotes are now over 1,000 €/t!

PET is also following the trend of standard plastics. Packaging PET was quoted at an average price of 1,120 €/t in February 2021, thus 100 €/t higher than in the previous month. The reason for the price rise is the higher costs for the precursor products. In European markets, limited supply is met with continued low demand.

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

Prices in €/t	Feb. 2021	Jan. 2021	Dec. 2020	Nov. 2020	Oct. 2020
LDPE film grade	1450- 1550	1200- 1290	1020- 1120	930- 1040	930- 1040
LLDPE film grade	1440- 1540	1190- 1280	990- 1090	940- 1040	940- 1040
HDPE injection	1350- 1430	1150- 1200	960- 1030	930- 1000	930- 1000
moulding	1350- 1430	1150-1200	900- 1030	930- 1000	930- 1000
HDPE blow	1330- 1410	1150- 1220	960- 1050	930- 1030	930- 1030
moulding	1330- 1410	1130-1220	900-1030	930-1030	930- 1030
PS crystal clear	1370- 1470	1320- 1430	1190- 1300	1050- 1110	1000- 1060
PS high impact	1450- 1550	1390- 1500	1240- 1350	1130- 1190	1080- 1150

Average Price	1373 ± 177	1214 ± 156	1075 ± 124	1011 ± 87	994 ± 87
PVC film/cables	1020- 1100	970- 1030	940- 1000	910- 960	870- 920
PVC tube grade	1000- 1090	940- 1000	890- 960	860- 930	820- 890
PP copolymer	1450- 1550	1230- 1330	1090- 1170	1050- 1120	1050- 1120
PP homopolymer	1400- 1500	1180- 1280	1040- 1110	1000- 1070	1000- 1070

2.2 The technical plastics market

In February 2021, the prices of technical plastics exploded. Systems failures and insufficient imports are restricting their availability; furthermore, warehouses are being topped up. The continuing material shortage coupled with strong demand is still driving the prices of technical plastics up.

In February 2021, the technical plastics were quoted in EUWID, see www.euwid-recycling.de, at 2,684 €/t and thus an average 419 €/t higher than in December 2020 (2,265 €/t), see Table 2. The average price in February 2021 (2,684 €/t) was 166 €/t lower than that of February in the previous year (2,850 €/t). The price changes were caused by an average increase in PMMA of 100 €/t, ABS of 333 €/t, PC of 750 €/t, POM of 100 €/t, PA 6 of 138 €/t and PA 66 of 350 €/t.

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

Prices in €/t	Feb. 2021	Dec. 2020	October 2020	August 2020
PMMA crystal clear	2800 – 3000	2700 – 2900	2700 – 2900	2700 – 2900
ABS natural	2150 – 2250	1800 – 1900	1380 – 1430	1350 – 1400
ABS w/b	2250 - 2350	1900 – 2000	1450 – 1500	1450 – 1500
ABS coloured	2850 - 3050	2500 – 2700	2050 – 2070	2050 – 2070
PC crystal clear	2950 – 3150	2200 – 2400	1900 – 2000	1900 – 2000
PC GF-reinforced	3050 - 3250	2300 – 2500	2100 – 2200	2100 – 2200
POM natural	1850 – 2050	1750 – 1950	1750 – 1900	1750 – 1900
PA 6 natural/black	2000 – 2100	1850 – 1950	1800 – 1900	1800 – 1900
PA 6 GF-reinforced	2050 – 2100	1950 – 1950	1850 – 1900	1850 – 1900
PA 66 natural	3400 – 3500	3050 – 3150	2800 – 2900	2800 – 2900
PA 66 GF-reinforced	3400 – 3500	3050 – 3150	2800 – 2850	2800 – 2850
Average Price	2684	2265	2108	2094

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 March 2021; they will not become definitive until early February. The two quotes stated for March 2021 below indicate only an interim situation, see the left-hand column in Tab. 3 and Table 4.

3.1 plasticker: Standard plastics

An average price of $490 \ €/t$ is calculated for February 2021. And this average price is $17 \ €/t$ higher than that of the previous month $(473 \ €/t)$, see Table 3. The average price for February 2021 $(490 \ €/t)$ was $15 \ €/t$ higher than that of the previous year $(475 \ €/t)$. Significant price changes $(\pm 40 \ €/t)$ are: HDPE-regranulates $+110 \ €/t$, PP bale goods $+80 \ €/t$, PS regranulates $+130 \ €/t$, PVC_u $-60 \ €/t$ and PET bale goods $-60 \ €/t$. The price index reveals a slightly improved demand for plastic over the previous month.

The preview of the March quotes indicates an average price of 524 €/t, see Table 3. The price index of 15.03.2021 shows subdued demand for plastic to date.

	March ⁶ 21	Feb. 21	January 21	Dec. 20	Nov. 20	Feb. 21
HDPE regrind ¹	540	520	500	490	490	550
HDPE regranu- lates ⁵	830	800	690	710	670	730
LDPE bale goods ²	150*	140	150*	160*	200*	160*
LDPE regrind ¹	450	470	510	450	470	470
LDPE regranu- lates ⁵	620	600	570	590	540	600
PP bale goods ³	420*	350*	270*	200*	170*	240*
PP regrind ¹	530	520	510	510	480	530
PP regranulates ⁵	780	740	720	720	690	870
PS regrind ⁴	590*	510	510	490	540	570
PS regranulates ⁵	930*	880	750	690	700*	750
PVC_P regrind ¹	-	450*	510*	440*	350*	200*
PVC_U regrind ¹	490	400	390	300*	430	480
PET bale goods	80	100*	160*	300*	180*	170*
PET regrind mixed colours	400	380	380	340	300	330
Average Price	(524)	490	473	456	444	475

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

3.2 plasticker: Technical plastics

In February 2021, the average price quoted in plasticker for technical plastics was an average 41 €/t higher (1,270 €/t) in comparison to the previous month (1,229 €/t), see Tab. 4. A comparison of the average prices from February 2021 (1,270 €/t) with those of February 2020 (1,202 €/t) shows a difference of 68 €/t.

These plastics show price changes of more than ± 70 €/t: PC regrind +180 €/t, PBT regranulates +100 €/t and POM regrind +100 €/t. The price index reveals a slightly improved demand for plastic over the previous month.

The average price in March 2021 (1,352 €/t) was quoted at 82 €/t higher than in the previous month (1,270 €/t). The March price index of 15.03.2021 shows subdued demand for plastic.

		0 1	*			
	March ⁶ 21	Feb. 21	Jan. 21	Dec. 20	Nov. 20	Feb. 20
ABS regrind	580	550	530	550	560	630
ABS regranu- lates ⁵	1780	1480	1500	1240	990	1380
PC regrind	860	830	650	760	780	880
PC regranulates ⁵	1880	1850	1870	1480	1680	1650
PBT regrind	510	450	470	420	430	460
PBT regranulates	1950	1810	1710	1750	1670	1540
PA 6 regrind	900	890	890	870	870	860
PA 6 regranu-	2040	2000	1970	1860	1800	1740

Table 4: Technical 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)

lates ⁵						
PA 6.6 regrind	940	930	910	860	920	890
PA 6.6 regranu- lates ⁵	2420	2130	2090	2080	2100	2120
POM regrind	590	610	510	550	570	680
POM regranu- lates ⁵	1770	1710	1650	1450	1490	1590
Average Price	(1352)	1270	1229	1156	1155	1202

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

4 Secondary Plastics Markets

4.1 Evaluation of the secondary plastic markets

From a street urchin to Sleeping Beauty: the speed at which markets and their parameters change never ceases to surprise. Whereas up to mid-November, the cheap virgin grades were largely displacing recyclates from their traditional markets, they are now sought-after. Whereas recyclates were discredited as being of inadequate quality as the crude oil prices collapsed, they are now being used in particular to complement the virgin grades. Whereas recyclates were felt to be too expensive when compared to the virgin grades, high recyclate prices can now be achieved.

How the plastics industry will achieve its European voluntary undertaking ("10 million tonnes of plastic reyclates are to be used in the EU by 2025") is still unclear if it does not now consistently put its faith in using recyclates. It is certainly not conducive for plastics recyclers to be appreciated in relation to the availability and price of virgin grades.

Only together can plastics manufacturers, plastics processors and recyclers master the challenges of the future. The use of recyclates must become a permanent and positive component of the plastics industry and thus a component in the "European Plastics Strategy". In other substance streams, such as the paper industry, steel manufacture or glass processing, a close link to recycling has been reality for many decades. The sustainability of these three sectors is largely determined by the use of secondary raw materials.

4.2 Plastic wastes

Plastic waste has been in demand again since mid-November. In spite of the export restrictions in shipping plastic, German plastic recyclers do not have enough suitable input for their facilities. Due to the reorganisation of plastic shipping, it is difficult for German recyclers to import good processing waste from abroad. And a large proportion of the grades available is still inadequate.

For PE production waste, in February 2021 LDPE film coloured was quoted at an average 15 €/t higher and LDPE film natural at 20 €/t higher. For PP production waste, PP film coloured and PP film natural are both quoted 30 €/t higher on average.

In February 2021, the EUWID price index for waste plastics identified mean price rises of 10 €/t to 38 €/t for PE post user films. The relevant EUWID quotes: LDPE shrink hoods natural 315 €/t, LDPE shrink hoods mixed colours 85 €/t, thin film transparent natural 200 €/t, thin film transparent coloured 35 €/t, LDPE agricultural film -38 €/t, commercial mixed film (90/10) 80 €/t and commercial mixed film (80/20) 60 €/t.

4.3 Recyclates

The demand for plastic recyclates, i.e. regrinds and regranulates, is very high because short-falls from primary production of plastic have to be compensated for. Since the plastic recyclers cannot adequately satisfy the strong demand, they prefer those processors who have ordered recyclates during the coronavirus crisis.

All regrinds are quoted higher, see EUWID price index for waste plastics. The regranulates are following the rising prices of the virgin grades; average price rises of 100 €/t to 200 €/t are quoted here. The ratio of virgin grade compared to recyclates is becoming normalised again.

Regrinds from production waste cost an average 28 €/t more for PE, 31 €/t for PP, 19 €/t for PS, 19 €/t for PVC and 17 €/t for PVC windows. The trend for strong demand for regrinds can also be seen in the post-user sector: HDPE regrind is quoting an average 20 €/t higher. And in absolute terms, the quotes here: HDPE crates sorted according to colour are quoted at 460 €/t and HDPE crates mixed colours at 385 €/t.

4.4 PET Recycling

In February and March, the volume of bottles is still low due to the season. Furthermore, the coronavirus effect is still being felt, which increases the shortage of used PET returnable bottles. The prices for used PET single-use bottles changed in February as follows: PET transparent +20 €/t, PET mixed +25 €/t, and PET coloured remained unchanged. The higher prices for virgin grades (+100 €/t) are also pulling recyclate prices up. Demand for PET regrinds and PET regranulates continues to be strong.

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, 26. March 2021 Dr Thomas Probst, bvse