

Price Forecast

| Notes | West Europe Contract | | | | | | | | Mid East Netbacks | |
|--------|----------------------|-----------------|------|--------------|--------------|--------------|--------------|----------------|--------------------|-------------------|
| | Assumptions | | | Ethylene | | Propylene | | Cash Margin | spot from Asia fob | |
| | Crude Oil \$/bbl | Naphtha \$/t | \$/€ | Price €/t | Delta €/t | Price €/t | Delta €/t | Cracker €/t | Ethylene \$/t | Propylene \$/t |
| | brent | cif | | 3 | WE-US | 3 | WE-US | | | |
| 10 Nov | 85.9 | 780 | 1.37 | 978 | 162 | 938 | 13 | 209 | 865 | 1064 |
| Dec | 91.7 | 841 | 1.32 | 1005 | 196 | 960 | -50 | 97 | 948 | 1087 |
| 11 Jan | 96.8 | 854 | 1.34 | 1110 | 363 | 1070 | -210 | 326 | 991 | 1178 |
| Feb | 101.9 | 863 | 1.36 | 1135 | 354 | 1105 | -149 | 430 | 1145 | 1286 |
| Mar | 100.3 | 896 | 1.36 | 1195 | 414 | 1185 | 52 | 474 | 1240 | 1366 |
| Apr | 101.0 | 911 | 1.36 | 1165 | 433 | 1155 | 22 | 386 | 1210 | 1336 |
| May | 102.0 | 913 | 1.36 | 1135 | 439 | 1135 | 34 | 343 | 1190 | 1316 |
| 11 Q1 | 99.7 | 871 | 1.35 | 1147 | 377 | 1120 | -102 | 410 | 1125 | 1277 |
| Q2 | 101.5 | 916 | 1.36 | 1137 | 426 | 1133 | 22 | 338 | 1180 | 1303 |
| Q3 | 102.4 | 927 | 1.36 | 1097 | 324 | 1083 | -66 | 242 | 1160 | 1276 |
| Q4 | 104.0 | 942 | 1.34 | 1143 | 317 | 1097 | -205 | 250 | 1193 | 1316 |
| 12 Q1 | 107.3 | 979 | 1.32 | 1207 | 383 | 1183 | -220 | 285 | 1230 | 1420 |
| Q2 | 110.3 | 994 | 1.30 | 1237 | 441 | 1253 | -67 | 314 | 1257 | 1421 |
| Q3 | 111.9 | 1003 | 1.28 | 1250 | 394 | 1233 | -106 | 276 | 1277 | 1435 |
| Q4 | 110.1 | 990 | 1.27 | 1273 | 359 | 1223 | -199 | 294 | 1258 | 1421 |
| 2010 | 79.9 | 713 | 1.33 | 952 | 192 | 935 | -80 | 286 | 938 | 1035 |
| 2011 | 101.9 | 914 | 1.35 | 1131 | 361 | 1108 | -88 | 310 | 1165 | 1293 |
| 2012 | 109.9 | 991 | 1.29 | 1242 | 394 | 1223 | -148 | 292 | 1255 | 1424 |
| 2013 | 104.5 | 917 | 1.19 | 1289 | 249 | 1286 | -248 | 386 | 1257 | 1365 |
| 2014 | 104.9 | 903 | 1.19 | 1299 | 207 | 1296 | -228 | 423 | 1280 | 1389 |
| 2015 | 109.2 | 946 | 1.19 | 1373 | 198 | 1369 | -174 | 448 | 1373 | 1457 |

| Notes | Polymer Contract Price | | | | | Cash Margins | | | | | Sector Margin €/t (Eth) |
|--------|------------------------|--------------|-------------|-----------|------------|--------------|--------------|-------------|-----------|------------|----------------------------|
| | LDPE €/t | LLDPE €/t | HDPE €/t | PP €/t | PVC €/t | LDPE €/t | LLDPE €/t | HDPE €/t | PP €/t | PVC €/t | |
| | film | film | bm | homo | | Tubular | Unipol | Loop Slurry | Spheripol | | |
| 10 Nov | 1380 | 1250 | 1150 | 1295 | 1050 | 130 | 72 | -27 | 152 | 52 | 311 |
| Dec | 1410 | 1280 | 1190 | 1315 | 1050 | 123 | 61 | -21 | 134 | 16 | 175 |
| 11 Jan | 1510 | 1370 | 1310 | 1415 | 1085 | 125 | 60 | -4 | 129 | 29 | 407 |
| Feb | 1540 | 1400 | 1360 | 1455 | 1105 | 145 | 64 | 27 | 140 | 31 | 529 |
| Mar | 1590 | 1450 | 1420 | 1515 | 1135 | 133 | 52 | 28 | 120 | 27 | 554 |
| Apr | 1580 | 1430 | 1400 | 1490 | 1145 | 151 | 58 | 33 | 121 | 12 | 486 |
| May | 1535 | 1400 | 1365 | 1480 | 1135 | 133 | 55 | 25 | 130 | 13 | 434 |
| 11 Q1 | 1547 | 1407 | 1363 | 1462 | 1108 | 134 | 58 | 17 | 130 | 29 | 497 |
| Q2 | 1530 | 1402 | 1368 | 1470 | 1137 | 129 | 58 | 30 | 123 | 15 | 429 |
| Q3 | 1465 | 1358 | 1322 | 1413 | 1140 | 99 | 49 | 20 | 111 | 17 | 328 |
| Q4 | 1508 | 1405 | 1375 | 1417 | 1210 | 83 | 43 | 16 | 95 | 20 | 327 |
| 12 Q1 | 1572 | 1458 | 1433 | 1507 | 1310 | 86 | 32 | 9 | 98 | 16 | 357 |
| Q2 | 1602 | 1482 | 1460 | 1577 | 1380 | 87 | 24 | 6 | 97 | 21 | 386 |
| Q3 | 1615 | 1498 | 1477 | 1560 | 1410 | 80 | 21 | 6 | 92 | 23 | 346 |
| Q4 | 1638 | 1525 | 1500 | 1553 | 1422 | 67 | 17 | -8 | 89 | 16 | 351 |
| 2010 | 1327 | 1260 | 1158 | 1273 | 998 | 97 | 100 | 5 | 126 | 4 | 350 |
| 2011 | 1513 | 1393 | 1357 | 1440 | 1149 | 111 | 52 | 21 | 115 | 20 | 395 |
| 2012 | 1607 | 1491 | 1468 | 1549 | 1380 | 80 | 23 | 3 | 94 | 19 | 360 |
| 2013 | 1789 | 1648 | 1607 | 1652 | 1470 | 193 | 129 | 88 | 120 | 62 | 531 |
| 2014 | 1839 | 1743 | 1701 | 1746 | 1517 | 225 | 213 | 166 | 200 | 86 | 644 |
| 2015 | 1923 | 1824 | 1781 | 1843 | 1627 | 232 | 219 | 175 | 223 | 117 | 678 |

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General Notes:

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- CMAI may choose not to publish price forecasts when discussions are actively in progress. The decision to publish or not to publish is solely at the discretion of CMAI staff.
- The sector margin considers the integrated margin for a typical steam cracker and a basket of derivatives.

West Europe - Naphtha Steam Cracker Economics

| Typical Cost Cracker | | | | | | | | | |
|-----------------------------------|------------|------------|-------|----------|--------|------------|------|--------|--------|
| Variable Costs (broken out below) | | | | | | Cash Costs | | | |
| Revenue | Feed Stock | Co Credits | Other | Variable | | Fixed | Cash | | Margin |
| €/t | €/t | €/t | €/t | Cost | Margin | Cost | Cost | Margin | €/t |
| Notes | 1 | | 2 | | | | | | |
| 10 Oct | 934 | 1805 | 1347 | 183 | 642 | 292 | 65 | 707 | 227 |
| Nov | 962 | 1889 | 1386 | 186 | 690 | 272 | 63 | 753 | 209 |
| Dec | 989 | 2113 | 1503 | 215 | 825 | 164 | 67 | 892 | 97 |
| 11 Jan | 1094 | 2123 | 1635 | 218 | 706 | 388 | 62 | 768 | 326 |
| Feb | 1119 | 2102 | 1687 | 211 | 627 | 492 | 62 | 689 | 430 |
| 10 Q1 | 901 | 1697 | 1292 | 162 | 567 | 333 | 63 | 630 | 270 |
| Q2 | 947 | 1803 | 1445 | 180 | 538 | 409 | 63 | 601 | 347 |
| Q3 | 933 | 1695 | 1362 | 188 | 521 | 412 | 63 | 584 | 349 |
| Q4 | 962 | 1936 | 1412 | 195 | 719 | 243 | 65 | 784 | 178 |

(for notes see page A11)

| Typical Cost Cracker - continued | | | | | | | | | |
|----------------------------------|---------|-------------------------------|-----------|--|-------|----------|----------|----------|-----|
| Revenue | | ROI | | Co-Credits Revenue per ton of ethylene | | | | | |
| Ethylene Contract | Freight | Calculated before C2"discount | Propylene | Crude C4s | Pygas | Fuel Oil | Fuel Gas | Hydrogen | €/t |
| €/t | €/t | €/t | €/t | €/t | €/t | €/t | €/t | €/t | €/t |
| Notes | | | | | 3 | 4 | 5 | 6 | |
| 10 Oct | 950 | 16.0 | 17% | 461 | 203 | 403 | 44 | 187 | 48 |
| Nov | 978 | 16.0 | 16% | 470 | 213 | 418 | 46 | 191 | 49 |
| Dec | 1005 | 16.0 | 7% | 481 | 238 | 457 | 49 | 222 | 57 |
| 11 Jan | 1110 | 16.0 | 25% | 543 | 250 | 509 | 50 | 224 | 57 |
| Feb | 1135 | 16.0 | 34% | 562 | 249 | 550 | 54 | 218 | 56 |
| 10 Q1 | 917 | 16.0 | 22% | 429 | 191 | 422 | 43 | 164 | 42 |
| Q2 | 963 | 16.0 | 26% | 498 | 203 | 467 | 47 | 183 | 47 |
| Q3 | 949 | 16.0 | 26% | 476 | 191 | 408 | 46 | 192 | 49 |
| Q4 | 978 | 16.0 | 14% | 471 | 218 | 426 | 46 | 200 | 51 |

(for notes see page A11)

| Low Cost Cracker | | | | | | | | | |
|------------------|------------|------------|-------|----------|--------|------------|------|--------|--------|
| Variable Costs | | | | | | Cash Costs | | | |
| Revenue | Feed Stock | Co Credits | Other | Variable | | Fixed | Cash | | Margin |
| €/t | €/t | €/t | €/t | Cost | Margin | Cost | Cost | Margin | €/t |
| Notes | 1 | | 2 | | | | | | |
| 10 Oct | 950 | 1794 | 1359 | 179 | 614 | 336 | 50 | 664 | 286 |
| Nov | 978 | 1878 | 1398 | 182 | 663 | 315 | 48 | 711 | 267 |
| Dec | 1005 | 2102 | 1515 | 211 | 797 | 208 | 51 | 848 | 157 |
| 11 Jan | 1110 | 2112 | 1648 | 213 | 678 | 432 | 47 | 725 | 385 |
| Feb | 1135 | 2091 | 1699 | 207 | 599 | 536 | 47 | 646 | 489 |
| 10 Q1 | 917 | 1686 | 1304 | 159 | 541 | 376 | 48 | 589 | 328 |
| Q2 | 963 | 1791 | 1457 | 176 | 510 | 453 | 48 | 558 | 405 |
| Q3 | 949 | 1683 | 1374 | 184 | 493 | 456 | 48 | 541 | 408 |
| Q4 | 978 | 1925 | 1424 | 191 | 691 | 286 | 50 | 741 | 237 |

| High Cost Cracker | | | | | | | | | |
|-------------------|------------|------------|-------|----------|--------|------------|------|--------|--------|
| Variable Costs | | | | | | Cash Costs | | | |
| Revenue | Feed Stock | Co Credits | Other | Variable | | Fixed | Cash | | Margin |
| €/t | €/t | €/t | €/t | Cost | Margin | Cost | Cost | Margin | €/t |
| Notes | 1 | | 2 | | | | | | |
| 10 Oct | 934 | 1811 | 1347 | 194 | 659 | 275 | 86 | 745 | 189 |
| Nov | 962 | 1895 | 1386 | 197 | 707 | 255 | 83 | 791 | 171 |
| Dec | 989 | 2120 | 1503 | 228 | 845 | 144 | 88 | 933 | 56 |
| 11 Jan | 1094 | 2130 | 1635 | 231 | 725 | 369 | 82 | 808 | 286 |
| Feb | 1119 | 2108 | 1687 | 224 | 646 | 473 | 82 | 728 | 391 |
| 10 Q1 | 901 | 1703 | 1292 | 172 | 583 | 318 | 83 | 666 | 234 |
| Q2 | 947 | 1809 | 1445 | 190 | 555 | 392 | 83 | 638 | 309 |
| Q3 | 933 | 1701 | 1362 | 200 | 539 | 394 | 83 | 622 | 311 |
| Q4 | 962 | 1942 | 1412 | 207 | 737 | 225 | 86 | 823 | 139 |

West Europe - Cracker Feed Valuations, Base Prices, & Propylene
Steam Cracker Costs & Margins - Other Feedstocks (7)

| Notes | Ethane (at FOE value) | | | Propane | | | Butane | | | Gasoil | | |
|--------|-----------------------|-------------|-------------|-----------------|-------------|-------------|-----------------|-------------|-------------|-----------------|-------------|-------------|
| | Cost | | Margin | Cost | | Margin | Cost | | Margin | Cost | | Margin |
| | Variable €/t | Cash €/t | Cash €/t | Variable €/t | Cash €/t | Cash €/t | Variable €/t | Cash €/t | Cash €/t | Variable €/t | Cash €/t | Cash €/t |
| 10 Oct | 469 | 526 | 408 | 744 | 818 | 116 | 753 | 828 | 106 | 669 | 740 | 194 |
| Nov | 477 | 532 | 430 | 936 | 1007 | -45 | 1000 | 1073 | -111 | 687 | 757 | 205 |
| Dec | 554 | 612 | 377 | 1162 | 1238 | -249 | 968 | 1045 | -56 | 796 | 872 | 117 |
| 11 Jan | 555 | 609 | 485 | 892 | 963 | 131 | 780 | 852 | 242 | 744 | 815 | 279 |
| Feb | 533 | 587 | 532 | 810 | 881 | 238 | 759 | 831 | 288 | 777 | 847 | 272 |
| 10 Q1 | 409 | 463 | 437 | 688 | 760 | 141 | 635 | 708 | 193 | 477 | 546 | 355 |
| Q2 | 455 | 510 | 438 | 568 | 640 | 308 | 559 | 633 | 315 | 595 | 669 | 278 |
| Q3 | 486 | 541 | 392 | 591 | 664 | 270 | 578 | 651 | 282 | 624 | 697 | 236 |
| Q4 | 500 | 556 | 405 | 947 | 1021 | -59 | 907 | 982 | -20 | 717 | 789 | 172 |

(for notes see page A11)

Base Prices

| Notes | Liquid Oil Products | | | | Gas Products | | | | Co-Credit Prices | | | |
|--------|-----------------------|------------------------|----------------------------|---------------|--------------|---------------|---------------------------|---------------|-----------------------------|------------------------------|-------------|--------------|
| | Naphtha cif €/t | Fuel Oil 1%S €/t | Gasoline premium €/t | Gasoil €/t | Fuel €/GJ | Ethane €/t | Propane NWE cif €/t | Butane €/t | Ethylene Contract €/t | Propylene Contract €/t | Spot €/t | Pygas €/t |
| | 10 Oct | 544 | 340 | 548 | 514 | 6.75 | 372 | 560 | 572 | 950 | 920 | 900 |
| Nov | 569 | 353 | 564 | 530 | 6.87 | 378 | 647 | 678 | 978 | 938 | 910 | 557 |
| Dec | 637 | 376 | 629 | 579 | 7.98 | 437 | 759 | 684 | 1005 | 960 | 982 | 609 |
| 11 Jan | 640 | 388 | 645 | 605 | 8.09 | 442 | 673 | 638 | 1110 | 1070 | 1084 | 679 |
| Feb | 634 | 413 | 650 | 634 | 7.84 | 429 | 646 | 639 | 1135 | 1105 | 1134 | 733 |
| 10 Q1 | 511 | 332 | 529 | 460 | 5.92 | 329 | 522 | 510 | 917 | 858 | 921 | 563 |
| Q2 | 543 | 363 | 583 | 529 | 6.59 | 365 | 503 | 512 | 963 | 993 | 1003 | 622 |
| Q3 | 510 | 356 | 545 | 508 | 6.92 | 382 | 501 | 504 | 949 | 949 | 912 | 544 |
| Q4 | 583 | 356 | 580 | 541 | 7.20 | 396 | 656 | 644 | 978 | 939 | 931 | 568 |

Base Prices (continued)
Crude C4 Values

| Notes | Co-crack Values - Products Priced | | | | Spot | Transfer | \$/€ |
|--------|-----------------------------------|-------|---------------|-------|-------|-----------------|------|
| | Contract | Spot | Contract | Spot | Price | price | |
| | Constant Ethylene | | Constant Feed | | FOB | used in cracker | |
| 10 Oct | 0.987 | 0.987 | 0.953 | 0.973 | 1.150 | 1.100 | 1.39 |
| Nov | 0.983 | 0.983 | 0.953 | 0.981 | 1.150 | 1.100 | 1.37 |
| Dec | 0.974 | 0.973 | 0.964 | 0.978 | 1.200 | 1.100 | 1.32 |
| 11 Jan | 1.010 | 1.010 | 0.966 | 0.984 | 1.260 | 1.150 | 1.34 |
| Feb | 1.033 | 1.033 | 0.973 | 0.985 | 1.305 | 1.154 | 1.36 |
| 10 Q1 | 1.006 | 1.005 | 0.960 | 0.984 | 1.207 | 1.100 | 1.39 |
| Q2 | 1.011 | 1.010 | 0.949 | 0.968 | 1.300 | 1.100 | 1.28 |
| Q3 | 1.001 | 1.002 | 0.936 | 0.965 | 1.310 | 1.100 | 1.29 |
| Q4 | 0.981 | 0.981 | 0.956 | 0.977 | 1.167 | 1.100 | 1.36 |

(for notes see page A11)

Propylene Economics

| Notes | Dehydrogenation | | | Alkylate Alternative | | C3 Splitter Alternative | |
|--------|-----------------|-------------|-----|------------------------|-------------|-------------------------|-------------|
| | Margin | | ROI | Refinery Grade Netback | | Refinery Grade Netback | |
| | Variable €/t | Cash €/t | | Variable €/t | Cash €/t | Variable €/t | Cash €/t |
| 10 Oct | 220 | 193 | 19% | 602 | 584 | 885 | 877 |
| Nov | 132 | 105 | 10% | 501 | 483 | 903 | 895 |
| Dec | 16 | -12 | -1% | 632 | 614 | 922 | 914 |
| 11 Jan | 235 | 206 | 19% | 761 | 743 | 1031 | 1022 |
| Feb | 301 | 273 | 26% | 749 | 731 | 1067 | 1058 |
| 10 Q1 | 206 | 179 | 18% | 627 | 609 | 826 | 818 |
| Q2 | 364 | 335 | 31% | 778 | 760 | 958 | 949 |
| Q3 | 323 | 294 | 27% | 676 | 658 | 913 | 904 |
| Q4 | 123 | 95 | 10% | 578 | 560 | 904 | 895 |

West Europe - Polyolefins
LDPE (film)

| Notes | Prices | | Typical | | | | | Low Cost | | High Cost | |
|--------|------------|-----------------|-------------|-----------------|-------------|---------------------------------------|-----------------------|-------------|---------------|-------------|---------------|
| | Film Grade | Cost (Tubular) | | Margin | | Cash Netback Ethylene €/t (Eth) | ROI typical €/t | Cash | | Cash | |
| | | Variable €/t | Cash €/t | Variable €/t | Cash €/t | | | Cost €/t | Margin €/t | Cost €/t | Margin €/t |
| 10 Oct | 1350 | 1051 | 1139 | 238 | 123 | 1070 | 12% | 1121 | 141 | 1156 | 106 |
| Nov | 1380 | 1080 | 1162 | 240 | 130 | 1104 | 14% | 1146 | 146 | 1179 | 113 |
| Dec | 1410 | 1118 | 1197 | 232 | 123 | 1125 | 13% | 1181 | 139 | 1213 | 108 |
| 11 Jan | 1510 | 1218 | 1295 | 230 | 125 | 1231 | 14% | 1280 | 140 | 1310 | 109 |
| Feb | 1540 | 1238 | 1305 | 241 | 145 | 1276 | 18% | 1291 | 159 | 1318 | 132 |
| 10 Q1 | 1207 | 1014 | 1094 | 133 | 25 | 941 | 3% | 1078 | 41 | 1110 | 9 |
| Q2 | 1353 | 1072 | 1160 | 221 | 103 | 1063 | 10% | 1143 | 120 | 1178 | 85 |
| Q3 | 1368 | 1060 | 1143 | 248 | 136 | 1081 | 14% | 1126 | 152 | 1159 | 119 |
| Q4 | 1380 | 1083 | 1166 | 237 | 126 | 1100 | 13% | 1150 | 142 | 1183 | 109 |

(for notes see page A11)

LLDPE (butene)

| Notes | Prices | | Typical | | | | | Low Cost | | High Cost | |
|--------|------------|-----------------|-------------|-----------------|-------------|---------------------------------------|-----------------------|-------------|---------------|-------------|---------------|
| | Film Grade | Cost (Unipol) | | Margin | | Cash Netback Ethylene €/t (Eth) | ROI typical €/t | Cash | | Cash | |
| | | Variable €/t | Cash €/t | Variable €/t | Cash €/t | | | Cost €/t | Margin €/t | Cost €/t | Margin €/t |
| 10 Oct | 1240 | 1021 | 1075 | 159 | 90 | 1044 | 11% | 1065 | 101 | 1086 | 79 |
| Nov | 1250 | 1049 | 1103 | 141 | 72 | 1054 | 9% | 1092 | 83 | 1114 | 61 |
| Dec | 1280 | 1083 | 1143 | 137 | 61 | 1069 | 7% | 1131 | 73 | 1155 | 49 |
| 11 Jan | 1370 | 1182 | 1233 | 126 | 60 | 1173 | 8% | 1223 | 70 | 1244 | 49 |
| Feb | 1400 | 1203 | 1259 | 136 | 64 | 1202 | 8% | 1248 | 75 | 1271 | 53 |
| 10 Q1 | 1172 | 986 | 1040 | 125 | 57 | 977 | 7% | 1029 | 68 | 1050 | 47 |
| Q2 | 1303 | 1041 | 1097 | 202 | 130 | 1100 | 15% | 1086 | 141 | 1109 | 118 |
| Q3 | 1307 | 1028 | 1091 | 218 | 140 | 1097 | 15% | 1078 | 152 | 1103 | 127 |
| Q4 | 1257 | 1051 | 1107 | 146 | 74 | 1056 | 9% | 1096 | 85 | 1118 | 63 |

HDPE

| Notes | Prices | | Typical | | | | | Low Cost | | High Cost | | |
|--------|--------------|--------------|--------------------|-------------|-----------------|-------------|---------------------------------------|-----------------------|-------------|---------------|-------------|---------------|
| | Blow Molding | Inj. Molding | Cost (Loop Slurry) | | Margin | | Cash Netback Ethylene €/t (Eth) | ROI typical €/t | Cash | | Cash | |
| | €/t | €/t | Variable €/t | Cash €/t | Variable €/t | Cash €/t | | | Cost €/t | Margin €/t | Cost €/t | Margin €/t |
| 10 Oct | 1130 | 1120 | 1018 | 1075 | 51 | -21 | 929 | -3% | 1064 | -10 | 1087 | -33 |
| Nov | 1150 | 1150 | 1047 | 1101 | 43 | -27 | 951 | -3% | 1090 | -16 | 1112 | -38 |
| Dec | 1190 | 1190 | 1081 | 1134 | 49 | -21 | 984 | -3% | 1123 | -10 | 1145 | -32 |
| 11 Jan | 1310 | 1310 | 1180 | 1236 | 68 | -4 | 1106 | 0% | 1225 | 7 | 1247 | -15 |
| Feb | 1360 | 1360 | 1201 | 1255 | 98 | 27 | 1162 | 3% | 1244 | 38 | 1266 | 16 |
| 10 Q1 | 1133 | 1117 | 983 | 1032 | 90 | 25 | 942 | 4% | 1022 | 35 | 1042 | 16 |
| Q2 | 1187 | 1167 | 1038 | 1094 | 88 | 16 | 979 | 2% | 1083 | 27 | 1105 | 5 |
| Q3 | 1155 | 1138 | 1025 | 1076 | 69 | 1 | 951 | 0% | 1066 | 12 | 1087 | -9 |
| Q4 | 1157 | 1153 | 1049 | 1103 | 48 | -23 | 955 | -3% | 1092 | -12 | 1114 | -34 |

(for notes see page A11)

PP

| Notes | Prices | | Typical | | | | | Low Cost | | High Cost | | |
|--------|-----------------|--------|------------------|-------------|-----------------|-------------|---------------------------------------|-----------------------|-------------|---------------|-------------|---------------|
| | General Purpose | Raffia | Cost (Spheripol) | | Margin | | Cash Netback Ethylene €/t (Eth) | ROI typical €/t | Cash | | Cash | |
| | €/t | €/t | Variable €/t | Cash €/t | Variable €/t | Cash €/t | | | Cost €/t | Margin €/t | Cost €/t | Margin €/t |
| 10 Oct | 1285 | 1275 | 1009 | 1058 | 222 | 158 | 1075 | 23% | 1051 | 165 | 1065 | 151 |
| Nov | 1295 | 1285 | 1028 | 1074 | 213 | 152 | 1087 | 23% | 1068 | 158 | 1081 | 145 |
| Dec | 1315 | 1305 | 1058 | 1111 | 204 | 134 | 1092 | 17% | 1103 | 142 | 1118 | 127 |
| 11 Jan | 1415 | 1405 | 1166 | 1215 | 195 | 129 | 1196 | 18% | 1209 | 136 | 1222 | 122 |
| Feb | 1455 | 1445 | 1197 | 1245 | 203 | 140 | 1242 | 20% | 1238 | 147 | 1251 | 134 |
| 10 Q1 | 1132 | 1112 | 946 | 993 | 133 | 70 | 927 | 10% | 986 | 77 | 999 | 64 |
| Q2 | 1330 | 1320 | 1088 | 1139 | 189 | 121 | 1112 | 16% | 1132 | 128 | 1146 | 114 |
| Q3 | 1330 | 1320 | 1045 | 1094 | 232 | 166 | 1112 | 23% | 1087 | 173 | 1101 | 159 |
| Q4 | 1298 | 1288 | 1032 | 1081 | 213 | 148 | 1085 | 21% | 1074 | 155 | 1088 | 141 |

West Europe -Ethylene & Propylene Derivatives

| Notes | PVC (pipe) | | | | | Styrene | | | | |
|--------|---------------------|---------------------------|------------------|---------------------------------------|-----|---------------------------------------|---------------------------|-------------|---------------------------------------|------|
| | Prices | | PVC (integrated) | | | Price | | Typical | | |
| | PVC Domestic €/t | Margin Variable €/t | Cash €/t | Cash Netback Ethylene €/t (Eth) | ROI | Contract (before discounts) €/t | Margin Variable €/t | Cash €/t | Cash Netback Ethylene €/t (Eth) | ROI |
| 10 Oct | 1050 | 343 | 58 | 1069 | 7% | 997 | -5 | -38 | 809 | -8% |
| Nov | 1050 | 341 | 52 | 1086 | 7% | 1045 | 3 | -31 | 864 | -6% |
| Dec | 1050 | 312 | 16 | 1037 | 3% | 1080 | -10 | -45 | 840 | -8% |
| 11 Jan | 1085 | 316 | 29 | 1170 | 3% | 1207 | -21 | -55 | 907 | -10% |
| Feb | 1105 | 316 | 31 | 1200 | 3% | 1305 | -32 | -65 | 892 | -12% |
| 10 Q1 | 927 | 243 | -14 | 888 | 1% | 1024 | -19 | -52 | 723 | -10% |
| Q2 | 977 | 258 | -15 | 933 | 0% | 1131 | -17 | -52 | 769 | -9% |
| Q3 | 1037 | 287 | 1 | 951 | 2% | 990 | -27 | -63 | 717 | -11% |
| Q4 | 1050 | 332 | 42 | 1064 | 6% | 1041 | -4 | -38 | 838 | -7% |

(for notes see page A11)

| Notes | MEG | | | | |
|--------|---------------------------------------|---------------------------|-------------|---------------------------------------|-----|
| | Price | | Typical | | |
| | Contract (before discounts) €/t | Margin Variable €/t | Cash €/t | Cash Netback Ethylene €/t (Eth) | ROI |
| 10 Oct | 806 | 64 | -1 | 949 | 0% |
| Nov | 905 | 146 | 80 | 1095 | 10% |
| Dec | 975 | 191 | 123 | 1185 | 14% |
| 11 Jan | 1035 | 183 | 115 | 1277 | 13% |
| Feb | 1070 | 203 | 136 | 1333 | 16% |
| 10 Q1 | 841 | 127 | 62 | 1007 | 7% |
| Q2 | 849 | 94 | 24 | 998 | 3% |
| Q3 | 775 | 28 | -41 | 889 | -5% |
| Q4 | 895 | 134 | 68 | 1076 | 8% |

| Notes | OXO ALCOHOLS | | | | | | | |
|-----------------|----------------|----------------|----------------|--------------|-----------------|-------------|-------------------------|--|
| | Prices | | | | Typical | | | |
| | DOP | | 2-Ethylhexanol | | n-Butanol | | Cash Netback | |
| Domestic €/t | Exports €/t | Exports €/t | Exports €/t | truck €/t | Variable €/t | Cash €/t | Propylene €/t (Prop) | |
| 10 Oct | 1675 | 1584 | 1332 | 1120 | 698 | 600 | 1746 | |
| Nov | 1650 | 1532 | 1313 | 1100 | 642 | 543 | 1682 | |
| Dec | 1600 | 1514 | 1363 | 1100 | 547 | 444 | 1563 | |
| 11 Jan | 1660 | 1551 | 1438 | 1180 | 542 | 439 | 1673 | |
| Feb | 1700 | 1615 | 1468 | 1200 | 570 | 468 | 1748 | |
| 10 Q1 | 1048 | 1036 | 1114 | 922 | 195 | 97 | 970 | |
| Q2 | 1407 | 1377 | 1305 | 1130 | 438 | 332 | 1436 | |
| Q3 | 1577 | 1446 | 1240 | 1143 | 592 | 488 | 1615 | |
| Q4 | 1642 | 1543 | 1336 | 1107 | 629 | 529 | 1664 | |

(for notes see page A11)

| Notes | ACN | | | | |
|--------|------------------------|---------------------------|-------------|---|-----|
| | Price | | Typical | | |
| | Contract Low €/t | Margin Variable €/t | Cash €/t | Cash Netback Propylene €/t (Prop) | ROI |
| 10 Oct | 1610 | 484 | 417 | 1252 | 41% |
| Nov | 1610 | 471 | 403 | 1258 | 39% |
| Dec | 1645 | 480 | 411 | 1285 | 39% |
| 11 Jan | 1765 | 455 | 384 | 1380 | 35% |
| Feb | 1675 | 312 | 243 | 1292 | 22% |
| 10 Q1 | 1433 | 396 | 329 | 1117 | 32% |
| Q2 | 1635 | 442 | 370 | 1283 | 33% |
| Q3 | 1625 | 480 | 409 | 1273 | 37% |
| Q4 | 1622 | 478 | 410 | 1265 | 40% |

Middle East - Saudi Arabia Ethylene

Costs and Margins

| Notes | Cash Cost | | | Freight | | Sales to N.W.E | | | Sales to S.E.Asia | | |
|--------|-----------|---------|---------|-----------|-------|----------------|---------|---------|-------------------|---------|---------|
| | Ethane | Propane | Naphtha | to market | | Ethane | Propane | Naphtha | Ethane | Propane | Naphtha |
| | \$/t | \$/t | \$/t | N.W.E. | China | \$/t | \$/t | \$/t | \$/t | \$/t | \$/t |
| 10 Oct | 51 | 754 | 620 | 190 | 140 | 901 | 197 | 391 | 884 | 181 | 315 |
| Nov | 48 | 794 | 658 | 190 | 140 | 849 | 104 | 299 | 817 | 71 | 207 |
| Dec | 44 | 867 | 722 | 190 | 140 | 978 | 155 | 360 | 904 | 81 | 226 |
| 11 Jan | 41 | 863 | 676 | 190 | 140 | 1094 | 272 | 520 | 950 | 129 | 315 |
| Feb | 40 | 820 | 593 | 190 | 140 | 1220 | 440 | 728 | 1105 | 325 | 552 |
| 10 Q1 | 52 | 666 | 504 | 190 | 140 | 883 | 269 | 490 | 1065 | 451 | 612 |
| Q2 | 53 | 656 | 498 | 190 | 140 | 857 | 253 | 471 | 892 | 288 | 446 |
| Q3 | 57 | 628 | 493 | 190 | 140 | 765 | 193 | 388 | 719 | 147 | 282 |
| Q4 | 48 | 805 | 667 | 190 | 140 | 909 | 152 | 350 | 868 | 111 | 249 |

Returns and Europe Cost Comparisons

| Notes | ROI | | | Delivered Cost | | | | | |
|--------|----------------|---------|---------|---------------------------|---------|---------|----------------------------|---------|---------|
| | weighted sales | | | vs typical producer N.W.E | | | vs low cost producer N.W.E | | |
| | Ethane | Propane | Naphtha | Ethane | Propane | Naphtha | Ethane | Propane | Naphtha |
| 10 Oct | 73% | 14% | 20% | 741 | 37 | 172 | 682 | -22 | 113 |
| Nov | 68% | 8% | 14% | 794 | 49 | 184 | 736 | -9 | 126 |
| Dec | 75% | 9% | 16% | 944 | 121 | 266 | 886 | 63 | 208 |
| 11 Jan | 79% | 13% | 21% | 794 | -27 | 159 | 737 | -85 | 102 |
| Feb | 91% | 24% | 33% | 708 | -72 | 155 | 650 | -130 | 97 |
| 10 Q1 | 83% | 28% | 33% | 633 | 19 | 181 | 575 | -39 | 123 |
| Q2 | 72% | 20% | 26% | 524 | -80 | 78 | 469 | -135 | 24 |
| Q3 | 60% | 12% | 18% | 508 | -64 | 71 | 452 | -119 | 16 |
| Q4 | 72% | 10% | 16% | 827 | 69 | 208 | 768 | 11 | 149 |

Middle East - Iran Ethylene

Costs and Margins

| Notes | Cash Cost | | | Freight | | Sales to N.W.E | | | Sales to S.E.Asia | | |
|--------|-----------|---------|---------|-----------|-------|----------------|---------|---------|-------------------|---------|---------|
| | Ethane | Propane | Naphtha | to market | | Ethane | Propane | Naphtha | Ethane | Propane | Naphtha |
| | \$/t | \$/t | \$/t | N.W.E. | China | \$/t | \$/t | \$/t | \$/t | \$/t | \$/t |
| 10 Oct | 60 | 1106 | 1157 | 190 | 140 | 891 | -155 | -159 | 875 | -171 | -222 |
| Nov | 55 | 1330 | 1222 | 190 | 140 | 843 | -432 | -278 | 810 | -465 | -357 |
| Dec | 48 | 1482 | 1332 | 190 | 140 | 974 | -460 | -263 | 900 | -534 | -384 |
| 11 Jan | 50 | 1228 | 1278 | 190 | 140 | 1085 | -93 | -96 | 942 | -237 | -287 |
| Feb | 47 | 1215 | 1198 | 190 | 140 | 1213 | 45 | 109 | 1098 | -70 | -53 |
| 10 Q1 | 62 | 1037 | 1009 | 190 | 140 | 873 | -102 | -27 | 1055 | 79 | 108 |
| Q2 | 64 | 931 | 998 | 190 | 140 | 846 | -21 | -42 | 881 | 14 | -53 |
| Q3 | 69 | 827 | 959 | 190 | 140 | 752 | -6 | -91 | 706 | -52 | -184 |
| Q4 | 54 | 1306 | 1237 | 190 | 140 | 903 | -349 | -233 | 862 | -390 | -321 |

Returns and Europe Cost Comparisons

| Notes | ROI | | | Delivered Cost | | | | | |
|--------|----------------|---------|---------|---------------------------|---------|---------|----------------------------|---------|---------|
| | weighted sales | | | vs typical producer N.W.E | | | vs low cost producer N.W.E | | |
| | Ethane | Propane | Naphtha | Ethane | Propane | Naphtha | Ethane | Propane | Naphtha |
| 10 Oct | 90% | -10% | -12% | 732 | -314 | -365 | 673 | -373 | -424 |
| Nov | 84% | -33% | -21% | 788 | -487 | -380 | 730 | -545 | -437 |
| Dec | 94% | -37% | -22% | 940 | -494 | -343 | 882 | -552 | -401 |
| 11 Jan | 99% | -13% | -14% | 786 | -393 | -443 | 728 | -450 | -500 |
| Feb | 113% | 0% | 1% | 701 | -467 | -450 | 643 | -525 | -508 |
| 10 Q1 | 103% | 5% | 7% | 623 | -352 | -324 | 566 | -410 | -382 |
| Q2 | 90% | 3% | -1% | 513 | -355 | -422 | 458 | -409 | -476 |
| Q3 | 74% | 0% | -9% | 495 | -263 | -395 | 440 | -318 | -450 |
| Q4 | 89% | -27% | -18% | 820 | -432 | -363 | 762 | -490 | -421 |

Middle East - Saudi Arabia HDPE

Costs and Margins

| Notes | Integ Cash Cost for various feeds | | | Freight to market | | Margin sales to N.W.E | | | Margin sales to China | | |
|--------|-----------------------------------|-----------------|-----------------|-------------------|---------------|-----------------------|-----------------|-----------------|-----------------------|-----------------|-----------------|
| | Ethane \$/t | Propane \$/t | Naphtha \$/t | N.W.E. \$/t | China \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 238 | 935 | 802 | 34 | 22 | 855 | 158 | 292 | 932 | 235 | 368 |
| Nov | 236 | 974 | 840 | 34 | 22 | 865 | 127 | 261 | 1019 | 280 | 415 |
| Dec | 231 | 1046 | 903 | 34 | 22 | 871 | 56 | 199 | 1023 | 208 | 352 |
| 11 Jan | 231 | 1044 | 859 | 34 | 22 | 1011 | 198 | 383 | 1064 | 251 | 435 |
| Feb | 229 | 1001 | 777 | 34 | 22 | 1094 | 322 | 547 | 1060 | 288 | 513 |
| 10 Q1 | 240 | 847 | 687 | 34 | 22 | 856 | 248 | 408 | 1007 | 399 | 559 |
| Q2 | 240 | 838 | 681 | 34 | 22 | 819 | 221 | 377 | 896 | 298 | 455 |
| Q3 | 244 | 810 | 676 | 34 | 22 | 794 | 228 | 362 | 845 | 279 | 413 |
| Q4 | 235 | 985 | 848 | 34 | 22 | 864 | 114 | 251 | 991 | 241 | 378 |

Returns and Comparisons

| Notes | ROI (integrated/weighted sales) | | | Cost adv. vs typical producer N.W.E | | | Cost adv. vs low cost producer N.W.E | | |
|--------|---------------------------------|---------|---------|-------------------------------------|-----------------|-----------------|--------------------------------------|-----------------|-----------------|
| | Ethane | Propane | Naphtha | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 54% | 11% | 16% | 918 | 221 | 354 | 839 | 142 | 275 |
| Nov | 58% | 12% | 18% | 967 | 228 | 363 | 890 | 152 | 286 |
| Dec | 58% | 9% | 15% | 1122 | 307 | 450 | 1045 | 230 | 374 |
| 11 Jan | 61% | 12% | 19% | 967 | 154 | 339 | 891 | 78 | 262 |
| Feb | 62% | 15% | 24% | 876 | 104 | 328 | 799 | 27 | 251 |
| 10 Q1 | 57% | 18% | 24% | 791 | 183 | 343 | 715 | 108 | 268 |
| Q2 | 52% | 14% | 20% | 688 | 90 | 246 | 615 | 17 | 174 |
| Q3 | 49% | 14% | 19% | 670 | 104 | 238 | 598 | 32 | 166 |
| Q4 | 57% | 11% | 16% | 1002 | 252 | 389 | 925 | 175 | 312 |

Middle East - Iran HDPE

Costs and Margins

| Notes | Integ Cash Cost for various feeds | | | Freight to market | | Margin sales to N.W.E | | | Margin sales to China | | |
|--------|-----------------------------------|-----------------|-----------------|-------------------|---------------|-----------------------|-----------------|-----------------|-----------------------|-----------------|-----------------|
| | Ethane \$/t | Propane \$/t | Naphtha \$/t | N.W.E. \$/t | China \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 232 | 1268 | 1318 | 34 | 22 | 862 | -174 | -225 | 938 | -98 | -148 |
| Nov | 226 | 1489 | 1382 | 34 | 22 | 875 | -388 | -282 | 1028 | -234 | -128 |
| Dec | 220 | 1639 | 1491 | 34 | 22 | 882 | -538 | -389 | 1035 | -385 | -236 |
| 11 Jan | 223 | 1390 | 1440 | 34 | 22 | 1019 | -148 | -198 | 1071 | -95 | -145 |
| Feb | 221 | 1377 | 1360 | 34 | 22 | 1103 | -54 | -37 | 1069 | -87 | -71 |
| 10 Q1 | 233 | 1199 | 1171 | 34 | 22 | 862 | -104 | -76 | 1013 | 47 | 75 |
| Q2 | 236 | 1094 | 1161 | 34 | 22 | 823 | -36 | -102 | 901 | 42 | -25 |
| Q3 | 241 | 992 | 1122 | 34 | 22 | 797 | 46 | -84 | 848 | 98 | -33 |
| Q4 | 226 | 1465 | 1397 | 34 | 22 | 873 | -367 | -298 | 1000 | -239 | -171 |

Returns and Comparisons

| Notes | ROI (integrated/weighted sales) | | | Cost adv. vs typical producer N.W.E | | | Cost adv. vs low cost producer N.W.E | | |
|--------|---------------------------------|---------|---------|-------------------------------------|-----------------|-----------------|--------------------------------------|-----------------|-----------------|
| | Ethane | Propane | Naphtha | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 69% | -8% | -10% | 924 | -112 | -162 | 845 | -191 | -241 |
| Nov | 74% | -18% | -10% | 976 | -286 | -180 | 899 | -363 | -257 |
| Dec | 74% | -27% | -16% | 1133 | -286 | -138 | 1056 | -363 | -214 |
| 11 Jan | 78% | -7% | -9% | 975 | -192 | -242 | 899 | -268 | -318 |
| Feb | 79% | -5% | -4% | 884 | -272 | -255 | 807 | -349 | -332 |
| 10 Q1 | 73% | 1% | 2% | 797 | -169 | -141 | 722 | -244 | -216 |
| Q2 | 66% | 1% | -3% | 692 | -167 | -233 | 620 | -239 | -306 |
| Q3 | 62% | 5% | -3% | 673 | -78 | -208 | 601 | -150 | -281 |
| Q4 | 72% | -18% | -12% | 1011 | -228 | -160 | 934 | -306 | -237 |

Middle East - Saudi Arabia LLDPE

Costs and Margins

| Notes | Integ Cash Cost for various feeds | | | Freight to market | | Margin sales to N.W.E | | | Margin sales to China | | |
|--------|-----------------------------------|--------------|--------------|-------------------|------------|-----------------------|--------------|--------------|-----------------------|--------------|--------------|
| | Ethane \$/t | Propane \$/t | Naphtha \$/t | N.W.E. \$/t | China \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 245 | 901 | 775 | 34 | 22 | 972 | 317 | 442 | 990 | 334 | 459 |
| Nov | 243 | 937 | 811 | 34 | 22 | 969 | 275 | 401 | 1137 | 442 | 569 |
| Dec | 238 | 1005 | 870 | 34 | 22 | 960 | 194 | 329 | 1111 | 345 | 480 |
| 11 Jan | 238 | 1003 | 829 | 34 | 22 | 1069 | 304 | 478 | 1152 | 387 | 560 |
| Feb | 236 | 962 | 751 | 34 | 22 | 1132 | 405 | 616 | 1148 | 422 | 633 |
| 10 Q1 | 247 | 818 | 668 | 34 | 22 | 892 | 320 | 471 | 1121 | 550 | 700 |
| Q2 | 247 | 809 | 662 | 34 | 22 | 932 | 369 | 517 | 964 | 402 | 549 |
| Q3 | 251 | 784 | 658 | 34 | 22 | 946 | 413 | 540 | 862 | 329 | 455 |
| Q4 | 242 | 948 | 819 | 34 | 22 | 967 | 262 | 391 | 1079 | 374 | 503 |

Returns and Comparisons

| Notes | ROI (integrated/weighted sales) | | | Cost adv. vs typical producer N.W.E | | | Cost adv. vs low cost producer N.W.E | | |
|--------|---------------------------------|---------|---------|-------------------------------------|--------------|--------------|--------------------------------------|--------------|--------------|
| | Ethane | Propane | Naphtha | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 59% | 17% | 22% | 916 | 260 | 386 | 841 | 186 | 311 |
| Nov | 66% | 21% | 25% | 966 | 272 | 398 | 893 | 199 | 325 |
| Dec | 64% | 16% | 21% | 1121 | 355 | 490 | 1047 | 280 | 415 |
| 11 Jan | 67% | 19% | 25% | 971 | 206 | 380 | 900 | 135 | 308 |
| Feb | 68% | 22% | 30% | 898 | 172 | 383 | 825 | 98 | 309 |
| 10 Q1 | 64% | 26% | 31% | 807 | 235 | 385 | 734 | 162 | 313 |
| Q2 | 57% | 21% | 26% | 699 | 136 | 284 | 629 | 67 | 214 |
| Q3 | 53% | 18% | 23% | 693 | 161 | 287 | 621 | 89 | 215 |
| Q4 | 63% | 18% | 23% | 1001 | 296 | 425 | 927 | 222 | 350 |

Middle East - Iran LLDPE

Costs and Margins

| Notes | Integ Cash Cost for various feeds | | | Freight to market | | Margin sales to N.W.E | | | Margin sales to China | | |
|--------|-----------------------------------|--------------|--------------|-------------------|------------|-----------------------|--------------|--------------|-----------------------|--------------|--------------|
| | Ethane \$/t | Propane \$/t | Naphtha \$/t | N.W.E. \$/t | China \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 238 | 1213 | 1260 | 34 | 22 | 979 | 5 | -42 | 996 | 22 | -25 |
| Nov | 233 | 1420 | 1320 | 34 | 22 | 979 | -208 | -108 | 1147 | -41 | 59 |
| Dec | 226 | 1561 | 1422 | 34 | 22 | 972 | -363 | -223 | 1123 | -212 | -72 |
| 11 Jan | 229 | 1327 | 1374 | 34 | 22 | 1077 | -20 | -67 | 1160 | 62 | 15 |
| Feb | 227 | 1315 | 1299 | 34 | 22 | 1140 | 53 | 69 | 1157 | 70 | 85 |
| 10 Q1 | 240 | 1148 | 1122 | 34 | 22 | 899 | -10 | 16 | 1128 | 219 | 246 |
| Q2 | 242 | 1050 | 1112 | 34 | 22 | 937 | 129 | 66 | 969 | 161 | 99 |
| Q3 | 248 | 954 | 1076 | 34 | 22 | 950 | 243 | 121 | 865 | 159 | 36 |
| Q4 | 232 | 1398 | 1334 | 34 | 22 | 977 | -189 | -124 | 1089 | -77 | -13 |

Returns and Comparisons

| Notes | ROI (integrated/weighted sales) | | | Cost adv. vs typical producer N.W.E | | | Cost adv. vs low cost producer N.W.E | | |
|--------|---------------------------------|---------|---------|-------------------------------------|--------------|--------------|--------------------------------------|--------------|--------------|
| | Ethane | Propane | Naphtha | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 73% | 1% | -2% | 929 | -46 | -93 | 848 | -126 | -174 |
| Nov | 81% | -5% | 1% | 982 | -206 | -106 | 903 | -284 | -184 |
| Dec | 80% | -16% | -6% | 1138 | -197 | -57 | 1058 | -277 | -137 |
| 11 Jan | 82% | 3% | 0% | 982 | -115 | -162 | 908 | -190 | -237 |
| Feb | 83% | 4% | 5% | 909 | -178 | -162 | 834 | -254 | -238 |
| 10 Q1 | 79% | 10% | 11% | 815 | -93 | -67 | 741 | -168 | -142 |
| Q2 | 71% | 10% | 5% | 709 | -98 | -161 | 634 | -174 | -236 |
| Q3 | 65% | 11% | 3% | 704 | -2 | -125 | 625 | -81 | -204 |
| Q4 | 78% | -7% | -2% | 1016 | -150 | -85 | 937 | -229 | -165 |

Middle East - Saudi Arabia MEG
Costs and Margins

| Notes | <i>Integ Cash Cost for various feeds</i> | | | <i>Freight to market</i> | | <i>Margin sales to N.W.E</i> | | | <i>Margin sales to China</i> | | |
|--------|--|-----------------|-----------------|--------------------------|---------------|------------------------------|-----------------|-----------------|------------------------------|-----------------|-----------------|
| | Ethane \$/t | Propane \$/t | Naphtha \$/t | N.W.E. \$/t | China \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 70 | 553 | 461 | 40 | 45 | 746 | 263 | 356 | 525 | 42 | 135 |
| Nov | 54 | 566 | 473 | 40 | 45 | 855 | 343 | 436 | 629 | 118 | 211 |
| Dec | 46 | 610 | 511 | 40 | 45 | 899 | 335 | 434 | 644 | 80 | 179 |
| 11 Jan | 35 | 598 | 471 | 40 | 45 | 982 | 419 | 546 | 734 | 171 | 299 |
| Feb | 25 | 560 | 404 | 40 | 45 | 1050 | 515 | 670 | 812 | 277 | 433 |
| 10 Q1 | 66 | 487 | 376 | 40 | 45 | 787 | 366 | 477 | 570 | 148 | 259 |
| Q2 | 76 | 490 | 381 | 40 | 45 | 713 | 299 | 407 | 454 | 40 | 148 |
| Q3 | 88 | 480 | 388 | 40 | 45 | 637 | 245 | 338 | 400 | 8 | 101 |
| Q4 | 57 | 576 | 481 | 40 | 45 | 834 | 314 | 409 | 600 | 80 | 175 |

Returns and Comparisons

| Notes | <i>ROI (integrated/weighted sales)</i> | | | <i>Cost adv. vs typical producer N.W.E</i> | | |
|--------|--|---------|---------|--|-----------------|-----------------|
| | Ethane | Propane | Naphtha | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 34% | 6% | 10% | 1279 | 796 | 888 |
| Nov | 40% | 10% | 14% | 1326 | 814 | 907 |
| Dec | 41% | 8% | 12% | 1479 | 914 | 1013 |
| 11 Jan | 46% | 13% | 18% | 1336 | 772 | 900 |
| Feb | 50% | 18% | 24% | 1253 | 718 | 873 |
| 10 Q1 | 36% | 11% | 16% | 1147 | 726 | 837 |
| Q2 | 30% | 6% | 11% | 1027 | 613 | 721 |
| Q3 | 27% | 4% | 8% | 1009 | 617 | 710 |
| Q4 | 38% | 8% | 12% | 1361 | 841 | 936 |

Middle East - Iran MEG
Costs and Margins

| Notes | <i>Integ Cash Cost for various feeds</i> | | | <i>Freight to market</i> | | <i>Margin sales to N.W.E</i> | | | <i>Margin sales to China</i> | | |
|--------|--|-----------------|-----------------|--------------------------|---------------|------------------------------|-----------------|-----------------|------------------------------|-----------------|-----------------|
| | Ethane \$/t | Propane \$/t | Naphtha \$/t | N.W.E. \$/t | China \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 42 | 760 | 795 | 40 | 45 | 860 | 142 | 107 | 553 | -165 | -200 |
| Nov | 23 | 898 | 824 | 40 | 45 | 981 | 106 | 180 | 661 | -214 | -140 |
| Dec | 13 | 996 | 893 | 40 | 45 | 1031 | 48 | 151 | 677 | -306 | -203 |
| 11 Jan | 3 | 812 | 846 | 40 | 45 | 1119 | 311 | 276 | 766 | -43 | -77 |
| Feb | -8 | 793 | 781 | 40 | 45 | 1194 | 393 | 405 | 845 | 44 | 56 |
| 10 Q1 | 37 | 707 | 687 | 40 | 45 | 904 | 235 | 254 | 598 | -72 | -52 |
| Q2 | 50 | 645 | 691 | 40 | 45 | 822 | 227 | 181 | 480 | -115 | -161 |
| Q3 | 64 | 584 | 675 | 40 | 45 | 738 | 217 | 127 | 424 | -96 | -186 |
| Q4 | 26 | 885 | 837 | 40 | 45 | 957 | 99 | 146 | 630 | -228 | -181 |

Returns and Comparisons

| Notes | <i>ROI (integrated/weighted sales)</i> | | | <i>Cost adv. vs typical producer N.W.E</i> | | |
|--------|--|---------|---------|--|-----------------|-----------------|
| | Ethane | Propane | Naphtha | Ethane \$/t | Propane \$/t | Naphtha \$/t |
| 10 Oct | 47% | -5% | -7% | 1392 | 674 | 639 |
| Nov | 55% | -8% | -3% | 1452 | 577 | 651 |
| Dec | 57% | -13% | -6% | 1610 | 627 | 730 |
| 11 Jan | 62% | 4% | 2% | 1473 | 665 | 630 |
| Feb | 68% | 10% | 10% | 1397 | 596 | 608 |
| 10 Q1 | 50% | 1% | 2% | 1265 | 595 | 615 |
| Q2 | 42% | -1% | -4% | 1136 | 541 | 495 |
| Q3 | 37% | 0% | -6% | 1110 | 590 | 499 |
| Q4 | 53% | -9% | -5% | 1485 | 626 | 673 |

Middle East - Propane Dehydrogenation
Costs and Margins

| Notes | Cash Costs | | Freight to market | | Margin sales to N.W.E | | Margin sales to S.E.Asia | | ROI | |
|--------|---------------|--------------|-------------------|---------------|-----------------------|--------------|--------------------------|--------------|-------|------|
| | Saudi \$/t | Iran \$/t | N.W.E. \$/t | China \$/t | Saudi \$/t | Iran \$/t | Saudi \$/t | Iran \$/t | Saudi | Iran |
| 10 Oct | 707 | 896 | 145 | 100 | 35 | -154 | 315 | 126 | 39% | 14% |
| Nov | 738 | 1023 | 145 | 100 | 14 | -271 | 327 | 42 | 39% | -3% |
| Dec | 790 | 1117 | 145 | 100 | 33 | -294 | 296 | -31 | 35% | -13% |
| 11 Jan | 816 | 1013 | 145 | 100 | 109 | -88 | 362 | 164 | 44% | 21% |
| Feb | 820 | 1033 | 145 | 100 | 155 | -57 | 467 | 254 | 58% | 35% |
| 10 Q1 | 669 | 868 | 145 | 100 | 93 | -106 | 397 | 198 | 50% | 26% |
| Q2 | 664 | 813 | 145 | 100 | 181 | 32 | 381 | 232 | 47% | 34% |
| Q3 | 625 | 734 | 145 | 100 | 129 | 20 | 347 | 238 | 43% | 34% |
| Q4 | 745 | 1012 | 145 | 100 | 27 | -240 | 313 | 46 | 38% | -1% |

Middle East - PP
Costs, Margins & Returns

| Notes | Cash Costs | | Freight to market | | Margin sales to N.W.E | | Margin sales to China | | ROI (weighted sales) | |
|--------|---------------|--------------|-------------------|---------------|-----------------------|--------------|-----------------------|--------------|----------------------|------|
| | Saudi \$/t | Iran \$/t | N.W.E. \$/t | China \$/t | Saudi \$/t | Iran \$/t | Saudi \$/t | Iran \$/t | Saudi | Iran |
| 10 Oct | 1124 | 1112 | 34 | 22 | 144 | 157 | 161 | 173 | 17% | 22% |
| Nov | 1159 | 1147 | 34 | 22 | 103 | 116 | 251 | 263 | 23% | 29% |
| Dec | 1195 | 1182 | 34 | 22 | 41 | 54 | 230 | 242 | 20% | 25% |
| 11 Jan | 1292 | 1279 | 34 | 22 | 64 | 76 | 197 | 210 | 18% | 23% |
| Feb | 1388 | 1375 | 34 | 22 | 40 | 53 | 121 | 134 | 11% | 15% |
| 10 Q1 | 1163 | 1151 | 34 | 22 | -70 | -58 | 84 | 97 | 5% | 8% |
| Q2 | 1168 | 1156 | 34 | 22 | 38 | 51 | 78 | 91 | 7% | 10% |
| Q3 | 1089 | 1077 | 34 | 22 | 132 | 145 | 113 | 126 | 13% | 17% |
| Q4 | 1159 | 1147 | 34 | 22 | 96 | 109 | 214 | 226 | 20% | 26% |

Middle East - Integrated PDH and PP
Costs, Margins & Returns

| Notes | Cash Costs | | Freight to market | | Margin sales to N.W.E | | Margin sales to China | | ROI (weighted sales) | |
|--------|---------------|--------------|-------------------|---------------|-----------------------|--------------|-----------------------|--------------|----------------------|------|
| | Saudi \$/t | Iran \$/t | N.W.E. \$/t | China \$/t | Saudi \$/t | Iran \$/t | Saudi \$/t | Iran \$/t | Saudi | Iran |
| 10 Oct | 874 | 1055 | 34 | 22 | 394 | 214 | 410 | 230 | 24% | 16% |
| Nov | 906 | 1184 | 34 | 22 | 357 | 78 | 504 | 226 | 28% | 13% |
| Dec | 960 | 1281 | 34 | 22 | 276 | -45 | 465 | 144 | 25% | 7% |
| 11 Jan | 988 | 1176 | 34 | 22 | 368 | 179 | 502 | 313 | 27% | 19% |
| Feb | 991 | 1196 | 34 | 22 | 437 | 232 | 518 | 313 | 29% | 20% |
| 10 Q1 | 836 | 1026 | 34 | 22 | 257 | 67 | 412 | 222 | 22% | 13% |
| Q2 | 831 | 970 | 34 | 22 | 375 | 236 | 416 | 276 | 24% | 19% |
| Q3 | 791 | 890 | 34 | 22 | 430 | 332 | 412 | 313 | 25% | 22% |
| Q4 | 913 | 1173 | 34 | 22 | 342 | 82 | 460 | 200 | 25% | 12% |

Cost Comparisons

| Notes | Cost adv. vs typical producer N.W.E | | Cost adv. vs low cost producer N.W.E | |
|--------|-------------------------------------|--------------|--------------------------------------|--------------|
| | Saudi \$/t | Iran \$/t | Saudi \$/t | Iran \$/t |
| 10 Oct | 192 | 205 | 183 | 195 |
| Nov | 162 | 174 | 153 | 165 |
| Dec | 124 | 137 | 114 | 127 |
| 11 Jan | 175 | 187 | 165 | 178 |
| Feb | 147 | 159 | 137 | 150 |
| 10 Q1 | 68 | 80 | 59 | 71 |
| Q2 | 139 | 151 | 130 | 142 |
| Q3 | 175 | 188 | 167 | 179 |
| Q4 | 159 | 172 | 150 | 162 |

NOTES AND DEFINITIONS FOR ECONOMIC MODELS

Definitions

Revenue = Value of product (ex-works) to producer before discounts or rebates.

Variable Costs = Feedstock(s) inclusive of discounts, utilities, packaging, storage, royalties, catalyst and chemicals less co-credits.

Fixed Costs = Maintenance, insurance, local taxes overheads, labour.

Margin = Revenue (as above) less costs

Contract = Published reference price

Domestic = European average price

Netback = Value of feedstock assuming zero margin, based on cash or variable margin.

ROI = Return on investment (Cash margin times production over total fixed investment)

West Europe Naphtha Steam Cracker and Propylene Economics (A2 and A3)

1. Based on naphtha CIF NWE plus freight.
2. Utilities, catalyst and chemicals.
3. C4s are valued to reflect the merchant market based on longer term contracts
4. Pygas based on extraction netback. Benzene at contract price, balance at regular gasoline netbacks from US, less extraction charge. (Benzene CP converted to US\$ *0.4) + (price of European unleaded regular gasoline *0.6) less charge of \$25-35
5. 1% sulphur.
6. Hydrogen is valued as fuel at 134 MMBTU/t
7. These tables are designed to indicate theoretical margins and costs for different feedstocks to steam crackers. The intent is to illustrate where there is a trend to change from one feedstock to another. The models are simple and do not allow for any change in the constraints on ethylene production resulting from the change in feedstock change.
8. The model assumes a dedicated large scale ethane cracker
9. Assumes that a naphtha furnace is changed over to run the feedstock in question with no change in the ethylene production
10. Calculated on fuel oil price equivalent values.
11. Calculated on fuel oil price equivalent values plus a factor as an allowance towards ethane extraction costs.
12. Value of crude C4 replacing naphtha assuming constant ethylene production, assumes incremental olefins sold at contract or spot.
13. Value of crude C4 replacing naphtha assuming constant volume of feed, assumes incremental olefins sold at contract or spot.
14. Transfer price used as basis for co-credit valuation in steam cracker models.
Represents typical value used between Steam Cracker and Butadiene Extraction unit.
15. Assumes that propane is available at the spot market price.
16. This model calculates the FOB netback for a refiner with a typical refinery grade stream against his costs.
If he can achieve more than this price for his stream he may consider selling the stream to a splitter.
17. This model calculates the maximum CIF price a splitter operator is willing to pay for a typical refinery grade stream in order to just cover costs of propylene extraction. Assumes contract propylene sales.
18. Fuel is used as the base for fuel gas prices. These are calculated taking 1% sulphur fuel oil in \$/t and dividing by 38.89 to get an energy value in \$/MMBTU

West Europe Ethylene Derivatives (A4 and A5)

1. Ethylene based on quarterly contract price after discounts.
2. Revenue for HDPE, LDPE and PVC are based on domestic sales.
3. PVC margins are based on a calculated chlorine price (using margin sharing with minimum of zero) and represent an integrated VCM-PVC producer.

West Europe Propylene Derivatives (A5)

1. Propylene based on quarterly contract price after discounts.
2. Revenue for DOP and 2-ethylhexanol are based on estimated export proportions; for PP the basis is domestic sales
3. Oxo alcohol margins are based on an integrated plant.
4. January Prices are unconfirmed, prices will be finalised in the end February report.

Middle East Models (A6-A9)

1. Modelling of sites is based around the size of plants expected to come up in the coming years; this is generally larger than current units
2. Steam cracker facilities are assumed to be worldscale at 1000kt of ethylene; polyethylene plants are 350kt
3. Propane dehydrogenation unit is taken as 350 kta as is the PP unit
4. Ethane pricing in Saudi assumes \$0.75/MMBTU and in Iran \$1.25/MMBTU
5. Propane and naphtha (gas liquid source) pricing in Saudi is according to the discount formula; in Iran pricing uses market netbacks
6. The mix of polyolefin sales is taken to be 80% to Asia and 20% to Europe; delivered pricing is assumed to be the same as a local producer
7. Freight rates for polymers and olefins refer to estimated spot sea freight; other components of the distribution cost are built into the models
8. ROI is before any allowance for depreciation
9. It is assumed that Capital Costs in Saudi Arabia are 1.1 x U.S. Gulf coast and in Iran 0.9 x U.S. Gulf Coast
10. Integrated MEG costs can on occasion be less than ethylene cost due to the credits from DEG and TEG.

West European Ethylene Supply/Demand ktons Ethylene

| Notes | Supply | | | | | | | Balance | | | | | |
|---------|----------|--------|----------------|-------|--------|-------|--------|---------|--------|--------------|-------------|-------------|----------------|
| | Capacity | | Operating Rate | | Losses | | Prod. | Imports | Supply | Prod. Demand | Dom. Demand | Net Exports | Invent. Change |
| | Name. | Eff. | Name. | Eff. | Maint. | Tech. | | | | | | | |
| 10 Dec | 2,048 | 1,965 | 80% | 83% | 0.0% | 4.1% | 1,635 | 10 | 1,645 | 1,635 | 1,620 | -5 | 0 |
| 11 Jan | 2,048 | 1,968 | 86% | 89% | 0.0% | 3.9% | 1,752 | 15 | 1,767 | 1,752 | 1,742 | -10 | 20 |
| Feb | 1,850 | 1,760 | 86% | 90% | 0.0% | 4.9% | 1,586 | 25 | 1,611 | 1,586 | 1,636 | -20 | -30 |
| Mar | 2,048 | 1,889 | 83% | 90% | 2.5% | 5.2% | 1,697 | 10 | 1,707 | 1,697 | 1,702 | -5 | 0 |
| Apr | 1,982 | 1,791 | 81% | 90% | 4.4% | 5.2% | 1,607 | 10 | 1,617 | 1,607 | 1,612 | -5 | 0 |
| | | | | | | | | | | | | | |
| 10 Dec | -0.5% | 1.0% | 10.1% | 8.5% | | | 9.6% | | 10.2% | | | | |
| 11 Jan | -0.5% | 3.4% | 5.1% | 1.1% | | | 4.6% | | 4.6% | | | | |
| 11 Feb | -0.5% | 2.3% | -0.6% | -3.3% | | | -1.1% | | 0.1% | | | | |
| 11 Q1 | 5,946 | 5,617 | 85% | 90% | 0.9% | 4.7% | 5,035 | 50 | 5,085 | 5,035 | 5,080 | -35 | -10 |
| Q2 | 6,012 | 5,488 | 83% | 91% | 3.5% | 5.2% | 4,977 | 30 | 5,007 | 4,977 | 4,992 | -15 | 0 |
| Q3 | 6,051 | 5,604 | 83% | 90% | 2.2% | 5.2% | 5,019 | 30 | 5,049 | 5,019 | 5,034 | -15 | 0 |
| Q4 | 5,951 | 5,374 | 80% | 89% | 1.9% | 7.8% | 4,785 | 30 | 4,815 | 4,785 | 4,770 | -15 | 30 |
| 12 Q1 | 5,865 | 5,456 | 84% | 90% | 0.7% | 6.2% | 4,933 | 30 | 4,963 | 4,933 | 4,948 | -15 | 0 |
| Q2 | 5,865 | 5,475 | 84% | 89% | 2.0% | 4.6% | 4,899 | 30 | 4,929 | 4,899 | 4,914 | -15 | 0 |
| Q3 | 5,929 | 5,454 | 83% | 91% | 2.7% | 5.3% | 4,941 | 30 | 4,971 | 4,941 | 4,956 | -15 | 0 |
| Q4 | 5,929 | 5,373 | 79% | 87% | 2.0% | 7.4% | 4,668 | 30 | 4,698 | 4,668 | 4,683 | -15 | 0 |
| 2009 | 24,233 | 22,880 | 77% | 82% | 1.7% | 3.9% | 18,768 | 112 | 18,880 | 18,768 | 18,688 | -32 | 112 |
| 2010 | 24,193 | 22,653 | 84% | 90% | 1.7% | 4.7% | 20,274 | 209 | 20,483 | 20,274 | 20,044 | -39 | 163 |
| 2011 | 23,959 | 22,082 | 83% | 90% | 2.1% | 5.7% | 19,817 | 140 | 19,957 | 19,817 | 19,877 | -80 | 20 |
| 2012 | 23,587 | 21,757 | 82% | 89% | 1.9% | 5.9% | 19,442 | 120 | 19,562 | 19,442 | 19,502 | -60 | 0 |
| | | | | | | | | | | | | | |
| 09 - 10 | -0.2% | -1.0% | 8.2% | 9.1% | | | 8.0% | | 8.5% | 8.0% | 7.3% | | |
| 10 - 11 | -1.0% | -2.5% | -1.3% | 0.3% | | | -2.3% | | -2.6% | -2.3% | -0.8% | | |
| 11 - 12 | -1.6% | -1.5% | -0.3% | -0.4% | | | -1.9% | | -2.0% | -1.9% | -1.9% | | |

| Notes | Demand | | | | | | | | | | Domestic Demand | Exports | Total Demand |
|---------|---------------|---------------|-------|----------------|--------|-------|--------|---------------|--------|-----|-----------------|---------|--------------|
| | Alpha Olefins | Ethyl-benzene | EDC | Ethylene Oxide | HDPE | LDPE | LLDPE | Vinyl Acetate | Others | | | | |
| | 10 Dec | 59 | 101 | 221 | 152 | 360 | 384 | 210 | 22 | 109 | | | |
| 11 Jan | 63 | 105 | 249 | 152 | 380 | 400 | 250 | 23 | 119 | | 1,742 | 5 | 1,747 |
| Feb | 58 | 108 | 246 | 137 | 345 | 407 | 201 | 21 | 111 | | 1,636 | 5 | 1,641 |
| Mar | 62 | 116 | 246 | 152 | 366 | 419 | 202 | 23 | 117 | | 1,702 | 5 | 1,707 |
| Apr | 59 | 118 | 233 | 147 | 332 | 398 | 190 | 22 | 113 | | 1,612 | 5 | 1,617 |
| | | | | | | | | | | | | | |
| 10 Dec | 1.0% | -5.8% | 13.5% | 17.3% | -5.3% | 11.4% | 7.1% | 13.2% | 21.2% | | 6.4% | | 6.7% |
| J - Jan | -0.2% | 4.2% | 14.1% | 1.4% | -3.5% | 10.1% | 19.4% | -0.6% | 4.0% | | 6.4% | | 6.2% |
| J - Feb | -0.1% | -0.9% | 4.7% | 5.7% | -12.6% | 21.7% | -6.7% | -0.7% | 4.2% | | 1.9% | | 1.9% |
| 11 Q1 | 183 | 329 | 741 | 442 | 1,091 | 1,226 | 654 | 67 | 347 | | 5,080 | 15 | 5,095 |
| Q2 | 180 | 355 | 725 | 447 | 1,052 | 1,237 | 589 | 66 | 341 | | 4,992 | 15 | 5,007 |
| Q3 | 179 | 366 | 706 | 452 | 1,081 | 1,259 | 586 | 66 | 340 | | 5,034 | 15 | 5,049 |
| Q4 | 178 | 343 | 665 | 452 | 975 | 1,185 | 562 | 66 | 344 | | 4,770 | 15 | 4,785 |
| 12 Q1 | 169 | 330 | 746 | 442 | 975 | 1,294 | 573 | 68 | 351 | | 4,948 | 15 | 4,963 |
| Q2 | 166 | 356 | 737 | 443 | 971 | 1,269 | 560 | 67 | 345 | | 4,914 | 15 | 4,929 |
| Q3 | 165 | 367 | 717 | 448 | 1,000 | 1,293 | 555 | 67 | 344 | | 4,956 | 15 | 4,971 |
| Q4 | 165 | 344 | 675 | 448 | 890 | 1,217 | 530 | 67 | 347 | | 4,683 | 15 | 4,698 |
| 2009 | 715 | 1,249 | 2,591 | 1,375 | 4,736 | 4,106 | 2,583 | 233 | 1,100 | | 18,688 | 80 | 18,768 |
| 2010 | 723 | 1,383 | 2,834 | 1,779 | 4,786 | 4,289 | 2,661 | 268 | 1,320 | | 20,044 | 170 | 20,214 |
| 2011 | 721 | 1,392 | 2,837 | 1,792 | 4,199 | 4,908 | 2,391 | 266 | 1,373 | | 19,877 | 60 | 19,937 |
| 2012 | 665 | 1,396 | 2,875 | 1,782 | 3,836 | 5,073 | 2,218 | 270 | 1,387 | | 19,502 | 60 | 19,562 |
| | | | | | | | | | | | | | |
| 09 - 10 | 1.1% | 10.8% | 9.4% | 29.4% | 1.0% | 4.5% | 3.0% | 15.1% | 20.0% | | 7.3% | | 7.7% |
| 10 - 11 | -0.3% | 0.6% | 0.1% | 0.7% | -12.3% | 14.4% | -10.2% | -0.8% | 4.0% | | -0.8% | | -1.4% |
| 11 - 12 | -7.7% | 0.3% | 1.3% | -0.6% | -8.6% | 3.4% | -7.2% | 1.5% | 1.0% | | -1.9% | | -1.9% |

Growth Rates marked in Grey: monthly are on the same month against the previous year; the annual are versus previous year total.

West European Propylene Supply/Demand ktons Propylene

| Notes | Supply | | | | | | | Balance | | | |
|---------|---------------------|------|-------------------|------------------|--------|---------|--------|---------|-------------|-------------|----------------|
| | Steam Cracker Prod. | P/E | Cat Cracker Prod. | On Purpose Prod. | Prod. | Imports | Supply | Prod. | Dom. Demand | Net Exports | Invent. Change |
| 10 Dec | 832 | 0.51 | 335 | 32 | 1,198 | 5 | 1,203 | 1,198 | 1,193 | 15 | -10 |
| 11 Jan | 879 | 0.50 | 361 | 10 | 1,249 | 5 | 1,254 | 1,249 | 1,216 | 10 | 23 |
| Feb | 787 | 0.50 | 320 | 40 | 1,147 | 5 | 1,152 | 1,147 | 1,167 | 10 | -30 |
| Mar | 836 | 0.49 | 331 | 48 | 1,215 | 5 | 1,220 | 1,215 | 1,237 | 10 | -32 |
| Apr | 779 | 0.48 | 324 | 48 | 1,151 | 5 | 1,156 | 1,151 | 1,178 | 10 | -38 |
| 10 Dec | 5.9% | | -7.6% | -16% | 0.0% | | 0.2% | | | | |
| 11 Jan | 3.5% | | -1.4% | -75% | -1.3% | | -1.9% | | | | |
| 11 Feb | -2.4% | | 5.1% | 100% | 0.4% | | -0.5% | | | | |
| 11 Q1 | 2,502 | 0.50 | 1,011 | 98 | 3,612 | 15 | 3,627 | 3,612 | 3,620 | 30 | -38 |
| Q2 | 2,420 | 0.49 | 1,040 | 144 | 3,604 | 15 | 3,619 | 3,604 | 3,596 | 30 | -22 |
| Q3 | 2,481 | 0.49 | 1,081 | 144 | 3,706 | 15 | 3,721 | 3,706 | 3,524 | 115 | 67 |
| Q4 | 2,384 | 0.50 | 1,081 | 144 | 3,609 | 15 | 3,624 | 3,609 | 3,530 | 75 | 4 |
| 12 Q1 | 2,462 | 0.50 | 1,033 | 144 | 3,639 | 15 | 3,654 | 3,639 | 3,545 | 90 | 4 |
| Q2 | 2,393 | 0.49 | 1,044 | 144 | 3,582 | 15 | 3,597 | 3,582 | 3,553 | 90 | -61 |
| Q3 | 2,480 | 0.50 | 1,056 | 144 | 3,679 | 15 | 3,694 | 3,679 | 3,477 | 90 | 113 |
| Q4 | 2,359 | 0.51 | 1,056 | 144 | 3,559 | 15 | 3,574 | 3,559 | 3,487 | 90 | -18 |
| 2009 | 9,550 | 0.51 | 4,292 | 585 | 14,426 | 114 | 14,541 | 14,426 | 14,316 | 175 | -65 |
| 2010 | 10,178 | 0.50 | 4,224 | 629 | 15,031 | 113 | 15,144 | 15,031 | 14,882 | 137 | 12 |
| 2011 | 9,787 | 0.49 | 4,213 | 530 | 14,530 | 60 | 14,590 | 14,530 | 14,270 | 250 | 11 |
| 2012 | 9,695 | 0.50 | 4,188 | 576 | 14,459 | 60 | 14,519 | 14,459 | 14,062 | 360 | 38 |
| 09 - 10 | 6.6% | | -1.6% | 8% | 4.2% | | 4.1% | 4.2% | 4.0% | | |
| 10 - 11 | -3.8% | | -0.3% | -16% | -3.3% | | -3.7% | -3.3% | -4.1% | | |
| 11 - 12 | -0.9% | | -0.6% | 9% | -0.5% | | -0.5% | -0.5% | -1.5% | | |

| Notes | Demand | | | | | | | | | | | | | |
|---------|--------------|-------|--------|-------------|------|-----------|-------|-------|-------|--------|----------|-------------|---------|--------------|
| | Acrylic Acid | ACN | Cumene | Isopropanol | 2 EH | n-Butanol | Olig. | PP | POX | Others | Co-Crack | Dom. Demand | Exports | Total Demand |
| 10 Dec | 55 | 71 | 95 | 33 | 38 | 38 | 34 | 650 | 150 | 30 | 0 | 1,193 | 20 | 1,213 |
| 11 Jan | 50 | 70 | 99 | 25 | 34 | 35 | 32 | 694 | 144 | 34 | 0 | 1,216 | 15 | 1,231 |
| Feb | 46 | 66 | 99 | 31 | 32 | 34 | 30 | 647 | 146 | 36 | 0 | 1,167 | 15 | 1,182 |
| Mar | 50 | 69 | 102 | 41 | 35 | 38 | 32 | 686 | 146 | 38 | 0 | 1,237 | 15 | 1,252 |
| Apr | 49 | 72 | 106 | 33 | 36 | 35 | 31 | 623 | 159 | 35 | 0 | 1,178 | 15 | 1,193 |
| 10 Dec | 5.0% | 24.6% | 0.2% | 0.0% | 0.0% | 1.0% | 3.0% | -1.1% | 6.5% | 3.0% | | 1.8% | | 1.8% |
| J - Jan | 1.0% | -0.5% | 4.4% | 0.0% | 2.0% | 0.0% | 0.0% | -2.1% | 3.8% | 3.0% | | -0.3% | | -1.1% |
| J - Feb | 1.0% | -0.5% | 3.1% | 0.0% | 2.0% | 0.0% | 0.0% | 0.6% | 3.6% | 3.0% | | 1.2% | | 1.0% |
| 11 Q1 | 146 | 205 | 300 | 97 | 101 | 106 | 93 | 2,027 | 437 | 108 | 0 | 3,620 | 45 | 3,665 |
| Q2 | 148 | 221 | 313 | 98 | 102 | 107 | 94 | 1,926 | 487 | 100 | 0 | 3,596 | 45 | 3,641 |
| Q3 | 178 | 216 | 307 | 95 | 114 | 112 | 104 | 1,866 | 442 | 91 | 0 | 3,524 | 130 | 3,654 |
| Q4 | 172 | 214 | 292 | 95 | 114 | 114 | 101 | 1,859 | 475 | 92 | 0 | 3,530 | 90 | 3,620 |
| 12 Q1 | 147 | 208 | 303 | 97 | 102 | 108 | 93 | 1,935 | 441 | 111 | 0 | 3,545 | 105 | 3,650 |
| Q2 | 150 | 225 | 313 | 98 | 103 | 108 | 94 | 1,868 | 491 | 103 | 0 | 3,553 | 105 | 3,658 |
| Q3 | 180 | 220 | 308 | 95 | 115 | 113 | 104 | 1,804 | 445 | 93 | 0 | 3,477 | 105 | 3,582 |
| Q4 | 174 | 218 | 298 | 95 | 115 | 115 | 101 | 1,797 | 479 | 95 | 0 | 3,487 | 105 | 3,592 |
| 2009 | 546 | 752 | 1,182 | 311 | 394 | 402 | 381 | 8,486 | 1,481 | 341 | 40 | 14,316 | 290 | 14,606 |
| 2010 | 638 | 859 | 1,196 | 384 | 423 | 439 | 393 | 8,396 | 1,773 | 351 | 0 | 14,882 | 250 | 15,132 |
| 2011 | 645 | 856 | 1,212 | 384 | 432 | 439 | 393 | 7,677 | 1,841 | 351 | 0 | 14,270 | 310 | 14,580 |
| 2012 | 651 | 870 | 1,222 | 384 | 436 | 444 | 393 | 7,404 | 1,855 | 403 | 0 | 14,062 | 420 | 14,482 |
| 09 - 10 | 16.9% | 14.3% | 1.2% | 23.5% | 7.3% | 9.3% | 3.0% | -1.1% | 19.7% | 3.0% | | 4.0% | | 3.6% |
| 10 - 11 | 1.0% | -0.4% | 1.3% | 0.0% | 2.0% | 0.0% | 0.0% | -8.6% | 3.8% | 0.0% | | -4.1% | | -3.6% |
| 11 - 12 | 1.0% | 1.7% | 0.8% | 0.0% | 1.0% | 1.0% | 0.0% | -3.6% | 0.8% | 14.8% | | -1.5% | | -0.7% |

Growth Rates marked in Grey: monthly are on the same month against the previous year; the annual are versus previous year total.

West European Steam Cracker Shutdowns

| kt Ethylene | | Cap. | Production Lost | | | | | | | | | | | | | | | | |
|---|--------------------|-------------------|-----------------|------------|------------|------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|--|
| 2011 | | 2010 | 2011 | | | | | | | | | | 2009 | 2010 | 2011 | | | | |
| Maintenance losses | | Feb | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | kt | | | |
| Technical losses | | kt/yr | | | | | | | | | | | | | | | | | |
| Austria | | | | | | | | | | | | | | | | | | | |
| OMV | Schwechat | 500 | | | | | | | | | | 36 | 14 | | | | | 49 | |
| Belgium | | | | | | | | | | | | | | | | | | | |
| BASF | Antwerp | 1080 | | | | | | | | | | | | | | 21 | 41 | | |
| FAO | Antwerp No.1 | 230 | | | | | | | | | | | | | | | | | |
| FAO | Antwerp No.2 | 570 | | 23 | 41 | 8 | 47 | 16 | | | | | | | | | 64 | 78 | |
| FAO | Antwerp No.3 | 580 | | | | | | | 19 | | | | | | | 65 | | 25 | |
| Finland | | | | | | | | | | | | | | | | | | | |
| Borealis | Porvoo | 380 | | 10 | | | | | | | | | | | | | 10 | | |
| France | | | | | | | | | | | | | | | | | | | |
| AP Feyzin | Feyzin | 240 | | | 2 | 5 | 10 | | | | | | | | | 41 | | 20 | |
| Total | Carling No.1 | 340 | | | 1 | 7 | 14 | | | | | | | | | 157 | | 115 | |
| Total | Gonfreville | 520 | | | 1 | 10 | 14 | | | | | | | | | 3 | | 64 | |
| Polimeri Europa | Dunkerque | 380 | 5 | 31 | 15 | 18 | 16 | | | | | | | | | 44 | 51 | 33 | |
| ExxonMobil | N.D.G. | 400 | 23 | 1 | 8 | 11 | | | | | | | | | | | | 43 | |
| LyondellBasell | Berre | 460 | | 1 | 9 | 13 | | | | | | | | | | | 58 | 23 | |
| Naphtachimie | Lavera | 740 | | | 20 | 30 | 30 | 10 | | | | | | | | 61 | | 120 | |
| Germany | | | | | | | | | | | | | | | | | | | |
| BASF | Ludwigshafen No.1 | 240 | | | | | | | | | | | | | | | | | |
| BASF | Ludwigshafen No.2 | 420 | | | | | | | | 24 | 24 | | | | | 8 | 45 | 48 | |
| Dow | Böhlen | 510 | | | | | 4 | | | | | | | | | | 67 | 4 | |
| Shell&DEA Oil | Heide | 108 | | | | | | | | | | | | | | 9 | | | |
| Shell&DEA Oil | Wesseling 2A | 260 | | | | | | | | | | | | | | 33 | 6 | 4 | |
| Shell&DEA Oil | Wesseling 2B | 260 | | | | | | | | | | | | | | 1 | | 6 | |
| LyondellBasell | Wesseling G4 | 260 | | | | | | 3 | | | | | | | | 30 | | 3 | |
| LyondellBasell | Wesseling G6 | 760 | | | | | 8 | 8 | | | | | | | | | | 8 | |
| Ineos | Dormagen No.4 | 530 | | | | | | | | | | | | | | 28 | 7 | 55 | |
| Ineos | Dormagen No.5 | 670 | | | | | | | | | | | | | | 7 | | | |
| OMV | Burghausen | 445 | | | | | | | | | | | | | | | | | |
| Ruhr Oel | Gelsenkirchen No.3 | 540 | | | | 7 | | | | | | | | | | | | 15 | |
| Ruhr Oel | Gelsenkirchen No.4 | 540 | | 24 | 38 | | | | | | | | | | | 27 | 62 | 7 | |
| LyondellBasell | Muenchmuenster | 300 | | | | | | | | | | | | | | 29 | | | |
| Italy | | | | | | | | | | | | | | | | | | | |
| Polimeri Europa | Porto Marghera | 490 | | | | | | | | | 7 | 40 | 19 | | | | | 66 | |
| Syndial | Porto Torres | 250 | | | | | | | | | | | | | | | | | |
| Polimeri Europa | Priolo | 745 | | | | | | | | | | | | | | 16 | | | |
| Polimeri Europa | Brindisi | 440 | | | | | | | | | | | | | | 61 | | | |
| Netherlands | | | | | | | | | | | | | | | | | | | |
| Dow | Terneuzen No.1 | 535 | | | | | | | | 22 | 31 | | | | | | | 53 | |
| Dow | Terneuzen No.2 | 590 | | | | | | 6 | 18 | | | | | | | | | 24 | |
| Dow | Terneuzen No.3 | 660 | | | | | | | | | | | | | | | | | |
| Sabice Europe | Geleen No.3 | 575 | | | | | | | | 30 | 33 | | | | | 28 | | 63 | |
| Sabice Europe | Geleen No.4 | 675 | | | | | | 13 | 6 | | | | | | | | | 18 | |
| Shell | Moerdijk | 940 | | | | | | | | | | | | | | 5 | 44 | | |
| Norway | | | | | | | | | | | | | | | | | | | |
| Noretyl | Rafnes | 575 | | | | | | | | | | | | | | | 19 | | |
| Portugal | | | | | | | | | | | | | | | | | | | |
| Repsol | Sines | 410 | 8 | | | | | | | | | | | | | | 11 | 8 | |
| Spain | | | | | | | | | | | | | | | | | | | |
| Dow | Tarragona | 670 | | | | | | | | | | | | | | | | 57 | |
| Repsol | Puertollano | 250 | | | | | | | | | | | | | | 24 | | | |
| Repsol | Tarragona | 640 | | | | | | | 18 | | | | | | | 60 | | 18 | |
| Sweden | | | | | | | | | | | | | | | | | | | |
| Borealis | Stenungsund | 610 | | | | | | | | | | | | | | 72 | 50 | | |
| UK | | | | | | | | | | | | | | | | | | | |
| Ineos | Grangemouth G4 | 330 | 19 | | | | 9 | 9 | | | | | | | | | | 28 | |
| Ineos | Grangemouth KG | 730 | 56 | | | | 6 | | | | | | | | | 56 | 80 | 60 | |
| ExxonMobil | Fawley | Shut down H2 2010 | | | | | | | | | | | | | | | | | |
| ExxonMobil/Shell | Mossmoran | 830 | | 23 | | | | | | | | | | | | | 23 | 23 | |
| Sabice Europe | Wilton | 865 | | | | | | | | | | | | | | 17 | | | |
| Others | | 40 | | | | | | | | | | | | | | | | | |
| <i>Confidential/Forecast Technical losses</i> | | | 25 | 30 | 30 | 25 | 30 | 40 | 30 | 101 | 103 | 88 | 123 | 104 | 99 | 340 | 330 | 1263 | |
| Total | | 24113 | 136 | 168 | 225 | 180 | 83 | 80 | 90 | 159 | 191 | 155 | 177 | 123 | 155 | 1353 | 1540 | 1877 | |
| Maintenance | | | 61 | 111 | 94 | 0 | 0 | 0 | 52 | 88 | 66 | 54 | 19 | 56 | 415 | 403 | 508 | | |
| Technical | | | 75 | 57 | 131 | 180 | 83 | 80 | 107 | 103 | 88 | 123 | 104 | 99 | 938 | 1138 | 1369 | | |
| Market | | | 102 | 233 | 158 | 132 | 330 | 216 | 174 | 191 | 184 | 230 | 97 | 205 | 230 | 4112 | 2379 | 2266 | |
| Maintenance % | | | 3.0 | 5.6 | 4.6 | 0.0 | 0.0 | 0.0 | 2.5 | 4.4 | 3.2 | 2.7 | 0.9 | 2.7 | 1.7 | 1.7 | 2.1 | | |
| Technical % | | | 3.6 | 2.9 | 6.4 | 9.1 | 4.1 | 3.9 | 4.9 | 5.2 | 5.2 | 4.3 | 6.2 | 5.1 | 4.8 | 3.9 | 4.7 | 5.7 | |
| Market % | | | 5.0 | 11.8 | 7.7 | 6.7 | 16.1 | 10.5 | 9.4 | 9.3 | 9.3 | 11.3 | 4.9 | 10.0 | 11.2 | 17.0 | 9.8 | 9.5 | |
| Capacity Nameplate | | | 2058 | 1982 | 2048 | 1982 | 2048 | 2048 | 1850 | 2048 | 1982 | 2048 | 1982 | 2048 | 2048 | 24233 | 24193 | 23959 | |

European Steam Cracker Turnarounds

| Company | Site | Capacity kta | Planned Shutdown Dates | Period weeks |
|------------------|---------------------|-----------------|------------------------|-----------------|
| 2010 | | | | |
| LyondellBasell | Berre | 460 | March-April | 6 |
| Repsol | Puertollano | 250 | Mid March - Mid June | 13 |
| Dow | Böhlen | 510 | April-May | 6 |
| Ineos | Dormagen No.4 | 530 | April-May | 1 |
| Ineos | Grangemouth KG | 730 | August | 4 |
| ExxonMobil/Shell | Mossmoran | 830 | September | 1 1/2 |
| Polimeri Europa | Dunkerque | 380 | August-October | 7 |
| Borealis | Porvoo | 380 | September | 1 1/2 |
| FAO | Antwerp NC2 | 570 | September-November | 6 |
| Ruhr Oel | Gelsenkirchen No. 4 | 540 | September-November | 6 |
| 2011 | | | | |
| Dow | Terneuzen No.1 | 535 | March-April | 5 |
| Sabic | Geleen No.3 | 575 | March-April | 5 |
| OMV | Schwechat | 500 | May-June | 7 |
| Polimeri Europa | Pora Marghera | 490 | May-July | 7 |
| BASF | Ludwigshafen No.2 | 420 | April-May | 6 |
| Ineos | Grangemouth KG | 530 | August | 4* |
| ExxonMobil/Shell | Mossmoran | 830 | September | 1 1/2* |
| Ineos | Dormagen No.4 | 530 | September-November | 8* |
| Total | Gonfreville | 520 | September- November | 6-7 |

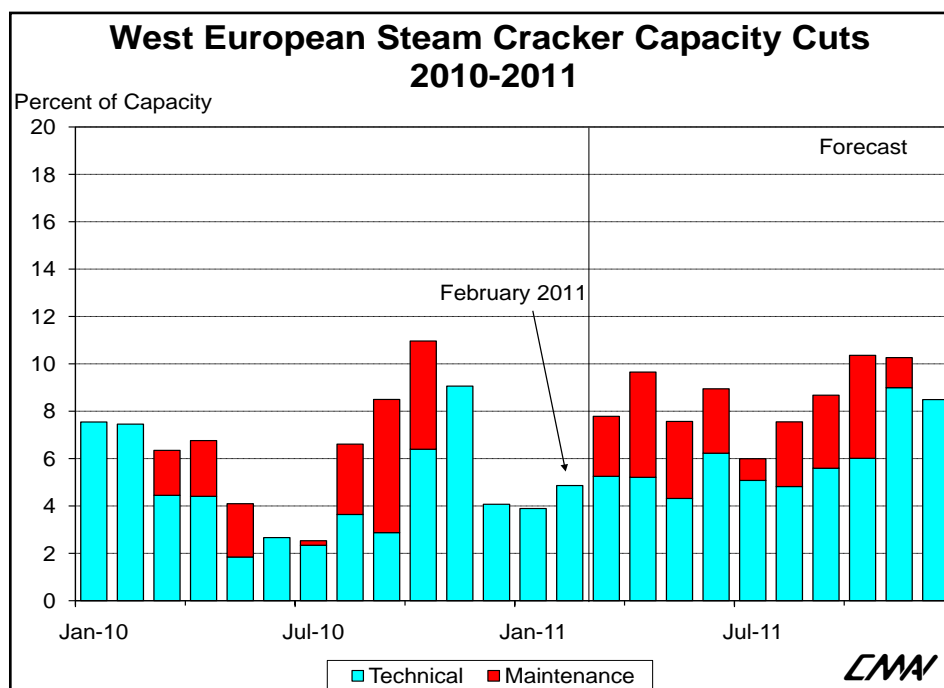
*Estimates

Europe Refinery Splitter and Related FCC and other Turnarounds[†]

| Company | Site | Split. Cap. kt/yr | Planned Shutdown Dates | Period weeks |
|----------------------|---------------|----------------------|--|-----------------|
| 2010 | | | | |
| Petronor | Bilbao | 60 cg | End January | 6 |
| Shell | Stanlow | 190 pg | End January | 5 |
| LyondellBasell | Berre l'Etang | 105 cg | Mid January - Mid February | 4 |
| Miro | Karlsruhe | 40 cg | Mid February- end March | 6 |
| Shell | Pernis | 70 pg | Mid March-Mid May | 8 |
| Repsol | Puertollano | 60 cg | Mid March - Mid June | 13 |
| PCK Schwedt | Schwedt | 120 pg | Mid April - Mid May (280 kta post expansion) | 4* |
| Total | Dunkerque | 90 pg | April | 4* |
| Total | Leuna | 180 rg | April | 4* |
| ENI | Sannazzaro | 80 pg | May | 4 |
| Shell | Pernis | 250 pg | October-December | 11* |
| 2011 | | | | |
| Shell | Pernis | 70 pg | January-February | 8* |
| CEPSA | Huelva | 75 rg | March | 4* |
| Total | Antwerp | 215 cg | April to May | 6* |
| Lindsey Oil Refinery | Immingham | 140 cg | September-October | 6* |
| Total | Grandpuits | 45 rg | Mid January - Mid February | 6* |
| Total | Leuna | 180 rg | June to July | 6* |

*Estimates

† Data not fully available



Steam Cracker Turnarounds & Start-ups in the Middle East

| Location | Capacity kt 2011 | 2011 Turnaround | Expansion plans start-ups/current status |
|-----------------------------|---------------------|----------------------|--|
| IRAN | | | |
| Abadan PC | 28 | ---- | |
| Arak PC | 310 | ---- | |
| Bandar Imam PC | 550 | ---- | |
| Tabriz PC | 150 | ---- | |
| Amir Kabir PC, BI (O6) | 520 | ---- | |
| Marun PC, BI (O7) | 1,100 | ---- | Feedstock limited |
| Arya Sasol PC, BA (O9) | 1,000 | ---- | Feedstock limited |
| JAM PC, BA (O10) | 1,320 | ---- | Feedstock limited |
| Ilam PC (O13) | ---- | under construction | 458kt, start-up delayed to 2014 |
| Morvarid PC | ---- | ---- | Feedstock limitations |
| Gachsaran PC (O8) | ---- | construction delayed | 1000kt, severely delayed |
| Kavyan PC (O11) | ---- | ---- | 2MMt planned; EPC contract cancelled. Delayed to 2015+ |
| Persian Gulf PC (O12) | ---- | ---- | 530kt planned, bids requested. Start up 2015+ |
| IRAQ | | | |
| Government | 150 | ---- | Running at 60% rates, Studies on revamp ongoing |
| ISRAEL | | | |
| Carmel Olefins | 245 | ---- | |
| KUWAIT | | | |
| Equate | 920 | ---- | |
| TKOC | 850 | ---- | |
| OMAN | | | |
| OPIC | ---- | ---- | 900kt ethane cracker; delayed indefinitely |
| QATAR | | | |
| Q-Chem | 500 | ---- | |
| QAPCO | 720 | ---- | |
| RLOC | 1,300 | ---- | Reduced rates; Q-Chem II HDPE now running, Alpha Olefins pending |
| QP/ExxonMobil | ---- | ---- | 1.6MMt ethane cracker; 2016 |
| QP/Shell | ---- | ---- | 1.3MMt ethane cracker idea; 2016+ |
| SAUDI ARABIA | | | |
| Kemya | 810 | ---- | |
| Petrokemya 1 | 800 | ---- | |
| Petrokemya 2 | 800 | ---- | |
| Petrokemya 3 | 1,250 | ---- | |
| Sadaf | 1,280 | ---- | |
| Yanpet 1 | 875 | ---- | |
| Yanpet 2 | 950 | ---- | |
| JUPC | 1,350 | Q4 2011 | |
| Jubail ChevronPhillips | 300 | ---- | |
| SEPC, Al Jubail | 1,000 | ---- | |
| Yansab, Yanbu | 1,300 | ---- | |
| Petro-Rabigh, Rabigh | 1,250 | April 2011 | Stable operations in February |
| Sharq, Al Jubail | 1,000 | ---- | |
| Saudi Kayan, Al Jubail | 1,325 | ---- | Running at reasonable rates, HDPE unit operational |
| Saudi Polymers | ---- | under construction | 1.2MMt cracker 2012, was National ChevronPhillips |
| Saudi Aramco-Dow JV | ---- | ---- | 1.4MMt Ethane/Naphtha cracker; 2016. Relocated to Al Jubail. |
| TURKEY | | | |
| Petkim | 520 | ---- | |
| UNITED ARAB EMIRATES | | | |
| Borouge | 600 | ---- | |
| Borouge 2 | ---- | ---- | Stable operations though limitations on derivatives |
| Borouge 3 | ---- | ---- | 1.5 MMT end-2013. EPC contract awarded to Linde. |

Ethylene Trade for EU 15 excluding EFTA

Source = World Trade Atlas N.B.Data is not reconciled with other sources and should be used with caution

Exports kt

| | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------------------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 Sep | 0 | 0 | 13 | 0 | 3 | 0 | 0 | 0 | 0 | 16 |
| Oct | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 7 |
| Nov | 0 | 0 | 7 | 0 | 0 | 3 | 0 | 0 | 0 | 10 |
| Year 2008 to 2009 | 0 | 4 | 53 | 0 | 7 | 4 | 0 | 0 | 0 | 68 |
| Nov. 2010 | 0 | 0 | 71 | 0 | 3 | 3 | 0 | 2 | 0 | 79 |
| Year 2008 to 2009 | 0 | 58 | 85 | 0 | 9 | 13 | 0 | 0 | 0 | 165 |
| Total 2009 | 0 | 4 | 57 | 0 | 9 | 4 | 0 | 0 | 0 | 74 |
| | 0 | 0 | 72 | 0 | 3 | 3 | 0 | 2 | 0 | 80 |

Imports kt

| | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------------------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 Sep | 5 | 0 | 1 | 0 | 0 | 32 | 0 | 0 | 0 | 37 |
| Oct | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 24 |
| Nov | 14 | 0 | 1 | 0 | 0 | 10 | 0 | 0 | 0 | 25 |
| Year 2008 to 2009 | 62 | 0 | 8 | 0 | 9 | 201 | 0 | 0 | 0 | 281 |
| Nov. 2010 | 70 | 0 | 9 | 0 | 4 | 28 | 0 | 0 | 0 | 111 |
| Year 2008 to 2009 | 41 | 0 | 25 | 0 | 11 | 121 | 0 | 0 | 0 | 199 |
| Total 2009 | 62 | 0 | 8 | 0 | 9 | 207 | 0 | 0 | 0 | 286 |
| | 70 | 0 | 10 | 0 | 4 | 28 | 0 | 0 | 0 | 112 |

PVC Trade for EU 15 excluding EFTA

Exports kt

| | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------------------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 Sep | 3 | 4 | 33 | 15 | 3 | 27 | 7 | 2 | 1 | 94 |
| Oct | 3 | 4 | 31 | 15 | 2 | 21 | 4 | 1 | 1 | 83 |
| Nov | 2 | 3 | 28 | 13 | 2 | 19 | 7 | 2 | 1 | 77 |
| Year 2008 to 2009 | 39 | 37 | 239 | 127 | 81 | 222 | 32 | 19 | 6 | 802 |
| Nov. 2010 | 30 | 16 | 235 | 129 | 45 | 204 | 99 | 115 | 6 | 879 |
| Year 2008 to 2009 | 37 | 39 | 318 | 161 | 51 | 301 | 68 | 18 | 7 | 999 |
| Total 2009 | 42 | 39 | 245 | 133 | 93 | 244 | 56 | 20 | 7 | 878 |
| | 33 | 19 | 247 | 139 | 51 | 242 | 115 | 116 | 6 | 968 |

Imports kt

| | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------------------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 Sep | 17 | 1 | 26 | 0 | 0 | 2 | 0 | 0 | 0 | 45 |
| Oct | 14 | 0 | 14 | 0 | 0 | 1 | 0 | 0 | 0 | 29 |
| Nov | 11 | 1 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 25 |
| Year 2008 to 2009 | 115 | 12 | 203 | 0 | 6 | 7 | 0 | 16 | 12 | 371 |
| Nov. 2010 | 101 | 24 | 154 | 1 | 2 | 11 | 0 | 22 | 17 | 330 |
| Year 2008 to 2009 | 119 | 7 | 134 | 0 | 1 | 17 | 0 | 5 | 3 | 287 |
| Total 2009 | 119 | 13 | 216 | 0 | 6 | 7 | 0 | 18 | 14 | 395 |
| | 113 | 26 | 163 | 1 | 2 | 11 | 0 | 23 | 17 | 355 |

MEG Trade for EU 15 excluding EFTA

Exports kt

| | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------------------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 Sep | 0 | 0 | 17 | 0 | 2 | 0 | 0 | 0 | 0 | 19 |
| Oct | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| Nov | 0 | 0 | 22 | 0 | 1 | 0 | 0 | 0 | 0 | 23 |
| Year 2008 to 2009 | 1 | 1 | 135 | 0 | 7 | 11 | 0 | 6 | 5 | 167 |
| Nov. 2010 | 0 | 1 | 169 | 0 | 14 | 8 | 1 | 0 | 2 | 195 |
| Year 2008 to 2009 | 0 | 1 | 225 | 0 | 13 | 3 | 0 | 0 | 0 | 243 |
| Total 2009 | 1 | 1 | 147 | 0 | 8 | 11 | 0 | 6 | 5 | 180 |
| | 2 | 1 | 180 | 0 | 15 | 8 | 1 | 0 | 5 | 211 |

Imports kt

| | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------------------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 Sep | 13 | 3 | 1 | 1 | 0 | 40 | 1 | 0 | 0 | 59 |
| Oct | 5 | 4 | 1 | 0 | 0 | 44 | 8 | 0 | 0 | 62 |
| Nov | 8 | 2 | 1 | 0 | 0 | 57 | 1 | 0 | 0 | 69 |
| Year 2008 to 2009 | 16 | 29 | 54 | 19 | 0 | 275 | 0 | 9 | 2 | 404 |
| Nov. 2010 | 21 | 32 | 37 | 7 | 0 | 284 | 0 | 0 | 0 | 382 |
| Year 2008 to 2009 | 66 | 26 | 17 | 4 | 0 | 436 | 9 | 0 | 8 | 566 |
| Total 2009 | 17 | 24 | 55 | 19 | 0 | 321 | 0 | 10 | 2 | 449 |
| | 22 | 42 | 39 | 7 | 0 | 333 | 2 | 0 | 0 | 445 |

Propylene Trade for EU 15 excluding EFTA

Source = World Trade Atlas N.B.Data is not reconciled with other sources and should be used with caution

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 6 | 0 | 13 | 0 | 6 | 0 | 0 | 0 | 0 | 25 |
| | Oct | 0 | 0 | 8 | 0 | 10 | 0 | 0 | 0 | 0 | 18 |
| | Nov | 0 | 0 | 12 | 0 | 6 | 0 | 0 | 0 | 0 | 18 |
| Year | 2008 | 25 | 20 | 96 | 0 | 70 | 0 | 0 | 2 | 7 | 221 |
| | to 2009 | 3 | 0 | 151 | 0 | 77 | 16 | 0 | 11 | 18 | 277 |
| | Nov. 2010 | 3 | 0 | 151 | 0 | 77 | 16 | 0 | 11 | 18 | 277 |
| Year | 2008 | 25 | 20 | 100 | 0 | 73 | 9 | 0 | 2 | 11 | 241 |
| Total | 2009 | 5 | 0 | 162 | 0 | 84 | 16 | 0 | 11 | 18 | 296 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 3 |
| | Oct | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 6 |
| | Nov | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 13 |
| Year | 2008 | 9 | 26 | 53 | 9 | 58 | 4 | 0 | 0 | 0 | 160 |
| | to 2009 | 10 | 17 | 4 | 3 | 71 | 2 | 0 | 4 | 0 | 112 |
| | Nov. 2010 | 4 | 16 | 14 | 3 | 66 | 0 | 4 | 0 | 0 | 108 |
| Year | 2008 | 9 | 26 | 54 | 9 | 64 | 4 | 0 | 0 | 0 | 166 |
| Total | 2009 | 10 | 17 | 4 | 3 | 74 | 2 | 0 | 4 | 0 | 114 |

Polypropylene Trade for EU 15 excluding EFTA

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 2 | 2 | 33 | 5 | 3 | 24 | 1 | 7 | 5 | 80 |
| | Oct | 2 | 1 | 34 | 5 | 3 | 26 | 0 | 7 | 4 | 82 |
| | Nov | 2 | 1 | 34 | 5 | 2 | 35 | 1 | 10 | 3 | 92 |
| Year | 2008 | 30 | 16 | 357 | 44 | 80 | 387 | 12 | 78 | 20 | 1025 |
| | to 2009 | 25 | 13 | 323 | 40 | 101 | 383 | 88 | 234 | 55 | 1261 |
| | Nov. 2010 | 27 | 15 | 336 | 48 | 37 | 292 | 11 | 110 | 37 | 913 |
| Year | 2008 | 32 | 16 | 378 | 47 | 85 | 406 | 13 | 82 | 20 | 1080 |
| Total | 2009 | 28 | 15 | 351 | 44 | 107 | 409 | 90 | 260 | 57 | 1361 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 4 | 5 | 32 | 0 | 3 | 35 | 4 | 1 | 1 | 85 |
| | Oct | 4 | 4 | 25 | 0 | 4 | 35 | 4 | 2 | 1 | 79 |
| | Nov | 4 | 5 | 19 | 0 | 4 | 32 | 3 | 1 | 0 | 68 |
| Year | 2008 | 77 | 16 | 251 | 6 | 23 | 120 | 15 | 13 | 8 | 530 |
| | to 2009 | 31 | 21 | 247 | 7 | 24 | 177 | 16 | 7 | 9 | 538 |
| | Nov. 2010 | 31 | 41 | 274 | 3 | 20 | 343 | 41 | 12 | 6 | 772 |
| Year | 2008 | 80 | 17 | 281 | 6 | 24 | 138 | 17 | 14 | 11 | 588 |
| Total | 2009 | 33 | 22 | 270 | 8 | 26 | 198 | 17 | 7 | 10 | 591 |

ACN Trade for EU 15 excluding EFTA

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 0 | 0 | 0 | 0 | 0 | 6 | 2 | 0 | 0 | 8 |
| | Oct | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| | Nov | 0 | 0 | 0 | 0 | 4 | 7 | 0 | 3 | 0 | 14 |
| Year | 2008 | 10 | 0 | 0 | 0 | 0 | 59 | 28 | 20 | 0 | 117 |
| | to 2009 | 5 | 0 | 0 | 0 | 4 | 70 | 0 | 9 | 0 | 88 |
| | Nov. 2010 | 0 | 0 | 0 | 0 | 34 | 69 | 3 | 3 | 0 | 109 |
| Year | 2008 | 10 | 0 | 0 | 0 | 0 | 59 | 28 | 21 | 0 | 118 |
| Total | 2009 | 5 | 0 | 0 | 0 | 4 | 73 | 0 | 9 | 0 | 92 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 8 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 11 |
| | Oct | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| | Nov | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 7 |
| Year | 2008 | 28 | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 36 |
| | to 2009 | 24 | 10 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 49 |
| | Nov. 2010 | 42 | 20 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 76 |
| Year | 2008 | 34 | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 41 |
| Total | 2009 | 27 | 10 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 52 |

LDPE Trade for EU 15 excluding EFTA

Source = World Trade Atlas N.B.Data is not reconciled with other sources and should be used with caution

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|--------------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 3 | 10 | 24 | 10 | 10 | 18 | 5 | 8 | 5 | 92 |
| | Oct | 2 | 14 | 26 | 9 | 9 | 11 | 4 | 10 | 6 | 91 |
| | Nov | 0 | 10 | 22 | 10 | 9 | 12 | 3 | 12 | 6 | 86 |
| Year to 2009 | 2008 | 21 | 31 | 224 | 63 | 125 | 132 | 25 | 114 | 51 | 785 |
| | 2009 | 11 | 23 | 219 | 66 | 157 | 141 | 41 | 173 | 54 | 887 |
| | Nov. 2010 | 14 | 80 | 259 | 96 | 91 | 133 | 32 | 128 | 57 | 889 |
| Year 2008 | | 23 | 34 | 238 | 66 | 137 | 142 | 27 | 120 | 54 | 840 |
| Total 2009 | | 11 | 25 | 238 | 72 | 166 | 152 | 44 | 203 | 59 | 970 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|--------------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 2 | 2 | 25 | 1 | 1 | 24 | 0 | 1 | 1 | 55 |
| | Oct | 2 | 0 | 19 | 1 | 0 | 30 | 0 | 1 | 1 | 54 |
| | Nov | 2 | 0 | 21 | 1 | 1 | 20 | 0 | 1 | 1 | 46 |
| Year to 2009 | 2008 | 51 | 13 | 269 | 6 | 10 | 81 | 0 | 9 | 6 | 444 |
| | 2009 | 29 | 21 | 221 | 5 | 4 | 222 | 3 | 6 | 3 | 515 |
| | Nov. 2010 | 22 | 10 | 241 | 3 | 4 | 361 | 0 | 6 | 7 | 654 |
| Year 2008 | | 53 | 13 | 290 | 6 | 11 | 94 | 1 | 10 | 6 | 484 |
| Total 2009 | | 32 | 23 | 239 | 5 | 4 | 247 | 3 | 7 | 4 | 564 |

LLDPE Trade for EU 15 excluding EFTA

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|--------------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 1 | 1 | 16 | 5 | 1 | 6 | 1 | 3 | 1 | 35 |
| | Oct | 1 | 1 | 16 | 6 | 1 | 7 | 0 | 5 | 1 | 38 |
| | Nov | 1 | 1 | 19 | 5 | 1 | 9 | 1 | 6 | 2 | 45 |
| Year to 2009 | 2008 | 11 | 3 | 188 | 38 | 20 | 42 | 7 | 37 | 14 | 360 |
| | 2009 | 13 | 4 | 169 | 52 | 27 | 69 | 13 | 66 | 9 | 422 |
| | Nov. 2010 | 12 | 8 | 183 | 55 | 17 | 73 | 8 | 42 | 25 | 424 |
| Year 2008 | | 11 | 3 | 203 | 40 | 22 | 45 | 7 | 42 | 14 | 387 |
| Total 2009 | | 14 | 4 | 186 | 57 | 29 | 77 | 14 | 76 | 10 | 467 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|--------------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 5 | 8 | 3 | 0 | 0 | 35 | 0 | 1 | 1 | 53 |
| | Oct | 4 | 9 | 2 | 0 | 1 | 38 | 0 | 1 | 0 | 57 |
| | Nov | 4 | 6 | 2 | 0 | 1 | 43 | 0 | 1 | 0 | 58 |
| Year to 2009 | 2008 | 67 | 62 | 23 | 4 | 6 | 617 | 9 | 13 | 7 | 808 |
| | 2009 | 33 | 66 | 24 | 2 | 2 | 354 | 1 | 8 | 3 | 492 |
| | Nov. 2010 | 36 | 62 | 30 | 2 | 3 | 355 | 2 | 8 | 3 | 498 |
| Year 2008 | | 70 | 69 | 25 | 4 | 6 | 675 | 11 | 14 | 7 | 881 |
| Total 2009 | | 35 | 69 | 26 | 2 | 3 | 378 | 1 | 8 | 3 | 524 |

HDPE Trade for EU 15 excluding EFTA

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|--------------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 1 | 11 | 33 | 22 | 11 | 22 | 2 | 8 | 1 | 111 |
| | Oct | 1 | 8 | 32 | 20 | 5 | 20 | 1 | 9 | 1 | 98 |
| | Nov | 1 | 4 | 32 | 20 | 5 | 21 | 1 | 4 | 1 | 90 |
| Year to 2009 | 2008 | 32 | 43 | 323 | 148 | 76 | 166 | 18 | 79 | 32 | 918 |
| | 2009 | 23 | 43 | 333 | 148 | 105 | 206 | 37 | 164 | 26 | 1084 |
| | Nov. 2010 | 22 | 83 | 341 | 208 | 89 | 207 | 29 | 114 | 14 | 1106 |
| Year 2008 | | 34 | 46 | 337 | 155 | 88 | 181 | 19 | 82 | 34 | 976 |
| Total 2009 | | 26 | 47 | 356 | 160 | 115 | 228 | 40 | 186 | 28 | 1187 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|--------------|-----------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 5 | 10 | 37 | 0 | 5 | 48 | 0 | 1 | 3 | 108 |
| | Oct | 4 | 7 | 33 | 0 | 5 | 53 | 0 | 1 | 3 | 106 |
| | Nov | 2 | 5 | 23 | 0 | 4 | 50 | 0 | 1 | 1 | 86 |
| Year to 2009 | 2008 | 129 | 64 | 392 | 7 | 79 | 327 | 8 | 8 | 45 | 1060 |
| | 2009 | 95 | 68 | 372 | 6 | 26 | 571 | 1 | 6 | 41 | 1186 |
| | Nov. 2010 | 73 | 75 | 372 | 5 | 38 | 698 | 0 | 6 | 23 | 1290 |
| Year 2008 | | 136 | 71 | 429 | 7 | 83 | 365 | 10 | 9 | 52 | 1162 |
| Total 2009 | | 106 | 73 | 409 | 6 | 28 | 615 | 2 | 6 | 43 | 1289 |

2-EH Trade for EU 15 excluding EFTA

Source = World Trade Atlas N.B.Data is not reconciled with other sources and should be used with caution

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Year | 2008 | 4 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 8 |
| | to | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nov. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Year | 2008 | 4 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 8 |
| Total | 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Year | 2008 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| | to | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nov. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Year | 2008 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| Total | 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

n-Butanol Trade for EU 15 excluding EFTA

Exports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 7 |
| | Oct | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 6 | 2 | 12 |
| | Nov | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 9 |
| Year | 2008 | 1 | 3 | 3 | 0 | 1 | 0 | 2 | 11 | 3 | 25 |
| | to | 0 | 0 | 2 | 0 | 1 | 0 | 7 | 30 | 2 | 42 |
| | Nov. | 7 | 10 | 6 | 0 | 1 | 1 | 2 | 54 | 2 | 83 |
| Year | 2008 | 1 | 3 | 3 | 0 | 1 | 0 | 2 | 11 | 3 | 25 |
| Total | 2009 | 0 | 1 | 2 | 0 | 1 | 1 | 8 | 43 | 2 | 57 |

Imports kt

| | | N.America | S.America | C.Europe | CIS & Baltic | Africa | M.East | Indian S.C. | N.E.Asia | S.E.Asia | World |
|-------|------|-----------|-----------|----------|--------------|--------|--------|-------------|----------|----------|-------|
| 2010 | Sep | 5 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 9 |
| | Oct | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| | Nov | 5 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 14 |
| Year | 2008 | 46 | 0 | 21 | 1 | 51 | 0 | 0 | 0 | 0 | 118 |
| | to | 37 | 0 | 14 | 2 | 27 | 0 | 0 | 0 | 0 | 82 |
| | Nov. | 45 | 0 | 8 | 0 | 45 | 0 | 0 | 0 | 0 | 98 |
| Year | 2008 | 49 | 0 | 22 | 1 | 56 | 0 | 0 | 0 | 0 | 128 |
| Total | 2009 | 50 | 0 | 16 | 2 | 32 | 0 | 0 | 0 | 0 | 101 |

Middle East/Africa Trade to EU 15 excluding EFTA Exports kt (based on import data)

Source = World Trade Atlas N.B.Data is not reconciled with other sources and should be used with caution

Ethylene

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Sep | 16 | 16 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 0 |
| | Oct | 0 | 19 | 0 | 4 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 |
| | Nov | 5 | 5 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| Year | 2008 | 88 | 95 | 0 | 0 | 0 | 18 | 201 | 0 | 0 | 9 | 0 | 9 |
| to | 2009 | 19 | 5 | 0 | 0 | 0 | 5 | 28 | 0 | 0 | 4 | 0 | 4 |
| Nov. | 2010 | 47 | 70 | 0 | 4 | 0 | 0 | 121 | 0 | 0 | 11 | 0 | 11 |
| Year | 2008 | 93 | 95 | 0 | 0 | 0 | 18 | 207 | 0 | 0 | 9 | 0 | 9 |
| Total | 2009 | 19 | 5 | 0 | 0 | 0 | 5 | 28 | 0 | 0 | 4 | 0 | 4 |

LLDPE

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Sep | 28 | 1 | 3 | 0 | 0 | 3 | 35 | 0 | 0 | 0 | 0 | 0 |
| | Oct | 32 | 0 | 2 | 0 | 0 | 4 | 38 | 0 | 1 | 0 | 0 | 1 |
| | Nov | 33 | 2 | 5 | 0 | 0 | 3 | 43 | 0 | 1 | 0 | 0 | 1 |
| Year | 2008 | 561 | 6 | 36 | 2 | 3 | 9 | 617 | 0 | 2 | 3 | 1 | 6 |
| to | 2009 | 309 | 12 | 19 | 0 | 0 | 14 | 354 | 0 | 0 | 1 | 1 | 2 |
| Nov. | 2010 | 272 | 18 | 31 | 0 | 0 | 34 | 355 | 0 | 3 | 0 | 0 | 3 |
| Year | 2008 | 615 | 7 | 38 | 2 | 3 | 9 | 675 | 0 | 2 | 3 | 1 | 6 |
| Total | 2009 | 328 | 13 | 22 | 0 | 0 | 15 | 378 | 0 | 0 | 2 | 1 | 3 |

HDPE

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Sep | 37 | 1 | 4 | 0 | 0 | 6 | 48 | 0 | 5 | 0 | 0 | 5 |
| | Oct | 41 | 3 | 3 | 0 | 0 | 7 | 53 | 0 | 5 | 0 | 0 | 5 |
| | Nov | 32 | 6 | 5 | 0 | 0 | 7 | 50 | 0 | 4 | 0 | 0 | 4 |
| Year | 2008 | 240 | 8 | 17 | 8 | 1 | 54 | 327 | 4 | 48 | 12 | 15 | 79 |
| to | 2009 | 416 | 59 | 20 | 1 | 2 | 72 | 571 | 0 | 24 | 2 | 1 | 26 |
| Nov. | 2010 | 409 | 163 | 45 | 0 | 1 | 81 | 698 | 0 | 37 | 0 | 1 | 38 |
| Year | 2008 | 269 | 10 | 17 | 8 | 1 | 60 | 365 | 4 | 52 | 12 | 15 | 83 |
| Total | 2009 | 445 | 65 | 25 | 1 | 2 | 77 | 615 | 0 | 26 | 2 | 1 | 28 |

MEG

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Sep | 33 | 1 | 6 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 |
| | Oct | 30 | 0 | 12 | 0 | 0 | 2 | 44 | 0 | 0 | 0 | 0 | 0 |
| | Nov | 38 | 12 | 5 | 0 | 0 | 2 | 57 | 0 | 0 | 0 | 0 | 0 |
| Year | 2008 | 194 | 24 | 39 | 0 | 0 | 19 | 275 | 0 | 0 | 0 | 0 | 0 |
| to | 2009 | 145 | 50 | 85 | 0 | 0 | 4 | 284 | 0 | 0 | 0 | 0 | 0 |
| Nov. | 2010 | 283 | 45 | 91 | 4 | 0 | 14 | 436 | 0 | 0 | 0 | 0 | 0 |
| Year | 2008 | 221 | 38 | 43 | 0 | 0 | 19 | 321 | 0 | 0 | 0 | 0 | 0 |
| Total | 2009 | 157 | 70 | 102 | 0 | 0 | 0 | 333 | 0 | 0 | 0 | 0 | 0 |

Propylene

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| | Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 |
| | Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 13 |
| Year | 2008 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 5 | 53 | 58 |
| to | 2009 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 69 | 71 |
| Nov. | 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 55 | 66 |
| Year | 2008 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 5 | 59 | 64 |
| Total | 2009 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 71 | 74 |

Polypropylene

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Sep | 26 | 0 | 1 | 0 | 6 | 1 | 35 | 0 | 0 | 0 | 3 | 3 |
| | Oct | 27 | 0 | 2 | 0 | 5 | 1 | 35 | 0 | 0 | 0 | 3 | 4 |
| | Nov | 25 | 1 | 1 | 0 | 5 | 1 | 32 | 0 | 0 | 0 | 4 | 4 |
| Year | 2008 | 55 | 0 | 0 | 0 | 59 | 6 | 120 | 1 | 2 | 0 | 20 | 23 |
| to | 2009 | 94 | 0 | 2 | 0 | 75 | 6 | 177 | 0 | 2 | 0 | 23 | 24 |
| Nov. | 2010 | 250 | 2 | 8 | 0 | 74 | 9 | 343 | 0 | 1 | 0 | 20 | 20 |
| Year | 2008 | 68 | 0 | 1 | 0 | 63 | 6 | 138 | 1 | 2 | 0 | 22 | 24 |
| Total | 2009 | 109 | 1 | 2 | 0 | 81 | 7 | 198 | 0 | 2 | 0 | 25 | 26 |

Middle East/Africa Trade to China Exports kt (based on import data)

Source = World Trade Atlas N.B.Data is not reconciled with other sources and should be used with caution

Ethylene

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Dec | 6 | 0 | 0 | 7 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 |
| 2011 | Jan | 14 | 18 | 0 | 4 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 |
| Year | 2009 | 0 | 18 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 |
| to | 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jan. | 2011 | 14 | 18 | 0 | 4 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 |
| Year | 2009 | 0 | 18 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 |
| Total | 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

LDPE and LLDPE

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|------|---------|-------|-------|----------|--------|
| 2010 | Nov | 73 | 32 | 8 | 7 | 0 | 15 | 135 | 0 | 0 | 0 | 1 | 1 |
| | Dec | 74 | 17 | 7 | 9 | 0 | 26 | 134 | 0 | 0 | 0 | 2 | 2 |
| 2011 | Jan | 52 | 25 | 8 | 4 | 0 | 20 | 110 | 0 | 0 | 1 | 3 | 4 |
| Year | 2009 | 38 | 9 | 3 | 4 | 0 | 27 | 81 | 0 | 0 | 0 | 0 | 0 |
| to | 2010 | 56 | 30 | 6 | 3 | 0 | 17 | 113 | 0 | 0 | 4 | 2 | 6 |
| Jan. | 2011 | 52 | 25 | 8 | 4 | 0 | 20 | 110 | 0 | 0 | 1 | 3 | 4 |
| Year | 2009 | 449 | 158 | 82 | 54 | 2 | 149 | 894 | 0 | 1 | 11 | 12 | 24 |
| Total | 2010 | 719 | 314 | 82 | 64 | 2 | 163 | 1343 | 0 | 0 | 8 | 5 | 13 |

HDPE

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|------|---------|-------|-------|----------|--------|
| 2010 | Nov | 45 | 35 | 13 | 27 | 0 | 13 | 133 | 0 | 1 | 0 | 1 | 2 |
| | Dec | 43 | 39 | 10 | 25 | 0 | 13 | 131 | 0 | 2 | 0 | 1 | 3 |
| 2011 | Jan | 44 | 69 | 7 | 23 | 0 | 13 | 155 | 0 | 1 | 0 | 4 | 5 |
| Year | 2009 | 40 | 11 | 2 | 4 | 0 | 11 | 68 | 0 | 2 | 0 | 0 | 2 |
| to | 2010 | 49 | 35 | 11 | 10 | 0 | 11 | 115 | 0 | 3 | 0 | 1 | 5 |
| Jan. | 2011 | 44 | 69 | 7 | 23 | 0 | 13 | 155 | 0 | 1 | 0 | 4 | 5 |
| Year | 2009 | 385 | 342 | 73 | 122 | 0 | 109 | 1032 | 0 | 24 | 2 | 10 | 35 |
| Total | 2010 | 461 | 475 | 120 | 181 | 0 | 114 | 1351 | 0 | 16 | 0 | 13 | 29 |

MEG

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|------|------|--------|-----|--------|----------|------|---------|-------|-------|----------|--------|
| 2010 | Nov | 231 | 37 | 25 | 3 | 0 | 0 | 296 | 0 | 0 | 0 | 0 | 0 |
| | Dec | 248 | 29 | 43 | 0 | 0 | 0 | 321 | 0 | 0 | 0 | 0 | 0 |
| 2011 | Jan | 315 | 40 | 21 | 5 | 0 | 0 | 381 | 0 | 0 | 0 | 0 | 0 |
| Year | 2009 | 170 | 24 | 47 | 0 | 0 | 0 | 241 | 0 | 0 | 0 | 0 | 0 |
| to | 2010 | 224 | 49 | 26 | 1 | 0 | 0 | 299 | 0 | 0 | 0 | 0 | 0 |
| Jan. | 2011 | 315 | 40 | 21 | 5 | 0 | 0 | 381 | 0 | 0 | 0 | 0 | 0 |
| Year | 2009 | 2336 | 378 | 355 | 3 | 0 | 0 | 3073 | 0 | 0 | 0 | 0 | 0 |
| Total | 2010 | 2795 | 417 | 316 | 11 | 0 | 0 | 3539 | 0 | 0 | 0 | 0 | 0 |

Propylene

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Dec | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2011 | Jan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Year | 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| to | 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jan. | 2011 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Year | 2009 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| Total | 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |

Polypropylene

| | | KSA | Iran | Kuwait | UAE | Israel | Oth. MDE | MDE | Algeria | Egypt | Libya | Oth Afr. | Africa |
|-------|------|-----|------|--------|-----|--------|----------|-----|---------|-------|-------|----------|--------|
| 2010 | Nov | 76 | 9 | 1 | 11 | 0 | 9 | 106 | 0 | 0 | 0 | 7 | 7 |
| | Dec | 89 | 6 | 4 | 13 | 0 | 3 | 115 | 0 | 0 | 0 | 6 | 6 |
| 2011 | Jan | 89 | 2 | 2 | 5 | 0 | 1 | 98 | 0 | 3 | 0 | 6 | 9 |
| Year | 2009 | 39 | 0 | 3 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 4 | 4 |
| to | 2010 | 54 | 4 | 3 | 0 | 0 | 2 | 63 | 0 | 1 | 0 | 5 | 6 |
| Jan. | 2011 | 89 | 2 | 2 | 5 | 0 | 1 | 98 | 0 | 3 | 0 | 6 | 9 |
| Year | 2009 | 441 | 41 | 26 | 3 | 5 | 67 | 584 | 0 | 15 | 0 | 78 | 93 |
| Total | 2010 | 686 | 80 | 26 | 26 | 2 | 73 | 893 | 0 | 9 | 0 | 77 | 86 |

| WEST EUROPE LDPE QUARTERLY SUPPLY/DEMAND | | | | | | | | | | | | | | | | | | | | | |
|---|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|------------|
| (Thousand Metric Tons) | | | | | | | | | | | | | | | | | | | | | |
| | 2010 | | | | 2011 | | | | 2012 | | | | 2010 | 2011 | 2012 | AAGR (%) | | | | | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 10 - 11 | 11 - 12 | | | |
| | SUPPLY | | | | | | | | | | | | | | | | | | | | |
| | Actual | | | | | | | | | | | | | | | | | | | | |
| Capacity | 1,401 | 1,468 | 1,454 | 1,454 | 1,422 | 1,438 | 1,454 | 1,454 | 1,434 | 1,434 | 1,450 | 1,450 | 1,434 | 1,434 | 1,450 | 1,450 | 5,776 | 5,767 | 5,767 | -0.2 | 0.0 |
| Operating Rate (%) | 73 | 72 | 76 | 76 | 85 | 85 | 86 | 80 | 89 | 87 | 88 | 83 | 89 | 87 | 88 | 83 | 73 | 84 | 87 | | |
| Production | 1,029 | 1,051 | 1,102 | 1,053 | 1,211 | 1,221 | 1,243 | 1,170 | 1,277 | 1,253 | 1,276 | 1,202 | 1,277 | 1,253 | 1,276 | 1,202 | 4,234 | 4,845 | 5,008 | 14.4 | 3.4 |
| Imports | 178 | 192 | 185 | 154 | 102 | 103 | 105 | 105 | 103 | 103 | 104 | 104 | 103 | 103 | 104 | 104 | 708 | 415 | 415 | -41.4 | 0.0 |
| Total Supply | 1,207 | 1,242 | 1,287 | 1,206 | 1,313 | 1,324 | 1,348 | 1,274 | 1,380 | 1,356 | 1,380 | 1,306 | 1,380 | 1,356 | 1,380 | 1,306 | 4,942 | 5,260 | 5,423 | 6.4 | 3.1 |
| | DEMAND | | | | | | | | | | | | | | | | | | | | |
| Film and Sheet | 642 | 666 | 646 | 643 | 653 | 665 | 679 | 629 | 688 | 671 | 685 | 635 | 688 | 671 | 685 | 635 | 2,598 | 2,626 | 2,679 | 1.1 | 2.0 |
| Injection Molding | 56 | 58 | 56 | 56 | 54 | 55 | 56 | 52 | 57 | 55 | 56 | 52 | 57 | 55 | 56 | 52 | 225 | 218 | 221 | -3.5 | 1.5 |
| Wire and Cable | 54 | 56 | 54 | 54 | 52 | 53 | 54 | 50 | 55 | 54 | 55 | 51 | 55 | 54 | 55 | 51 | 217 | 210 | 215 | -3.0 | 2.1 |
| Extrusion Coating | 112 | 116 | 113 | 112 | 112 | 114 | 116 | 108 | 117 | 115 | 117 | 108 | 117 | 115 | 117 | 108 | 454 | 449 | 457 | -1.2 | 1.9 |
| Blow Molding | 27 | 28 | 27 | 27 | 27 | 27 | 28 | 26 | 28 | 28 | 28 | 26 | 28 | 28 | 28 | 26 | 111 | 108 | 110 | -2.5 | 2.5 |
| Pipe/Conduit | 33 | 34 | 33 | 33 | 32 | 33 | 33 | 31 | 33 | 33 | 33 | 31 | 33 | 33 | 33 | 31 | 132 | 128 | 130 | -2.7 | 1.2 |
| Other | 48 | 50 | 49 | 48 | 47 | 48 | 49 | 45 | 50 | 49 | 50 | 46 | 50 | 49 | 50 | 46 | 195 | 190 | 194 | -2.9 | 2.4 |
| Domestic Demand | 972 | 1,009 | 978 | 974 | 977 | 995 | 1,015 | 942 | 1,028 | 1,004 | 1,024 | 950 | 1,028 | 1,004 | 1,024 | 950 | 3,932 | 3,929 | 4,007 | -0.1 | 2.0 |
| Exports | 238 | 230 | 244 | 271 | 325 | 329 | 333 | 333 | 352 | 352 | 356 | 356 | 352 | 352 | 356 | 356 | 982 | 1,320 | 1,416 | 34.4 | 7.3 |
| TOTAL DEMAND | 1,210 | 1,238 | 1,222 | 1,244 | 1,302 | 1,324 | 1,348 | 1,274 | 1,380 | 1,356 | 1,380 | 1,306 | 1,380 | 1,356 | 1,380 | 1,306 | 4,914 | 5,249 | 5,423 | 6.8 | 3.3 |
| NET | -3 | 4 | 65 | -38 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 11 | 0 | | |

| WEST EUROPE LLDPE QUARTERLY SUPPLY/DEMAND | | | | | | | | | | | | | | | | | |
|--|---------------|-----|-----|-----|-----------------|-----|-----|-----|-----------------|-----|-----|-----|-------|-------|-------|----------|---------|
| (Thousand Metric Tons) | | | | | | | | | | | | | | | | | |
| | 2010 | | | | 2011 | | | | 2012 | | | | 2010 | 2011 | 2012 | AAGR (%) | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 10 - 11 |
| SUPPLY | | | | | | | | | | | | | | | | | |
| | Actual | | | | Forecast | | | | Forecast | | | | | | | | |
| Capacity | 960 | 960 | 970 | 970 | 949 | 960 | 970 | 970 | 957 | 957 | 968 | 968 | 3,861 | 3,850 | 3,850 | -0.3 | 0.0 |
| Operating Rate (%) | 74 | 76 | 68 | 71 | 73 | 65 | 64 | 62 | 64 | 62 | 61 | 58 | 72 | 66 | 61 | | |
| Production | 710 | 729 | 658 | 691 | 695 | 627 | 623 | 598 | 610 | 595 | 590 | 564 | 2,787 | 2,543 | 2,360 | -8.8 | -7.2 |
| Imports | 104 | 137 | 143 | 154 | 222 | 224 | 227 | 227 | 286 | 286 | 289 | 289 | 537 | 900 | 1,150 | 67.6 | 27.8 |
| Total Supply | 814 | 866 | 800 | 844 | 917 | 851 | 850 | 825 | 896 | 881 | 879 | 853 | 3,324 | 3,443 | 3,510 | 3.6 | 1.9 |
| DEMAND | | | | | | | | | | | | | | | | | |
| Film and Sheet | 528 | 575 | 534 | 586 | 618 | 595 | 593 | 573 | 643 | 632 | 630 | 609 | 2,222 | 2,379 | 2,513 | 7.1 | 5.6 |
| Injection Molding | 34 | 37 | 34 | 37 | 38 | 37 | 36 | 35 | 38 | 38 | 38 | 36 | 142 | 146 | 150 | 3.3 | 2.7 |
| Wire and Cable | 14 | 15 | 14 | 15 | 16 | 15 | 15 | 14 | 16 | 16 | 16 | 15 | 58 | 60 | 62 | 2.5 | 4.1 |
| Blow Molding | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 15 | 14 | 15 | -0.8 | 5.2 |
| Pipe/Conduit | 30 | 32 | 30 | 33 | 34 | 33 | 32 | 31 | 34 | 34 | 34 | 32 | 125 | 130 | 134 | 3.8 | 3.0 |
| Coating | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 10 | 10 | 10 | -0.8 | 6.1 |
| Rotomolding | 39 | 43 | 40 | 44 | 43 | 41 | 41 | 40 | 44 | 43 | 43 | 41 | 165 | 166 | 171 | 0.4 | 3.1 |
| Other | 23 | 25 | 23 | 26 | 26 | 25 | 25 | 24 | 27 | 26 | 26 | 25 | 97 | 100 | 104 | 3.2 | 3.7 |
| Domestic Demand | 673 | 733 | 681 | 748 | 781 | 751 | 749 | 724 | 809 | 794 | 791 | 765 | 2,834 | 3,005 | 3,160 | 6.0 | 5.1 |
| Exports | 121 | 115 | 106 | 121 | 99 | 100 | 101 | 101 | 87 | 87 | 88 | 88 | 462 | 400 | 350 | -13.5 | -12.5 |
| TOTAL DEMAND | 794 | 848 | 786 | 868 | 879 | 851 | 850 | 825 | 896 | 881 | 879 | 853 | 3,296 | 3,405 | 3,510 | 3.3 | 3.1 |
| NET | 20 | 18 | 14 | -24 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 38 | 0 | | |

| WEST EUROPE HDPE QUARTERLY SUPPLY/DEMAND | | | | | | | | | | | | | | | | | | | |
|---|---------------|-------|-------|-------|-----------------|-------|-------|-------|-----------------|-------|-------|-------|-----------------|-------|-------|----------|---------|---------|-------|
| (Thousand Metric Tons) | | | | | | | | | | | | | | | | | | | |
| | 2010 | | | | 2011 | | | | 2012 | | | | 2010 | 2011 | 2012 | AAGR (%) | | | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 10 - 11 | 11 - 12 | |
| | Actual | | | | Forecast | | | | Forecast | | | | Forecast | | | | | | |
| SUPPLY | | | | | | | | | | | | | | | | | | | |
| Capacity | 1,356 | 1,372 | 1,360 | 1,360 | 1,330 | 1,345 | 1,360 | 1,360 | 1,341 | 1,341 | 1,341 | 1,356 | 1,356 | 1,356 | 5,448 | 5,395 | 5,395 | -1.0 | 0.0 |
| Operating Rate (%) | 89 | 85 | 91 | 80 | 81 | 77 | 78 | 71 | 71 | 71 | 71 | 73 | 65 | 77 | 86 | 77 | 70 | | |
| Production | 1,203 | 1,161 | 1,233 | 1,094 | 1,073 | 1,034 | 1,063 | 959 | 959 | 955 | 984 | 875 | 875 | 4,691 | 4,128 | 3,772 | | -12.0 | -8.6 |
| Imports | 363 | 354 | 382 | 351 | 444 | 449 | 454 | 454 | 535 | 535 | 540 | 540 | 540 | 1,450 | 1,800 | 2,150 | | 24.1 | 19.4 |
| Total Supply | 1,566 | 1,515 | 1,615 | 1,445 | 1,517 | 1,483 | 1,516 | 1,413 | 1,493 | 1,489 | 1,524 | 1,415 | 1,415 | 6,141 | 5,928 | 5,922 | | -3.5 | -0.1 |
| DEMAND | | | | | | | | | | | | | | | | | | | |
| Blow Moulding | 322 | 333 | 337 | 325 | 352 | 347 | 356 | 328 | 368 | 367 | 376 | 347 | 347 | 1,317 | 1,383 | 1,459 | | 5.0 | 5.5 |
| Injection Molding | 313 | 324 | 328 | 317 | 337 | 333 | 341 | 314 | 350 | 349 | 357 | 329 | 329 | 1,282 | 1,326 | 1,385 | | 3.4 | 4.5 |
| Wire and Cable | 19 | 19 | 19 | 19 | 20 | 19 | 20 | 18 | 20 | 20 | 20 | 19 | 19 | 76 | 77 | 79 | | 1.1 | 3.3 |
| Mono/Sheet Film | 39 | 40 | 41 | 39 | 41 | 40 | 41 | 38 | 42 | 42 | 43 | 40 | 40 | 160 | 159 | 166 | | -0.3 | 4.5 |
| Film & Sheet | 256 | 265 | 268 | 259 | 278 | 275 | 281 | 259 | 289 | 288 | 295 | 271 | 271 | 1,048 | 1,094 | 1,142 | | 4.3 | 4.5 |
| Pipe/Conduit | 212 | 219 | 222 | 214 | 228 | 225 | 231 | 212 | 236 | 236 | 242 | 222 | 222 | 867 | 896 | 936 | | 3.4 | 4.5 |
| Rotomolding | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 8 | 9 | 8 | 8 | 33 | 32 | 34 | | -1.5 | 3.8 |
| Other | 28 | 29 | 29 | 28 | 30 | 29 | 30 | 28 | 30 | 30 | 31 | 28 | 28 | 115 | 117 | 120 | | 1.9 | 2.4 |
| Domestic Demand | 1,197 | 1,237 | 1,253 | 1,210 | 1,293 | 1,277 | 1,309 | 1,205 | 1,344 | 1,340 | 1,373 | 1,264 | 1,264 | 4,897 | 5,083 | 5,322 | | 3.8 | 4.7 |
| Exports | 282 | 319 | 316 | 272 | 203 | 206 | 208 | 208 | 149 | 149 | 151 | 151 | 151 | 1,189 | 825 | 600 | | -30.6 | -27.3 |
| TOTAL DEMAND | 1,479 | 1,556 | 1,569 | 1,482 | 1,497 | 1,483 | 1,516 | 1,413 | 1,493 | 1,489 | 1,524 | 1,415 | 1,415 | 6,086 | 5,908 | 5,922 | | -2.9 | 0.2 |
| NET | 87 | -41 | 46 | -37 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55 | 20 | 0 | | | |

| WEST EUROPE PVC QUARTERLY SUPPLY/DEMAND (Thousand Metric Tons) | | | | | | | | | | | | | | | | | | |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|------------|------------|
| | 2010 | | | | 2011 | | | | 2012 | | | | 2010 | 2011 | 2012 | AAGR (%) | | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 10 - 11 | 11 - 12 |
| SUPPLY | | | | | | | | | | | | | | | | | | |
| Capacity | 1549 | 1,567 | 1,584 | 1,584 | 1,534 | 1,551 | 1,568 | 1,568 | 1,530 | 1,547 | 1,564 | 1,564 | 6,284 | 6,221 | 6,204 | | -1.0 | -0.3 |
| Operating Rate (%) | 81.8 | 87.4 | 83.2 | 81.6 | 89.0 | 85.9 | 82.5 | 77.2 | 90.1 | 87.9 | 84.3 | 78.8 | 83.5 | 83.6 | 85.2 | | | |
| Production | 1,267 | 1,369 | 1,318 | 1,292 | 1,365 | 1,332 | 1,294 | 1,211 | 1,379 | 1,359 | 1,318 | 1,232 | 5,246 | 5,202 | 5,288 | | -0.8 | 1.7 |
| Imports | 102 | 53 | 82 | 105 | 99 | 100 | 101 | 101 | 98 | 99 | 101 | 101 | 342 | 400 | 399 | | 16.8 | -0.3 |
| Total Supply | 1,369 | 1,422 | 1,400 | 1,397 | 1,464 | 1,432 | 1,394 | 1,312 | 1,477 | 1,458 | 1,419 | 1,333 | 5,588 | 5,602 | 5,687 | | 0.2 | 1.5 |
| DEMAND | | | | | | | | | | | | | | | | | | |
| RIGID | | | | | | | | | | | | | | | | | | |
| Pipe & Fittings | 268 | 276 | 267 | 248 | 283 | 280 | 271 | 252 | 296 | 292 | 282 | 262 | 1,059 | 1,087 | 1,132 | | 2.7 | 4.1 |
| Profiles | 359 | 371 | 359 | 333 | 395 | 391 | 379 | 352 | 402 | 395 | 382 | 356 | 1,422 | 1,517 | 1,535 | | 6.7 | 1.2 |
| Film & Sheet | 127 | 131 | 126 | 117 | 143 | 142 | 137 | 128 | 147 | 145 | 140 | 130 | 501 | 550 | 562 | | 9.8 | 2.1 |
| Bottles | 18 | 19 | 18 | 17 | 19 | 18 | 18 | 17 | 21 | 20 | 20 | 18 | 72 | 71 | 79 | | -1.5 | 11.6 |
| FLEXIBLE | | | | | | | | | | | | | | | | | | |
| Wire & Cable | 87 | 90 | 87 | 80 | 93 | 92 | 89 | 83 | 103 | 102 | 98 | 91 | 343 | 358 | 395 | | 4.5 | 10.1 |
| Film & Sheet | 78 | 80 | 77 | 72 | 84 | 83 | 80 | 75 | 90 | 89 | 86 | 80 | 307 | 322 | 346 | | 5.0 | 7.2 |
| Profiles & Tubes | 48 | 49 | 48 | 44 | 52 | 51 | 50 | 46 | 54 | 53 | 51 | 47 | 190 | 199 | 205 | | 5.0 | 2.9 |
| Flooring | 63 | 65 | 63 | 58 | 68 | 67 | 65 | 61 | 68 | 67 | 65 | 60 | 248 | 261 | 259 | | 5.0 | -0.6 |
| Coatings | 46 | 47 | 46 | 42 | 51 | 51 | 49 | 46 | 54 | 53 | 51 | 47 | 181 | 196 | 205 | | 8.7 | 4.4 |
| Other | 48 | 50 | 48 | 45 | 47 | 46 | 45 | 41 | 58 | 57 | 55 | 51 | 192 | 179 | 222 | | -6.8 | 24.2 |
| Domestic Demand | 1,141 | 1,178 | 1,139 | 1,056 | 1,235 | 1,223 | 1,183 | 1,100 | 1,293 | 1,272 | 1,230 | 1,144 | 4,570 | 4,750 | 4,939 | | 3.9 | 4.0 |
| Exports | 281 | 281 | 275 | 236 | 224 | 206 | 208 | 208 | 184 | 186 | 189 | 189 | 1,073 | 847 | 748 | | -21.1 | -11.7 |
| TOTAL DEMAND | 1,422 | 1,459 | 1,414 | 1,292 | 1,459 | 1,429 | 1,392 | 1,309 | 1,477 | 1,458 | 1,419 | 1,333 | 5,587 | 5,589 | 5,687 | | 0.0 | 1.8 |
| NET | -53 | -37 | -14 | 105 | 5 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 13 | 0 | | | |

| WEST EUROPE PP QUARTERLY SUPPLY/DEMAND | | | | | | | | | | | | | | | | | | | | | |
|---|---------------|-------|-------|-------|-----------------|-------|-------|-------|-----------------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|
| (Thousand Metric Tons) | | | | | | | | | | | | | | | | | | | | | |
| | 2010 | | | | 2011 | | | | 2012 | | | | 2010 | 2011 | 2012 | AAGR (%) | | | | | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 10-11 | 11-12 | | | |
| | Actual | | | | Forecast | | | | Forecast | | | | | | | | | | | | |
| Capacity | 2,381 | 2,407 | 2,371 | 2,371 | 2,319 | 2,345 | 2,371 | 2,371 | 2,338 | 2,338 | 2,377 | 2,377 | 2,338 | 2,338 | 2,377 | 2,377 | 9,529 | 9,405 | 9,433 | -1.3 | 0.3 |
| Operating Rate (%) | 91 | 90 | 92 | 88 | 89 | 84 | 80 | 80 | 84 | 82 | 77 | 77 | 84 | 82 | 77 | 77 | 90 | 83 | 80 | | |
| Production | 2,156 | 2,156 | 2,176 | 2,080 | 2,068 | 1,965 | 1,904 | 1,897 | 1,974 | 1,906 | 1,841 | 1,841 | 1,974 | 1,906 | 1,841 | 1,841 | 8,567 | 7,834 | 7,555 | -8.6 | -3.6 |
| Imports | 240 | 262 | 292 | 270 | 312 | 316 | 319 | 319 | 372 | 372 | 377 | 377 | 372 | 372 | 377 | 377 | 1,064 | 1,266 | 1,498 | 19.0 | 18.3 |
| Total Supply | 2,396 | 2,418 | 2,468 | 2,350 | 2,381 | 2,281 | 2,223 | 2,216 | 2,346 | 2,278 | 2,217 | 2,217 | 2,346 | 2,278 | 2,217 | 2,217 | 9,632 | 9,100 | 9,053 | -5.5 | -0.5 |
| Injection Molding | 732 | 745 | 730 | 738 | 788 | 771 | 747 | 744 | 830 | 803 | 778 | 778 | 830 | 803 | 778 | 778 | 2,944 | 3,050 | 3,185 | 3.6 | 4.4 |
| Blow Molding | 37 | 38 | 37 | 38 | 40 | 39 | 38 | 38 | 42 | 41 | 40 | 40 | 42 | 41 | 40 | 40 | 151 | 156 | 162 | 3.3 | 4.2 |
| Film & Sheet | 473 | 481 | 472 | 477 | 502 | 491 | 476 | 474 | 524 | 507 | 491 | 491 | 524 | 507 | 491 | 491 | 1,903 | 1,944 | 2,012 | 2.1 | 3.5 |
| Fiber & Filament | 321 | 326 | 320 | 323 | 338 | 330 | 320 | 319 | 354 | 343 | 332 | 332 | 354 | 343 | 332 | 332 | 1,290 | 1,307 | 1,359 | 1.4 | 3.9 |
| Raffia | 185 | 188 | 184 | 186 | 193 | 189 | 183 | 183 | 203 | 196 | 190 | 190 | 203 | 196 | 190 | 190 | 744 | 749 | 778 | 0.6 | 3.9 |
| Other | 133 | 135 | 132 | 134 | 138 | 135 | 131 | 130 | 145 | 140 | 136 | 136 | 145 | 140 | 136 | 136 | 534 | 535 | 557 | 0.2 | 4.2 |
| Domestic Demand | 1,880 | 1,914 | 1,875 | 1,896 | 2,000 | 1,956 | 1,895 | 1,889 | 2,098 | 2,030 | 1,966 | 1,966 | 2,098 | 2,030 | 1,966 | 1,966 | 7,565 | 7,740 | 8,053 | 2.3 | 4.0 |
| Exports | 526 | 519 | 479 | 475 | 321 | 324 | 328 | 328 | 249 | 249 | 251 | 251 | 249 | 249 | 251 | 251 | 1,998 | 1,300 | 1,000 | -35.0 | -23.1 |
| TOTAL DEMAND | 2,406 | 2,433 | 2,354 | 2,371 | 2,321 | 2,281 | 2,223 | 2,216 | 2,346 | 2,278 | 2,217 | 2,217 | 2,346 | 2,278 | 2,217 | 2,217 | 9,564 | 9,040 | 9,053 | -5.5 | 0.1 |
| NET | -10 | -15 | 114 | -21 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 60 | 0 | | |

SUPPLY
DEMAND