#### 1 Differences in pricing: virgin grade compared to recyclates

As a result of the coronavirus crisis, it has become clear that the pricing of virgin grade plastics differs greatly in comparison to that of plastic recyclates. As far as virgin grades are concerned, pricing is ultimately based only on the prices of crude oil, the synthesis elements built upon this and the costs of polymer production - but it is almost free of environmental costs and costs of disposal and recycling. In contrast to this, recyclates have most of the environmental costs incurred by the virgin grades piled on to them. Recyclates bear the costs of collection and sorting. Although pricing for recyclates has a different structure to that for virgin grades, to date recyclates have had to face up to competition from virgin grades. But this is no longer possible in the current time of crisis.

The sustainability of the recyclates is based on the fact that they result in large savings of CO2, much lower energy requirements and better environmental conduct (low littering). But the costs of this sustainability are mostly borne by recycling. In the current crisis, companies are proving the sustainability of plastic packagings by using PET recyclates, and also advertising this accordingly. PET recyclates are used in textile fibres as well as in packagings for foods, cosmetics, detergents and cleaning products. Companies can also show that it is possible to use PO recyclates in the packagings of detergents and cleaning products.

#### 2 The primary plastics market - standard plastics

Table 1:

In July and August, coronavirus and the summer break are working together, resulting in continuing low demand for plastic. For the second time, the record lowest price has been breached. This time, too, the prices for standard plastics are tracking the higher raw materials quotes. The price rises for the precursor products are also reflected in the plastic prices.

In July 2020, the standard plastics were quoted in EUWID, see www.euwid-recycling.de, at 944 €/t and thus an average 34 €/t higher than in the previous month (910 €/t), see Table 1. In a year-on-year comparison, it can be seen that the average quotes from July 2020 (944 €/t) were 228 €/t lower than those of the previous year (1,172 €/t). In July 2020, all standard plastics were quoted higher: LDPE +40 €/t, LLDPE +40 €/t, HDPE +40 €/t, PP +30 €/t, PS +40 €/t and PVC +20 €/t.

Packaging PET was quoted slightly higher in July 2020; on average it was quoted at 975 €/t. thus 15 €/t higher than in the previous month. The collapse in demand due to covid continues. The use of PET beverage bottles in restaurants, drinks retailers and kiosks is much lower than in the same period of last year. Even the higher consumption of drinks on hot summer days was not able to balance out the structural deficits.

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

Prices in €/t	July 2020	June 2020	May 2020	April 2020	March 20
LDPE film grade	850- 950	810- 910	790- 890	830- 930	930- 101
LLDPE film grade	870- 970	830- 930	810- 900	850- 950	950- 104

Prices in €/t	July 2020	June 2020	May 2020	April 2020	March 2020
LDPE film grade	850- 950	810- 910	790- 890	830- 930	930- 1010
LLDPE film grade	870- 970	830- 930	810- 900	850- 950	950- 1040
HDPE injection moulding	860- 940	820- 900	790- 870	820- 900	920- 1000
HDPE blow moulding	880- 960	840- 920	820- 900	850- 930	950- 1030
PS crystal clear	1030- 1090	990- 1050	950- 1010	950- 1170	1120- 1170
PS high impact	1110- 1180	1070- 1140	1030- 1100	1030- 1100	1220- 1270
PP homopolymer	1000- 1060	970- 1030	940- 1000	990- 1040	1090- 1140
PP copolymer	1050- 1110	1020- 1080	990- 1050	1040- 1090	1140- 1190
PVC tube grade	700- 740	680- 720	660- 700	710- 750	800- 840
PVC film/cables	740- 780	720- 760	700- 740	750- 790	840- 880
Average Price	944 ± 138	910 ± 134	882 ± 128	916 ± 118	1027 ± 137

### 3 Secondary plastics markets in the plasticker price index

The plasticker internet platform, see <a href="http://plasticker.de">http://plasticker.de</a>, 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 August 2020; they will not become definitive until early September. The two quotes stated for August 2020 below indicate only an interim situation, see the left-hand column in Table 2 and Table 3.

### 3.1 plasticker: Standard plastics

An average price of 454 €/t is calculated for July 2020. And this average price is thus 12 €/t lower than that of the previous month (466 €/t), see Table 2. The average price for July 2020 (454 €/t) was 83 €/t below that of the previous year (537 €/t). The June price index shows continued subdued demand for plastic.

The following price changes were more than ± 40 €/t: PP regrind -60 €/t. And subject to statistic significance: PVC\_P -100 €/t and PET bale goods +80 €/t. A 5-year low was reached for the prices for LDPE regrind at 580 €/t and PP regrind at 460 €/t.

Will the record low price for standard plastics be reached in August? The preview of the August quotes shows an average price of 429 €/t, which is 25 €/t lower than in the previous month, see. Table 2. The August 2020 price index, 13.08.2020, shows subdued demand for plastic.

	August <sup>6</sup> 20	July 20	June 20	May 20	April 20	July 19
HDPE regrind <sup>1</sup>	490	510	490	510	520	620
HDPE regranu- lates <sup>5</sup>	680	720	730	660	720	850
LDPE bale goods <sup>2</sup>	180*	200	160	160	220	200
LDPE regrind <sup>1</sup>	460	500	500	520	530	540*
LDPE regranu- lates <sup>5</sup>	580	580	580	590	640	700
PP bale goods <sup>3</sup>	140*	140*	140	190*	190	240*
PP regrind <sup>1</sup>	440	460	520	530	510	580
PP regranulates <sup>5</sup>	680	730	770	830	830	870
PS regrind <sup>4</sup>	570	570	590	630	610	630
PS regranulates <sup>5</sup>	780	800	830	730	800	910
PVC_P regrind <sup>1</sup>	250*	200*	300*	260 (450*)	260	390*
PVC_U regrind <sup>1</sup>	270*	380*	410*	400	440*	480*
PET bale goods	160*	220*	140*	210*	220	180*
PET regrind mixed colours	320	340	360	370	380	330
Average Price	(429)	454	466	471	491	537

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

### 3.2 plasticker: Technical plastics

In July 2020 the average price for technical plastics in plasticker is 1,161 €/t and thus 18 €/t higher than in the previous month (1,143 €/t). And, because of the small changes, this signals price stability, see Table 3. A comparison of the average prices from July 2020 (1,161

<sup>\*:</sup> 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)

€/t) with those of the previous year (1,252 €/t) shows a difference of 91 €/t. These plastics show price changes of more than ± 70 €/t: ABS regranulates +90 €/t and POM regranulates - 150 €/t. A 5-year low has been reached with ABS regrind. The July price index records subdued demand for plastic in comparison with the previous month.

Has the trough been reached for technical plastics in August? The first preview of the August quotes shows price stability for technical plastics. At 1,133 €/t, the preview of 13.08.2020 shows an average price that is only slightly changed in comparison with the previous month (1,161 €/t). The August price index is showing subdued demand for plastic due to the holiday season.

	August <sup>6</sup> 20	June 20	June 20	May 20	April 20	July 19
ABS regrind	560	560	600	610	630	670
ABS regranu- lates <sup>5</sup>	1020	1030	940	980	1040	1070
PC regrind	840	820	860	830	820	930
PC regranulates⁵	1610	1590	1580	1640	1940	1890
PBT regrind	430	430	450	430	450	500
PBT regranulates	1630	1610	1620	1640	1880	1820
PA 6 regrind	860	840	860	860	850	810
PA 6 regranu- lates <sup>5</sup>	1850	1820	1750	1790	1850	1820
PA 6.6 regrind	900	920	920	910	920	870
PA 6.6 regranu- lates <sup>5</sup>	2040	2060	2020	2120	2040	2270
POM regrind	580	580	600	610	640	590
POM regranu- lates <sup>5</sup>	1280	1670	1520	1640	2120	1780
Average Price	(1133)	1161	1143	1172	1265	1252

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

#### 4 Evaluation of the secondary plastic markets

#### 4.1 Plastic wastes

In addition to the crisis caused by coronavirus, the summer break is also subduing demand. Both price indices, i.e. EUWID and plasticker, report of subdued demand for plastic waste in July. The first hopes for increased demand for plastic waste after the summer break have emerged. In the EUWID price index for standard plastics, cautious price rises for some PE post-user waste can be seen. The average price rises for PE post-user waste range from 8 €/t to 23 €/t. All the other EUWID quotes are unchanged.

There is a surplus in collections of good plastic waste from light packaging plastics. However, good plastic waste from trade and industry is highly sought after. In particular, there is a shortage of good film waste because, due to the crisis, volumes are low. The higher foreign demand for PE films has resulted in a additional surge in demand.

In July, the mean EUWID quotes for PE post user films are: LDPE shrink hoods natural 290 €/t, LDPE shrink hoods mixed colours 80 €/t, thin film transparent natural 163 €/t, thin film transparent coloured 25 €/t, LDPE agricultural film -50 €/t, commercial mixed film (90/10) 80 €/t and commercial mixed film (80/20) 50 €/t.

### 4.2 Plastic recycling

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

The recyclate prices for regrinds and regranulates moved very little and very unevenly in the summer break. A turnaround from falling recyclate prices cannot yet be clearly discerned. Whereas the prices for virgin grades are repeatedly rising, only a few price rises for recyclates have been seen to date. This is still due to the collapse in demand for recyclates - or, put another way, the cheap virgin grades are still suppressing recyclates from the markets.

Mixed plastic recycling: Mixed plastics recycling is proving to be largely stable in the crisis. The demand for items and products of mixed plastic recycling in the private sector held their own. However, the demand for mixed plastic products in building construction and civil engineering is suffering from the economic downturn. Orders are being met from abroad. Foreign demand is cushioning the demand deficits in Germany.

## 4.3 PET Recycling

There is still great pressure on PET recycling. The low-cost virgin grade is suppressing recyclates from the sectors that they have established and developed over years. PET recyclers are working short hours or have closed their operations down. The demand for PET recyclates in particular has collapsed. The PET recyclers are now storing the flakes to cushion the price corrections.

In Germany, the volume of used PET beverage bottles has risen in comparison to the previous month due to the holiday season. The hot summer days lead to much higher volumes of beverage bottles. After the falls in April, May and June, the July quotes for used PET returnable bottles also fell, PET clear -20 €/t, PET mixed -25 €/t and PET coloured -35 €/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 <a href="https://www.euwid.de">www.euwid.de</a>, or in EUWID Plastics <a href="https://www.euwid-kunststoff.de">www.euwid-kunststoff.de</a>. 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 <a href="www.plasticker.de">www.plasticker.de</a>. 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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