1 General economy with reference to the plastics industry

The concern in German board rooms is intensifying. In February, the ifo business climate index fell from 99.3 (seasonally adjusted) to 98.5 points, see <u>www.cesifo-group.de</u>. This is the worst score since December 2014. The companies once again assess their current business situation as slightly less good. And pessimism with a view to the coming six months has increased. These results and other indicators point to economic growth of 0.2% in the first quarter. The German economy remains weak. In the manufacturing sector, the index has fallen for the sixth time in succession. Companies have clearly adjusted their assessment of the current situation downwards. Nevertheless, a clear majority reported a good business situation. However, pessimism about expectations is running rampant.

In early March, PlasticsEurope published its IVth Quarterly Report 2018 for European plastics manufacturers (EU 28). The survey of plastics manufacturers and plastics processors reveals that marked economic slowdown is expected in the EU 28. In 2018, there was a slight increase in plastic processing of 0.2% in comparison to the previous year. The extrapolated overall course of the manufacturing index shows negative values for 2019. In 2018, plastics manufacture fell by 4.3% in comparison to the previous year. However, with growth of 4.6%, the prices of plastics manufacture held their own.

2 The primary plastics market - Standard plastics

The standard plastics price index, January 2019, has average quotes of $1,207 \notin t$. And the average quote has therefore fallen by $23 \notin t$ in comparison to the previous month, see. Table 1. The winter break was still being felt in January: the price fall in standard plastics is due to falling quotes of monomers, on the one hand, and slow demand on the other. In a year-on-year comparison, it can be seen that the average quotes from January 2019 ($1207 \notin t$) were as much as $106 \notin t$ lower than those of the previous year ($1313 \notin t$).

The price falls for the individual plastics are as follows: LDPE (-35 \in /t), LLDPE (-35 \in /t), HDPE (-35 \in /t), PS (-10 \in /t), PP (-20 \in /t), and PVC (-20 \in /t). The price decline for PS came to a standstill in January. Packaging PET was quoted at an average price of 1285 \in /t in January 2019, thus 40 \in /t lower than in the previous month.

| Prices in €/t | Jan. 2019 | Dec. 2018 | Nov. 2018 | Oct. 2018 | Sept. 2018 |
|----------------------------|------------|------------|------------|------------|------------|
| LDPE film grade | 1120- 1220 | 1150- 1260 | 1220- 1330 | 1240- 1350 | 1260- 1370 |
| LLDPE film grade | 1110- 1220 | 1140- 1260 | 1200- 1320 | 1220- 1340 | 1240- 1360 |
| HDPE injection moulding | 1200- 1260 | 1240- 1300 | 1300- 1360 | 1310- 1360 | 1310- 1360 |
| HDPE blow mould- ing | 1230- 1290 | 126- 1320 | 1320- 1380 | 1330- 1380 | 1330- 1380 |
| PS crystal clear | 1270- 1320 | 1270- 1330 | 1380- 1440 | 1500- 1580 | 1570- 1650 |
| PS high impact | 1370- 1420 | 1370- 1430 | 1480- 1540 | 1600- 1680 | 1670- 1750 |
| PP homopolymer | 1330- 1390 | 1350- 1410 | 1410- 1470 | 1420- 1470 | 1420- 1470 |
| PP copolymer | 1380- 1440 | 1400- 1460 | 1460- 1520 | 1470- 1520 | 1470- 1520 |
| PVC tube grade | 840-900 | 860- 920 | 900- 960 | 910- 970 | 910- 970 |
| PVC film/cables | 890- 940 | 910- 960 | 950- 1000 | 960- 1010 | 960- 1010 |
| Average Price | 1207 ± 185 | 1230 ± 183 | 1297 ± 198 | 1331 ± 222 | 1349 ± 240 |

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

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 February 2019; they will not become definitive until early March. The two quotes stated for February 2019 below only an interim situation, see the left-hand column in Table 2 and Table 3.

3.1 Standard plastics:

In January 2019, the standard plastics were quoted at $521 \notin t$ and thus $33 \notin t$ lower than in the previous month, see Table 2. The average price for January 2018 ($521 \notin t$) was close to the average price of the previous year ($516 \notin t$). The following price changes were more than $\pm 40 \notin t$: HDPE regranulate $\pm 100 \notin t$, LDPE bale goods $\pm 80 \notin t$, PP regranulate $\pm 180 \notin t$, PVC_U $\pm 80 \notin t$ and PVC_P $\pm 70 \notin t$. The January price index records satisfactory demand for plastic in comparison with the previous month.

At 504 \in /t, the preview of the February quotes shows an average price that is 17 \in /t lower than in the previous month (521 \in /t). The regranulate prices fell markedly in February, with the exception of PP. The February price index, 15.02.2019, shows weakening demand for plastic to date.

| | Feb. ⁶ 19 | January 19 | Dec. 18 | Nov. 18 | Oct. 18 | January 18 |
|-------------------------------------|----------------------|------------|---------|---------|---------|---------------|
| HDPE regrind ¹ | 520 | 550 | 590 | 570 | 570 | 540 |
| HDPE regranu- lates ⁵ | 660 | 900 | 800 | 840 | 890 | 750 |
| LDPE bale goods ² | 180 | 150 | 230* | 230 | 240 | 240 |
| LDPE regrind ¹ | 570* | 610 | 590 | 600 | 580 | 550 |
| LDPE regranu- lates ⁵ | 710 | 690 | 700 | 750 | 770 | 790 |
| PP bale goods ³ | 220 | 200 | 200 | 170 | 150 | 220 |
| PP regrind ¹ | 560 | 540 | 550 | 550 | 540 | 570 |
| PP regranulates ⁵ | 870 | 780 | 960 | 890 | 810 | 880 |
| PS regrind ⁴ | 610 | 620 | 660 | 640 | 670 | 600 |
| PS regranulates ⁵ | 790 | 910 | 1090* | 990 | 980 | 900 |
| PVC_P regrind ¹ | 250* | 320* | 400* | 330* | 390 | 280 |
| PVC_U regrind ¹ | 390* | 460* | 390* | 450* | 450 | 450* |
| PET bale goods | 160 | 180 | 200* | 240* | 180* | 110 |
| PET regrind mixed colours | 360 | 380 | 400 | 370 | 410 | 340 |
| Average Price | (504) | 521 | 554 | 544 | 545 | 516 |

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)

3.2 Technical plastics:

In January 2019 the average price for technical plastics in plasticker is $1327 \notin t$ and thus 77 $\notin t$ lower than in the previous month (1404 $\notin t$), see. Table 3. A comparison of the average prices from January 2019 (1327 $\notin t$) with those of the previous year (1193 $\notin t$) shows a current price that is 134 $\notin t$ higher.

The January price index shows satisfactory demand for technical plastics. The following price changes were more than ± 70 €/t: ABS regranulates -180 €/t, PC regranulates -130 €/t, PBT

regrind -90 €/t, PBT regranulates -80 €/t, PA 6.6 regrind -120 €/t and PA 6.6 regranulates - 210 €/t.

At 1331 €/t, the preview of the February quotes shows an average price that is more or less unchanged. The February price index to date records subdued demand for plastic.

| | Feb. ⁶ 19 | January | Dec. 18 | Nov. 18 | Oct. 18 | January |
|------------------------------|----------------------|---------|---------|---------|---------|---------|
| | | 19 | | | | 18 |
| ABS regrind | 630 | 630 | 700 | 670 | 620 | 650 |
| ABS regranu- | | | | 1350 | 1440 | 1360 |
| lates ⁵ | 1290 | 1280 | 1460 | | | |
| PC regrind | 990 | 1000 | 960 | 930 | 840 | 900 |
| PC regranulates ⁵ | 2010 | 1870 | 2100 | 2220 | 2370 | 2120 |
| PBT regrind | 550 | 500 | 590 | 490 | 460 | 460 |
| PBT regranulates | 1800 | 1860 | 1940 | 1840 | 1790 | 1670 |
| PA 6 regrind | 880 | 860 | 880 | 920 | 880 | 820 |
| PA 6 regranu- | | | | 1970 | 1920 | 1740 |
| lates ⁵ | 1890 | 2030 | 2000 | | | |
| PA 6.6 regrind | 940 | 870 | 990 | 960 | 870 | 850 |
| PA 6.6 regranu- | | | | 2460 | 1980 | 1700 |
| lates ⁵ | 2170 | 2210 | 2420 | | | |
| POM regrind | 660 | 690 | 660* | 690 | 650 | 670 |
| POM regranu- | | | | 1880 | 1790 | 1380 |
| lates ⁵ | 2160 | 2120 | 2150 | | | |
| Average Price | (1331) | 1327 | 1404 | 1364 | 1301 | 1193 |

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

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

4 Evaluation of the secondary plastic markets

When comparing the information from EUWID and plasticker, it can be seen for January 2019 that plasticker identifies average price falls of 33 €/t. Low price falls, which can also be seen as price stabilisation, were recorded at EUWID. Surprisingly, EUWID reports slight price rises for some films in the PE post-user field. plasticker categorises demand for plastic waste in January as thoroughly satisfactory. EUWID assesses the January demand for plastic waste as rather subdued.

Plastic wastes

Markets in Germany and the Netherlands are full of plastic waste. There is a large-scale surplus of film waste. Plastic recyclers carefully select the processing input suitable for themselves from the plastic waste. Generally, only clean plastic waste that has been stored in dry conditions is processed. The offers to process dirty, wet plastic waste, sorting residues or plastic mixtures in return for supplementary payments are not very attractive to the plastic recyclers.

All efforts to divert plastic waste to the Far East are failing. Plastic waste is still being imported to the Far East only on a very limited scale. Bans on imports are now also being reported in India, Indonesia and Malaysia. A good alternative for shipping better goods would be for the plastic waste to be made into regranulates in Europe or Asia, and then exported to the People's Republic of China.

In the price index for waste plastics, January 2019, EUWID records average prices falls of 5 \in /t to 20 \in /t, with very few quotes. For some film grades from the PE post-user sector, EUWID reports slight price rises of an average 10 \in /t. In the practice of plastic recycling, however, it can be seen that post-user film waste can only be sold with supplementary payments. The prices invoked for plastic waste are only valid if recyclers offer adequate quantities and good grades.

The PET recyclers can still ensure an adequate supply of input. The volume of PET bottles is still high in January and February. The prices in the January quotes for use PET returnable bottles remain unchanged in comparison to the previous month. There is still very strong demand for PET recyclates. In January, the prices for PET recyclates held their own, even though the prices for virgin grades fell by an average 40 €/t. In PET recycling, the use of recyclates for bottle-to-bottle recycling is becoming increasingly important.

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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