

bvse market report on plastics, December 2017

1 The primary plastics market

The third quarterly report of Germany's plastics industry, published by PlasticsEurope Deutschland e.V., is now available. According to the production index, the manufacture of primary plastics rose by 2.1 % in the third quarter compared to the preceding three months. Last year's level was exceeded by 6.2 %. Plastics production increased by 2.2 % relative to the previous quarter. Production quantities were thus raised by 5.2 % compared to last year.

This means that the turnover achieved through the sale of primary plastics rose by 0.5 % in the third quarter relative to the second one. Turnover was thus 12.8 % higher than in the same period of last year. The turnover achieved through plastics material production thus rose by 1.1 %; hence, turnover was 6.0 % higher than last year.

And what is the situation like in Europe's plastics industry? Germany's plastics industry is the largest in Europe. A comparison with Europe as a whole makes it possible to put Germany's development into the proper perspective. According to the production index, the amount of primary plastics produced in Europe rose by 1.1 % in the third quarter compared to the preceding three months. The level attained in the same quarter of the previous year was even exceeded by 1.0 %. Europe's plastics production quantities increased by 1.7 % in the third quarter. Production was thus raised by 3.9 % compared to last year.

Standard plastics: The average standard plastics price is listed at 1293 €/t and thus, 44 €/t lower than in the previous month, when it reached 1337 €/t, cf. Table 1. While the PE price has fallen by 55 €/t, PP by 20 €/t and PS by 100 €/t, PVC has held its own. The average listings for November 2017 (1293 €/t) exceeded those for November 2016 (1249 €/t) by 44 €/t. Packaging PET was quoted at an average 1190 €/t in November and thus, as much as 55 €/t lower than in the preceding month, when it reached 1245 €/t. The situation on the standard plastics market has now once again been reversed. In November processing companies placed an increased number of purchase orders, i.e. what is known as 'last orders in 2017'. The low standard plastics prices are used for the purposes of strategic inventory build-up.

Table 1: EUWID listings for standard plastics over the past five months; prices in €/t.

| Prices in €/t | Nov. 2017 | Oct. 2017 | Sept. 2017 | Aug. 2017 | July 2017 |
|-------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| LDPE film grade | 1300- 1410 | 1350- 1460 | 1320- 1430 | 1270- 1380 | 1270- 1380 |
| LLDPE film grade | 1280- 1390 | 1330- 1440 | 1300- 1400 | 1250- 1350 | 1250- 1350 |
| HDPE injection moulding | 1260- 1310 | 1320- 1370 | 1290- 1340 | 1240- 1290 | 1240- 1290 |
| HDPE blow moulding | 1280- 1330 | 1340- 1390 | 1310- 1360 | 1260- 1310 | 1260- 1310 |
| PS crystal clear | 1430- 1500 | 1530- 1600 | 1650- 1720 | 1460- 1530 | 1480- 1550 |
| PS high impact | 1530- 1600 | 1630- 1700 | 1750- 1820 | 1560- 1630 | 1580- 1650 |
| PP homopolymer | 1310- 1370 | 1330- 1390 | 1300- 1360 | 1250- 1310 | 1250- 1310 |
| PP copolymer | 1360- 1420 | 1380- 1440 | 1350- 1410 | 1300- 1360 | 1300- 1360 |
| PVC tube grade | 880- 940 | 880- 940 | 870- 930 | 860- 920 | 860- 920 |
| PVC film/cables | 930- 980 | 930- 980 | 920- 970 | 910- 960 | 910- 960 |
| Average Price | 1293 ± 200 | 1337 ± 233 | 1340 ± 268 | 1270 ± 214 | 1274 ± 219 |

2 The secondary plastics markets in the Plasticker Price Index

The plasticker internet platform, cf. <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 December 2017. These listings thus merely reflect an interim situation that will not become definitive until the beginning of January 2018.

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2.1 Standard plastics: The November prices, which attained 512 €/t, were 17 €/t lower than those in October, reaching 529 €/t, cf. Table 2. A comparison of the average prices for November (512 €/t) with those for the preceding year (531 €/t) shows the current price to be 19 €/t lower. In November 2017, only two prices changed markedly, i.e. by more than 40 €/t: LDPE regranulates -50 €/t and PS regranulates -90 €/t. In November demand for plastics was relatively low.

The first preview of the December listings, which cannot be definitively reported until the beginning of January 2017, shows the average price to be 9 €/t higher than in November. As per 12 December 2017, there was considerable demand for plastics on the plastics markets.

Table 2: Listings for standard plastics in plasticker; prices in €/t.

| | Dec. 17 ⁶ | Nov. 17 | Oct. 2017 | Sept. 17 | Aug. 17 | Nov. 16 |
|--------------------------------|----------------------|------------|------------|------------|------------|------------|
| HDPE regrind ¹ | 550 | 550 | 560 | 600 | 570 | 570 |
| HDPE regranulates ⁵ | 850 | 840 | 870 | 930 | 880 | 840 |
| LDPE bale goods ² | 240 | 230 | 200 | 230 | 260 | 240 |
| LDPE regrind ¹ | 570 | 550 | 630 | 670 | 570 | 620 |
| LDPE regranulates ⁵ | 800 | 690 | 740 | 770 | 750 | 800 |
| PP bale goods ³ | 180 | 190 | 210 | 200 | 260 | 260 |
| PP regrind ¹ | 520 | 510 | 520 | 530 | 550 | 520 |
| PP regranulates ⁵ | 820 | 830 | 800 | 790 | 800 | 750 |
| PS regrind ⁴ | 570 | 590 | 590 | 630 | 600 | 650 |
| PS regranulates ⁵ | 790 | 830 | 920 | 840 | 810 | 880 |
| PVC_P regrind ¹ | 430* | 340* | 370* | 410 | 460 | 380 |
| PVC_U regrind ¹ | 420 | 510* | 520 | 500 | 430 | 430 |
| PET bale goods | 160 | 170 | 160 | 170 | 170 | 190 |
| PET regrind coloured | 390 | 340 | 310 | 330 | 330 | 310 |
| Average Price | (521) | 512 | 529 | 543 | 531 | 531 |

*: 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 that may be amended by additional quotes

2.2 Technical plastics: In November 2017, the average technical plastics price in plasticker was listed 45 €/t higher than in the previous month, cf. Table 3. A comparison of the average price for November 2017, reaching 1273 €/t, with that for the same month of the previous year, which attained 1146 €/t, shows the current price to be 127 €/t higher. Demand for technical plastics was weaker in November than in the preceding month. Technical plastics prices changed markedly from October to November, i.e. the following listings changed by more than 70 €/t: ABS regranulates by +270 €/t, PC regranulates by -80 €/t, PA 6 regranulates by +140 €/t, POM regrind by +100 €/t and POM regranulates by +100 €/t.

Please note that prices are likely to fall markedly from December. The preview of the December listings, which cannot be definitively reported until the beginning of January 2017, shows the prospective average price, which is likely to reach 1154 €/t, to be markedly lower than the November listing, which was at 1273 €/t. This is equivalent to a difference of as much as 119 €/t. Up until 12 December 2017, the plasticker internet platform indicated considerable demand for technical plastics.

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Table 3: Listings for technical plastics in plasticker; prices in €/t.

| | Dec. 17⁶ | Nov. 17 | Oct. 17 | Sept. 17 | Aug. 17 | Nov. 16 |
|----------------------------------|----------------------------|----------------|----------------|-----------------|----------------|----------------|
| ABS regrind | 610 | 590 | 630 | 650 | 640 | 650 |
| ABS regranulates ⁵ | 1340 | 1520 | 1250 | 1380 | 1530 | 1320 |
| PC regrind | 950 | 880 | 940 | 930 | 840 | 830 |
| PC regranulates ⁵ | 1890 | 2030 | 2110 | 2150 | 2140 | 1790 |
| PBT regrind | 470 | 470 | 440 | 410 | 440 | 430 |
| PBT regranulates | 1570 | 1630 | 1630 | 1620 | 1640 | 1470 |
| PA 6 regrind | 830 | 820 | 820 | 830 | 870 | 870 |
| PA 6 regranulates ⁵ | 1510 | 1820 | 1680 | 1780 | 1750 | 1600 |
| PA 6.6 regrind | 840 | 830 | 820 | 840 | 860 | 860 |
| PA 6.6 regranulates ⁵ | 1640 | 1820 | 1760 | 1690 | 1740 | 1720 |
| POM regrind | 710 | 760 | 650 | 700 | 720 | 560 |
| POM regranulates ⁵ | 1490 | 2110 | 2010 | 2000 | 1690 | 1650 |
| Average Price | (1154) | 1273 | 1228 | 1248 | 1238 | 1146 |

⁵: equivalent to the quality grade 'regranulates, black'; ⁶: preview that may be amended by additional quotes.

3 Evaluation of the secondary plastics markets

Please note the developments in technical plastics! Technical plastics prices are likely to fall markedly from December. The preview of the December listings in plasticker shows the average price to be 119 €/t lower than in November. Regranulate prices in particular have been falling. The price slump is being used to purchase plastics at favourable prices before the end of the year.

A comparison of the information provided by EUWID and plasticker for November 2017 shows that the post-user PE prices listed in the EUWID Price Watch have fallen by 10 €/t. The prices of select post-industrial materials from PE and PP have fallen by 5 €/t and 11 €/t respectively. PVC is quoted at markedly higher prices. The average standard plastics prices listed by plasticker are lower than those quoted in the previous month. Both price listings, i.e. the one in EUWID and plasticker, describe the market situation for used plastics as being difficult. Recyclates are affected by price falls, too.

3.1 Waste plastics:

Traders and brokers are massively affected by the new regulations concerning exports of waste plastics to China. These processes might provide the present plastics recycling industry with a new structure. The responsibility for waste disposal security can now no longer be outsourced to the Far East.

Germany continues to be inundated with waste plastics. As a consequence, considerable market changes are discernable. Waste plastics prices continue to fall. Not only post-user grades are now being affected by the price slump, but also post-industrial materials. As far as post-industrial PE is concerned, regrind is listed an average 5 €/t lower. Post-industrial PP prices have fallen by 11 €/t. The listings for select post-industrial PS grades have fallen only slightly, namely by an average 5 €/t. Post-user PE prices have been reduced by an average 10 €/t. Plastics converters are selecting only the very best quality grades for processing purposes.

The developments in PVC grades are surprising. Thus, PVC window frame regrind is listed an average 110 €/t higher. The prices of post-industrial PVC_U have also risen slightly, i.e. by an average 18 €/t. These price changes are due to some additional recyclates being processed by the converters themselves. Above and beyond this, there is considerable demand for PVC as a result of the continual boom in the building and construction sector.

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According to reports by exporters to China, the waste plastic quantities traded have dropped considerably. Exports from Germany to China amounted to 414,000 tonnes in the first three quarters, thus falling by 158,000 tonnes. Some traders and brokers are reporting that they were no longer able to supply China with any goods at all in November. According to China's standards for the import of used plastics, which have now been proposed, the limit for contamination has been set at 0.5 %. This proposal is to take effect from March 2018. Even though the amount of materials exported to the Tiger economies has increased markedly, it does not reach the quantities that have been exported to China's markets to date.

3.2 Recyclates:

Standard plastics: Virgin material prices, which are falling at the end of the year, are pushing the revenue from recyclates down. As far as standard plastics are concerned, the majority of prices for processing materials were raised markedly. These price reductions are necessary to offset the low revenue from products. Plastics recyclers only accept the very best waste plastics. The prices listed in the price indices for waste plastics only apply so long as both quality and quantity are adequate. If the quality grades are insufficient, plastics recyclers reduce prices drastically. As a rule, however, poor-quality materials end up in incineration plants.

An end of the downturn in waste plastic prices is not discernable. For the time being, the Christmas break will provide all those involved with some breathing space. However, waste plastic prices continue to be under pressure from the extended processing break and from the export restrictions in place, which are likely to be tightened as a result of the Chinese New Year's celebrations.

Even though the number of bottles returned in November and December is higher than expected, most PET recyclers lack processing input. The decline in exports, which amounted to approximately 40,000 tonnes in the first three quarters, is hardly able to offset domestic demand. And this is leading to the prices of used beverage bottles rising further. The November listings indicated a rise in the prices of used and returnable PET beverage bottles. For example, transparent PET (95/5 to 100) was listed 10 €/t higher, mixed PET (70/30 to 90/10) was quoted 10 €/t higher, and the prices of coloured PET (< 70/30) remained unchanged compared to the previous month. PET recycling is benefiting from the considerable demand for primary materials. Demand for regrind and regranulates is high, too. However, it has become difficult to offset the high purchase prices of used beverage bottles by raising the sales prices of recyclates. This is because recyclate prices are under pressure from the falling virgin material prices.

4 Explanatory information on the price listings

For a detailed analysis including information on price indices for virgin materials, used plastics and precursors, please go to EUWID Recycling und Entsorgung (Recycling and Waste Management), cf. www.euwid.de, or EUWID Plastics, www.euwid-kunststoff.de. EUWID: no guarantee for any of the prices. All EUWID prices are quoted ex works. As a rule, the prices quoted refer to quantities in excess of 20 tonnes.

The monthly quotes for **secondary plastics**, which are updated on an hourly basis, can be calculated using the price lists derived from the quotations published in the raw material exchange **plasticker** (www.plasticker.de). The prices listed in this index are quoted with 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 materials. The term 'bale goods' refers to waste plastics only. Furthermore, plasticker does not distinguish between the following grades: transparent,

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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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